

RELATIONSHIPS BETWEEN PHYSICAL ACTIVITY LEVELS AND SATISFACTION WITH PHYSICAL APPEARANCE, PERCEIVED HEALTH AND AFFECTIVE WELL-BEING

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Abstract

The study examined the relationships between physical activity levels and satisfaction with physical appearance, perceived health and affective well-being. Data were collected from the research project on well-being in Croatia (CRO-WELL project). The sample, N=2751 aged 19-81, consisted of adult Internet users who completed an on-line survey. Participants rated their satisfaction with physical appearance and

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their health status. Well-being was assessed by The Scale of positive and negative experience and participants reported how much they experienced positive (6 items) and negative feelings (6 items) over the last month. Two physical activities frequency measures included how many days a week participants were engaged in a vigorous physical activity such as fitness and sport, as well as in moderate physical activity such as walking and gardening. Personality traits, socio-demographic characteristics, and objective health measures were reported and controlled in analyses. The results of regression analyses showed that satisfaction with physical appearance was predicted positively by both measures of physical activities. Satisfaction with health was predicted positively only by engagement in a vigorous physical activity. Concerning the affective well-being, both vigorous and moderate physical activities had a predictive role in experiencing positive feelings over the last month. Experiencing more negative feelings over the last month was predicted by less vigorous physical activities, however, the predictive value was small. The findings of the study highlight the differential role of vigorous and moderate levels of physical activity in a person's life and help in understanding their relationships with different measures of well-being, perceived physical appearance and health.

Key words: physical activity, physical appearance, affective well-being, health

INTRODUCTION

Physical activity is defined as bodily movement resulting from the contraction of skeletal muscles and thereby resulting in increased energy expenditure (Dishman et al., 2006). From an evolutionary standpoint, the human body is designed to move. Physical activity, physical strength and endurance were necessary for existence of early humans and therefore those who were physically fit had better chances to endure and pass genetic material to the next generation. The importance of physical activity continued to be emphasized from the beginning of civilization, and is summarized in the Latin proverb: *Mens sana in corpore sano*, used to articulate the opinion that physical activity is essential for mental and psychological well-being. Although through human history the importance of physical fitness for survival decreased, there is plenty of evidence that regular physical activity improves health, social and psychological well-being (Chodzko-Zajko et al., 2009; Warburton & Bredin, 2017; Rhodes, Janssen, Bredin, Warburton, & Bauman, 2017). Contemporary sedentary and passive lifestyles supported by global use of electronic media resulted in serious concerns about the low and declining levels of physical activity in modern humans. Physical activity levels recommended by the World Health Organization (WHO, 2010) are at least 150 minutes of moderate-intensity weekly (e.g. 30 minutes of moderate exercise for 5 days) or at least 75 minutes of vigorous-intensity physical activity for healthy individuals or an equivalent combination of moderate- and vigorous-intensity activity. However, studies across the world show that many adults fail to meet this minimum. Kohl et al. (2012) report that almost one third of the world population is not meeting the minimum recommendations for physical activity, and in 2013, the lack of physical activity cost \$67.5 billion

worldwide through health-care expenditure and productivity losses (Ding et al., 2016; Ding et al., 2017).

Physical activity is characterized by frequency, intensity, time and type (refers to FITT principles, i.e. F=frequency, I=intensity, T=time, T=type; Rhodes et al. 2017). These dimensions have been explored in relation to different health benefits and outcomes (Warburton & Bredin, 2017; Rhodes et al., 2017; Chan et al., 2019). The frequency indicates how often a person is active, time refers to the total duration of physical activity over the course of a day or week, and the type of physical activity is defined as being aerobic or anaerobic. Concerning the intensity level, researchers often focus on moderate and vigorous physical activity in relation to various health outcomes (Rhodes et al., 2017). The Centers for Disease Control and Prevention (CDCP, 2015) define moderate physical activity by noticeably faster heart rate and breathing but a person can still carry on a conversation, for example walking briskly, gardening, and actively playing with children. Vigorous physical activity is described by a substantially increased heart rate and the person is breathing too hard and fast to have a conversation, for example running, swimming, and jumping rope (CDCP, 2015).

Physical activity and health

Physical activity has both immediate and postponed health benefits; it reduces the risk for a number of diseases, and improves not only physical fitness but also cognitive functions and subjective well-being (Reed & Ones, 2006). Even a single workout can have an effect on mood, cognition, blood pressure and blood glucose control, and people generally feel better after such activity (Henriksson & Sundberg, 2010). Long term effects of insufficient physical activity comprise various health problems including obesity, diabetes, cardiovascular diseases, stroke, some types of cancer and higher rates of general mortality (Warburton, Nicol, & Bredin, 2006). In the review on health benefits of physical activity, Warburton et al. (2006) reported evidence of the effectiveness of regular physical activity in the primary and secondary prevention of several chronic diseases (cardiovascular disease, diabetes, cancer, hypertension, obesity, depression and osteoporosis) and premature death. Longitudinal research confirmed that physical inactivity is related to weight gain and obesity (Gordon-Larsen et al., 2009), coronary heart disease (Kannel, Belange, D'Agostino, & Israel, 1986), diabetes mellitus (Berentzen et al., 2007), Alzheimer's disease and dementia (Cass, 2017).

Several meta-analyses have examined how intensity of physical activity affects health (Löllgen, Böckenhoff, & Knapp, 2009; Samitz, Egger, & Zwahlen, 2011; Chan et al., 2019). Among other findings, it was reported that self-reported activity intensity is a better predictor of all-causes mortality than total amount of activity (Löllgen et al., 2009) and that vigorous activity provides more benefits in reducing

mortality risk than moderate activity (Samitz et al., 2011). In the large prospective cohort study of general population of Australia, Gebel et al. (2015) found that engaging in even a little vigorous activity was protective against all-cause mortality and may supplement the benefits of moderate activity. The protective effect of vigorous activity against mortality applied across age groups, genders, activity levels, BMI categories, and participants with and without existing cardio-metabolic disease (Gebel et al., 2015).

Physical activity and subjective well-being

Subjective well-being comprises three dimensions: positive affect, negative affect, and life satisfaction (Diener et al., 2017). Research showed that physical activity is associated with various aspects of subjective and psychological well-being (Boehm & Kubzansky, 2012; Kim, Kubzansky, Soo, & Boehm, 2017). Many studies have found positive associations of different types of leisure time physical activity, such as walking, sports or indoor activities, with subjective well-being and subjective health in various age groups. (e.g. Chan et al., 2019; Pawlowski, Downward, & Rasciute, 2011). Physical activity was associated with better health, general fitness, but also with better physical appearance, positive body image and greater social support (Dadvand et al., 2016). Boehm and Kubzansky (2012) suggested that physical activity might be partially responsible for the associations between better subjective well-being and positive health outcomes. According to Fredrickson's broaden-and-build theory of positive emotions (Fredrickson, 2013; Hogan, Catalino, Mata, & Fredrickson, 2015), physical activity, by eliciting positive emotions, may help build physical, social and psychological resources. Supporting this theory, researchers found a positive association between physical activity and psychological resources such as self-efficacy, sense of purpose and self-acceptance (Focht, Knapp, Gavin, Raedeke, & Hickner, 2007; Hogan et al., 2015).

Satisfaction with physical appearance can be viewed as an indicator of well-being, similar to satisfaction with many other important life domains (e.g. family, health, income). It is reasonable to expect that regular physical activities would lead to weight loss, improved body shape, strengthening of muscles, and consequently, to higher physical appearance satisfaction. For example, Sterbova, Harvanova, Hrochova-Hruba and Elfmark (2009) reported that regular physical activity of elderly women increased their overall life satisfaction, and satisfaction with bodily self-perception.

Most of the research on relationships between physical activity levels and well-being were cross-sectional, so it is not possible to say whether physical activity increases well-being or vice versa, i.e. that people with higher levels of well-being are more likely to engage in physical activities. Kim et al. (2017) conducted a longitudinal study and found that older adults with higher baseline levels of psycho-

logical well-being engaged in more physical activities in the future. This finding suggests that either higher well-being stimulated physical activity or that well-being and physical activity had the same underlying causative agent.

Study aims

Although significant progress has been made in understanding the importance of physical activity for health and well-being, more research is needed to test possible differences between physical activity of varying intensity, and their associations to well-being as well as to some of the factors that motivate people for physical activity.

In particular, in this study we opt to explore the association between different intensity levels of physical activity (moderate and vigorous) and subjective appraisals of two factors which might motivate people to exercise (perceived health and satisfaction with physical appearance). Also, we explore positive and negative affect experienced during the previous month, and their associations with participation in physical activity of different intensity levels (moderate and vigorous). We explore these relationships while controlling for the impact of socio-demographic characteristics, personality and objective health status, as other research shows that these variables are associated with physical appearance (Loland, 2000; Frederick, Sandhu, Morse, & Swami, 2016), perceived health (Zarini et al., 2014; Löckenhoff, Sutin, Ferrucci, & Costa, 2008), and affective well-being (Lyubomirsky, King, & Diener, 2005; Diener, Oishi, & Lucas, 2003).

Studies on physical appearance and physical activity reported positive changes in perception of body image when exercise was performed more days per week (Pop, 2017) and that the contribution of engaging in physical exercise to a positive body image and positive health perceptions is greater than maintaining healthy nutrition (Korn, Gonen, Shaked, & Golan, 2013). *We hypothesized that satisfaction with physical appearance would be positively associated with physical activities, in such a way that individuals who reported greater levels of physical activity would also report better satisfaction with their physical appearance.*

Previous studies established the more protective role of vigorous rather than moderate physical activity for health outcome (Gebel et al., 2015), and determined that the intensity of physical activity is associated with better health, independently of duration of activity (Galán, Meseguer, Herruzo, & Rodríguez-Artalejo, 2010). *Therefore, we hypothesized that only the frequency of vigorous physical activity would have a positive association with perceived health.*

Research on the association between physical activity and mood yielded conflicting results. Some findings linked physical activity with more positive and less negative emotional experience (Chan et al., 2019; Hogan et al., 2015), while others showed a relationship between physical activity and positive mood but not with

negative mood (Pasco et al., 2011; Wiese, Kuykendall, & Tay, 2018). Wiese et al. (2018) reported that leisure time physical activity was associated with positive affect but no association was found with negative affect. Chan et al. (2019) in their review of the literature found that physical activity benefits both physical and mental health and improves mood through various psychological and neurophysiological mechanisms. *In the line of these findings we hypothesized that physical activity would relate to affective well-being in a way that will show a stronger association with positive affect than with negative affect.*

METHOD

Participants

The data for this study were collected as part of the research project Croatian longitudinal study on well-being (CRO-WELL project¹). The sample was the convenience sample of adult Internet users and it consisted of $N = 2751$ participants. The mean age was $M = 37.5$ years ($SD = 12.16$; range age: 19-81 years). Socio-de-

Table 1. Descriptive summary of participants' socio-demographic characteristics of the sample (N=2751)

	N	%
<i>Gender</i>		
Female	2174	79.0
Male	577	21.0
<i>Education level *</i>		
Elementary	14	0.5
High school	1085	39.8
Bachelor degree	1340	49.2
Post-graduate degree	285	10.5
<i>Marital status</i>		
Married or in relationship	1420	51.6
Other	1331	48.4
<i>Monthly income (in Euro)*</i>		
< 268	427	17.3
269-672	1338	51.8
673-1613	687	26.7
> 1614	108	4.2

Note. * Total N is lower due to missing data.

1 CRO-WELL "Croatian longitudinal study on well-being" is Croatian Science Foundation Research Project (IP-09-2014).

mographic characteristics of the sample (i.e., gender, education level, marital status and average monthly income per person) are detailed in Table 1.

Instruments

Physical activity level. Physical activity level was measured using a modified version of the Godin Leisure Time Exercise Questionnaire (Godin, 2011). Two measures of physical activity level were obtained. First is a measure of weekly frequency of *vigorous exercise or activity*. Participants were instructed to indicate how many days on average during a typical week they engaged in vigorous exercise or activity (e.g., sport activities, fitness exercises). Response scale ranged from 0 days to 7 days per week. Second measure is *weekly frequency of moderate exercise or activity*. Participants indicated how many days on average during a typical week they engaged in moderate intensity exercise or activity (e.g., easy walking, gardening). The response scale ranged from 0 days to 7 days per week.

Satisfaction with physical appearance. Satisfaction with physical appearance was measured by the item: “How satisfied are you with your physical appearance?” Participants rated their satisfaction on the scale ranging from 1 as “not at all satisfied” to 11 as “extremely satisfied”.

Perceived health. Self-reported health was measured by single-item question: “How would you rate your health?” Participants rated their health on the scale ranging from 1 as “poor” to 5 as “excellent”.

Scale of Positive and Negative Experience. Affective well-being was assessed with the Scale of Positive and Negative Experience (SPANE; Diener et al., 2010). It consists of 12 items designed to assess positive affect (SPANE-P; 6 items: positive, good, pleasant, happy, joyful, and contented), and negative affect (SPANE-N; 6 items: negative, bad, unpleasant, sad, afraid, and angry). We adapted the original SPANE’s five-point to seven-point Likert scale rating format to make a uniform rating format across other measures used in the on-line survey. Participants had to rate how often they felt a certain way during the last month ranging from 1 as “very rarely or never” to 7 as “very often or always”. The average score was calculated separately for two subscales, i.e., scale of positive and negative affect. Higher scores indicated higher experience of positive and negative affect, respectively. The two subscales showed adequate reliabilities, $\alpha = .94$ for the SPANE-P and $\alpha = .88$ for the SPANE-N.

Objective health status. Two measures of objective health status were recorded, *chronic illness* and *disability assessment*. First, participants reported if they suffered from any chronic illness, 1 as “no” and 2 as “yes”. Second, participants reported if they were considered as an individual with disability, 1 as “no” and 2 as “yes”.

Personality. The 15-items version of the International Personality Item Pool (IPIP; Goldberg, 1999) was used to assess personality traits. The inventory mea-

asures the five personality dimensions of Extraversion, Neuroticism, Conscientiousness, Agreeableness, and Openness to experience, each by three items. Participants rated the degree to which each item described them on a scale ranging from 1 as “extremely inaccurate” to 5 as “extremely accurate”. Previous research conducted in Croatia demonstrated that the IPIP has a 5-factor structure (Mlačić & Goldberg, 2007). The scales showed good reliabilities for the present study with Cronbach’s α for Extraversion $\alpha = .75$; for Neuroticism $\alpha = .78$; for Openness to experience $\alpha = .64$; for Agreeableness $\alpha = .73$ and for Conscientiousness $\alpha = .72$.

Socio-demographic variables. The participants’ age, gender, education level, marital status and average monthly income were obtained (Table 1). Our analyses were adjusted for those covariates.

Procedure

Participants used the on-line application to fill out the on-line survey, which consisted of a comprehensive battery of questionnaires. The survey has been advertised in media, different on-line forums, social networks, and web sites. Every person aged 18+ who was interested in joining the survey, was able to access the study using the link provided (www.sreca.hr). At the start of the survey, participants were informed that their participation is voluntary and that the data would be used for scientific purposes only. Also, participation in the study was anonymous. Anonymity was secured by the system of tokens given to every participant before filling out the survey.

Data analyses

The descriptive statistics of variables as well as correlation analyses were performed for better understanding of the relationships of the examined variables. To test differences in examined variables within the participants, t-test for paired samples was used. Four hierarchical regression analyses were performed to test the effect of weekly frequency of physical activity levels separately for satisfaction with physical appearance, perceived health, positive and negative affect. In each analysis, socio-demographic variables (age, gender, education level, income and marital status), personality and health status variables (chronic illness, disability) were entered at the first step as covariates. In order to examine the contribution of physical activity level in explaining the variance of dependent variables, the frequency of vigorous and moderate physical activities were entered at the second step.

All analyses were performed using the Statistical Package for the Social Sciences (SPSS) version 22.

RESULTS

Descriptive statistics and correlations between studied variables are presented in Table 2. Participants on average engaged in moderate physical activities significantly more days per week ($M = 3.5$) than in vigorous physical activities ($M = 1.4$; $t(2750) = 44.98, p < 0.01$). Frequencies of both moderate and vigorous physical activities were positively associated with satisfaction with physical appearance, perceived health status and positive affect, while they were negatively associated with negative affect. Frequency of vigorous activities showed stronger associations with all studied variables compared to frequency of moderate physical activities. Frequencies of vigorous and moderate activities were weakly associated, sharing just 6% of common variance ($r = 0.25$). Perceived health ratings were rather high, with average rating 4 on 1-5 point scale. Participants reported more positive ($M = 5.1$) than negative affect ($M = 3.2, t(2750) = 46.36, p < 0.01$) experienced during the last month. Ratings of positive and negative affect were highly correlated sharing 52% of common variance ($r = -0.72$)

Table 2. Descriptive statistics (M, SD) and correlations between studied variables (N = 2751)

	1	2	3	4	5	6
1. Frequency of vigorous activities	-					
2. Frequency of moderate activities	.25**	-				
3. Satisfaction with physical appearance	.18**	.13**	-			
4. Perceived health	.16**	.05**	.34**	-		
5. SPANE-P	.14**	.11**	.47**	.39**	-	
6. SPANE-N	-.11**	-.06**	-.38**	-.32**	-.72**	-
<i>M</i>	1.4	3.5	7.7	4.0	5.1	3.2
<i>SD</i>	1.63	2.25	2.19	0.84	1.13	1.09

Note. SPANE-P- Positive affect; SPANE-N- Negative affect; ** $p < .001$; * $p < .01$

Relationships between physical activity, satisfaction with physical appearance and perceived health

Table 3 summarizes the results of two series of hierarchical regression analyses, which tested the effects of weekly frequencies of vigorous and moderate physical activities on satisfaction with physical appearance and perceived health, separately. It contains standardized coefficients beta (β), R square change (R^2 change), adjusted R square (adjusted R^2) for each step, and multiple R of the final step.

Table 3. Results of two series of hierarchical regressions to test the effects of weekly frequency of physical activity level (vigorous and moderate) on **satisfaction with physical appearance** and **perceived health** controlling for socio-demographics, personality and health variables

	Satisfaction with physical appearance β	Perceived health β
<i>Step^a 1</i>		
Age	-.08**	-.16**
Gender	.04*	.02
Education	.03	.09**
Income	.06**	.08**
Marital status	-.03	-.01
Chronic illness	-.11**	-.29**
Disability	-.01	-.11**
Extraversion	.13**	.02
Neuroticism	-.19**	-.17**
Conscientiousness	.10**	.08**
Agreeableness	.03	.01
Openness	.07**	.01
	<i>Adjusted R²</i>	<i>.13**</i>
<i>Step^a 2</i>		
Vigorous	.12**	.12**
Moderate	.08**	.01
	<i>R² change</i>	<i>.03**</i>
	<i>Adjusted R²</i>	<i>.15**</i>
	<i>Multiple R</i>	<i>.48**</i>

Note. Gender: 1- female, 2- male; Marital status: 1- married or in relationship, 2- other; Chronic illness: 1-no 2-yes; Disability: 1-no 2-yes;

** $p < .001$; * $p < .05$

The results of analysis with satisfaction with physical appearance as a dependent variable showed that after controlling for socio-demographic, personality and health status (which together explained 13% of the variance in dependent variable), main effects for weekly frequencies of both vigorous and moderate physical activities were significant. However, they added only 3% (R^2 change) to the explained variance in dependent variable. Frequency of vigorous physical activity was more strongly related to satisfaction with physical appearance, than frequency of moderate physical activity. Participants who were engaged in frequent vigorous as well as moderate physical activity during the week were more satisfied with their own physical appearance than their counterparts. The full regression model explained

ins 15% of the variance in satisfaction with physical appearance. Beside the main effects of the studied variables, results of this analysis showed that participants who were younger, married, with higher income, without chronic illness, extroverted, emotionally stable, conscientious and open to experiences reported higher satisfaction with their physical appearance.

The results of analysis with ratings of perceived health as a dependent variable showed that after controlling for socio-demographics, personality and health status (which explained 21% of the variance in dependent variable), main effect only for weekly frequency of vigorous physical activities was significant. However, it only added 2% (R^2 change) to the explained variance in perceived health variable. Participants who were engaged in frequent vigorous activity during the week rated their health as better than their counterparts. The full regression model explains 23% of the variance in satisfaction with physical appearance. Beside this main effect, results showed that participants who were younger, educated, with higher income, without chronic illness or disability, emotionally stable, and conscientious perceived better health status.

Relationship between physical activity and affective well-being

Table 4 summarizes the results of the two series of hierarchical regression analyses, which tested the effects of weekly frequency of physical activity on positive and negative affect, separately. It contains standardized coefficients beta (β), R square change (R^2 change), adjusted R square (adjusted R^2) for each step, and multiple R of the final step.

In predicting positive affect, the results of the hierarchical regression analyses showed that after controlling for socio-demographic, personality and health status variables (which explained 17% of the variance in dependent variable), main effects for weekly frequency of both vigorous and moderate physical activities were significant. However, they only added 2% (R^2 change) to the explained variance in dependent variable with frequency of vigorous physical activity being more strongly related to positive affect than frequency of moderate physical activity. Those who were engaged in frequent vigorous and moderate physical activities during the week reported higher positive affect. The full regression model explains 19% of the variance in satisfaction with physical appearance. Beside these main effects of the studied variables, results showed that women, younger, married, with higher income, without chronic illness, extroverted, emotionally stable, conscientious and agreeable reported higher positive affect during the previous month.

In predicting negative affect, the results of the hierarchical regression analysis showed that the main effect for frequency of vigorous physical activity was significant, after controlling for socio-demographic, personality and health status variables (which explained 21% of the variance in negative affect). However, it only added 1% (R^2 change) to the explained variance in dependent variable. Participants

Table 4. Results of two series of hierarchical regressions to test the effects of weekly frequency of physical activity level (vigorous and moderate) on **positive and negative affect** controlling for socio-demographics, personality and health variables

	SPANE-P β	SPANE-N β
<i>Step^a 1:</i>		
Age	-.17**	-.03
Gender	-.05*	-.05*
Education	.01	.04
Income	.10**	-.10**
Marital status	-.08**	.03
Chronic illness	-.06**	.06**
Disability	-.01	.02
Extraversion	.14**	-.10**
Neuroticism	-.26**	.37**
Conscientiousness	.06**	-.06**
Agreeableness	.06**	-.01
Openness	.03	-.01
	<i>Adjusted R²</i>	<i>.17**</i>
		<i>.21**</i>
<i>Step^a 2</i>		
Vigorous	.08**	-.05**
Moderate	.07**	-.03
	<i>R² change</i>	<i>.02**</i>
	<i>Adjusted R²</i>	<i>.19**</i>
		<i>.22**</i>
	<i>Multiple R</i>	<i>.43**</i>
		<i>.47**</i>

Note. Gender: 1- female, 2- male; Marital status: 1- married or in relationship, 2-other; Chronic illness: 1-no 2-yes; Disability: 1-no 2- yes; SPANE-P-Positive affect; SPANE-N-Negative affect;

** $p < .001$, * $p < .05$; ^a - Only the new variables added at the each step are presented.

who were engaged in frequent vigorous activity during the week reported lower negative affect over the previous month, than their counterparts. The full regression model explains 22% of the variance in negative affect. Beside the main effect of studied variable, results showed that those who reported more negative affect during the previous month were women, with lower income, chronically ill, introverted, emotionally unstable and less conscientious.

DISCUSSION

The main aim of this research was to examine the relationships between vigorous and moderate physical activity with satisfaction with physical appearance,

perceived health and affective well-being. While doing so we controlled for the impact of a set of socio-demographic variables (gender, age, marital status, income and education), personality and objective health status (disability, chronic illness).

Concerning the frequency of physical activities, participants engaged more often in moderate physical activities such as walking or gardening than in vigorous ones such as sports or running, but in general, our participants showed rather low physical engagement. The Centers for Disease Control and Prevention recommend 30 min of moderate- to high-intensity exercise for at least 5 days a week for all healthy individuals (DHHS, 2002), while participants in this study, on average, engaged in moderate physical activities 3.5 times per week, and only 1.4 times per week in vigorous physical activities. Since our sample was on average rather young (mean age $M=37.5$ years), this result is even more concerning.

Physical activity and satisfaction with physical appearance and perceived health

Our results showed that frequency of both moderate and vigorous physical activities contributed positively to the explanation of variance of satisfaction with physical appearance. People who were active frequently during the week were more satisfied with their physical appearance than people who were less active. Somewhat stronger association with satisfaction with physical appearance was found for weekly frequency of vigorous than moderate physical activity. Our hypothesis that satisfaction with physical appearance would be positively associated with physical activities, in such a way that individuals who reported higher levels of physical activity would also report better satisfaction with own physical appearance was confirmed.

These results are in line with other research findings, which reported positive association between physical activity and satisfaction with physical appearance (Hausenblas & Fallon, 2006; Pop, 2017; Korn et al., 2013; Loland, 2000). For example, Loland (2000) showed that active participants were significantly more satisfied with their appearance than inactive ones, and that satisfaction with appearance increased with age in the physically active, but decreased in the physically inactive participants. Hausenblas and Fallon (2006) in their meta-analytical review of the research examining the impact of exercise on body image, concluded that the exercisers had better body image than the non-exerciser, which they explained by the possibility that the exercisers more closely resemble the aesthetic ideal that society accept than the non-exercisers. Contribution of physical exercise to a positive body image and positive health perceptions was found to be greater than maintaining healthy nutrition (Korn et al., 2013). However, some researchers pointed out that people who were less satisfied with their physical appearance might be reluctant to engage in organized physical activities. For instance, Faith, Leone, Ayers,

Moonseong and Pietrobelli (2002) found that overweight children avoid physical activities where they experience weight-related criticism and victimization.

Studies on physical appearance and physical activity reported positive changes in perceptions of body image when exercise is performed on more days per week (Pop, 2017). Hausenblas and Fallon (2006) reported that in people who wanted to improve their body image, strenuous intensity level exercise interventions resulted in significantly larger effects compared to moderate intensity exercise, while the duration of the exercise had no effects. Our results are in the line with these finding, showing stronger association of frequency of vigorous than moderate level of physical activity with physical appearance satisfaction.

The effects of physical activity on health were extensively examined; research findings showed that physical activity offers several health benefits including lower risk of mortality and less cardio-metabolic issues (Chodzko-Zajko et al., 2009; Chan et al., 2019). Physical activity was found to be related to positive health perceptions and well-being too (Pop, 2017; Wendel-Vos, Schuit, Tijhuis, & Kromhout, 2004). Results of our study confirmed that physical activity is positively associated with perceived health, with additional findings concerning the frequency of different intensity levels of activities. Namely, consistent with our hypothesis, research results confirmed that frequency of vigorous physical activity, but not moderate, had a positive association with perceived health. Individuals who reported frequent vigorous physical activity during the week perceived their health as better. This finding suggests that moderate activities such as easy walking or gardening are not enough to transform into better perceptions of health. However, the correlation nature of this research does not allow us to draw causal conclusions. People with lower ratings of personal health may avoid vigorous (e.g. sport), but not moderate physical activities (e.g. walking), and this seem to be a plausible alternative explanation of our findings. Hamer and Stamatakis (2010) conducted cross-sectional research on adults to explore the relationship between health measures and objectively measured moderate to vigorous physical activity. They found that physical activity was higher in participants reporting very good health.

Physical activity and affective well-being

Regarding affective well-being, we found that frequency of both moderate and vigorous physical activity contributed to the explanation of variance of positive affect, but only the frequency of vigorous activities predicted negative affect. Individuals who reported frequent vigorous physical activity during the week reported more positive affect, and less negative affect, with later showing weaker association. Our hypothesis that physical activity would relate to affective well-being in the way that will show stronger associations with positive affect than with negative affect was confirmed. Findings from previous research linked physical activity with more positive and less negative emotional experiences (Chan et al., 2019; Hogan et al.,

2015). Richards et al. (2015) in their cross-sectional study of physical activity across 15 European countries found that increasing volume of physical activity is associated with higher levels of happiness. Engaging in acute exercise has been found to increase positive affect (Reed & Ones, 2006) and reduce the risk of depression and anxiety (Mata, Hogan, Joormann, Waugh, & Gotlib, 2013). Chan et al. (2019), in their review of the literature on exercises and mood, reported heterogeneous findings concerning the intensity of exercise. Differences in mood changes depended on aerobic and anaerobic type of exercise. Concerning aerobic exercise, some studies have shown no intensity-related differences in mood change, while others confirmed the superiority of high-intensity exercise. In anaerobic exercises, moderate-intensity training usually resulted in greater mood improvements. However, high-intensity exercise, but not low-intensity exercise, reduced anxiety after 12 weeks of training. Yet, authors emphasized that physical activity benefits both physical and mental health (Chan et al., 2019). A longitudinal study conducted by Azevedo Da Silva et al. (2012) found that people with higher baseline anxiety or depression were less likely to engage in physical activities.

Some other research showed a relationship between physical activity and positive mood, but not with negative mood (Pasco et al., 2011; Wiese et al., 2018). That is in accordance with our study findings related to moderate level of physical activity and positive affect. Individuals, who reported frequent moderate physical activity during the week, reported more positive affect, but no association with negative affect was observed. Also, Wiese et al. (2018) found that leisure time physical activity was associated with positive affect, but not with negative affect. Another study of Pasco et al. (2011) explored habitual physical activities described as very active, moderately active or sedentary and their associations with affect. Their findings support the concept that the impact of physical activity on mood is associated with changes in positive affect (such as interest, excitement, enthusiasm and alertness), rather than negative affect (Pasco et al., 2011). Our results also confirm the autonomy of positive and negative affect, suggesting that even moderate recreational activities are sufficient to promote positive affect, while more intense activity is needed to reduce the frequency of negative affect (Diener et al., 2003).

Hsiao and Thayer (1998) reported that only physically active people mentioned mood as an important reason for exercise and that it becomes more important with increased frequency. According to the authors, people often begin exercise for general health or aesthetic reasons, but over time with repeated exposure, exercise elevates positive mood and brings mood benefits (Hsiao & Thayer, 1998).

LIMITATIONS AND RECOMMENDATIONS

There are several potential limitations to our study. First, due to the online administration of the questionnaire, the sample was rather unbalanced, favouring

young, educated and female participants. Our findings should be confirmed with more diverse samples. Second, this study used only a subset of variables from a comprehensive questionnaire aimed to assess various well-being indicators and life events. Therefore, some variables were measured by a single item (e.g. satisfaction with physical appearance, frequency of physical activities), while objective health was assessed by two dichotomous items where continuous measures (e.g. degree of disability) could be more appropriate. We limited our research only to physical activity and did not measure other behaviours that might be relevant to un/healthy lifestyles (e.g. overweight, smoking, alcohol consumption). Finally, the cross-sectional design of the study prevented us from making causal conclusions and because all questions were self-reported, self-report bias remains a possibility.

Future research in this area should implement more elaborated measures, preferably scales, to measure frequency of various physical activity as well as satisfaction with physical appearance. In addition, both self-reported and objective measures of physical activity should be used. Finally, experimental design would enable the determination of causality between physical activity and studied variables such as subjective health, experienced emotions and satisfaction with appearance.

Better understanding of the importance of moderate, but especially vigorous physical activities, could lead to more effective strategies for promoting and maintaining healthy lifestyles. Policy makers on the local and regional level should put more effort in organizing and promoting activities such as organized sports training and amateur sport competitions, and make it available to individuals of various age, gender and social status.

CONCLUSION

The study examined the relationships between two physical activity levels and satisfaction with physical appearance, perceived health and affective well-being controlling for socio-demographics, personality variables and objective measures of health. Weekly frequencies of vigorous and moderate physical activity showed a different relationship with studied variables. Individuals who exercised frequently during the week were more satisfied with their physical appearance, with a stronger association with frequency of vigorous in comparison to moderate physical activities. Frequent vigorous physical activity during the week, but not moderate, was associated with better health. Concerning the affective well-being, both vigorous and moderate physical activity had a predictive role in experiencing positive feelings over the last month. More negative feelings over the last month were predicted by less vigorous physical activities, however, the predictive value was rather small. The results of the study highlight the differential role of vigorous and moderate levels of physical activity in a person's life concerning physical and psychological outcomes. Findings of this research suggest that development of prevention and

education programs to be physically active should be made a priority in public funding.

REFERENCES

- Azevedo Da Silva, M., Singh-Manoux, A., Brunner, E. J., Kaffashian, S., Shipley, M. J., Kivimäki, M., & Nabi, H. (2012). Bidirectional association between physical activity and symptoms of anxiety and depression: the Whitehall II study. *European Journal of Epidemiology*, 27(7), 537–546. doi: 10.1007/s10654-012-9692-8
- Berentzen, T., Petersen, L., Pedersen, O., Black, E., Astrup, A., & Sørensen, T. I. A. (2007). Long-term effects of leisure time physical activity on risk of insulin resistance and impaired glucose tolerance, allowing for body weight history, in Danish men. *Diabetic Medicine: A Journal Of The British Diabetic Association*, 24(1), 63-72. doi: 10.1111/j.1464-5491.2007.01991.x
- Boehm, J. K., & Kubzansky, L. D. (2012). The heart's content: The association between positive psychological well-being and cardiovascular health. *Psychological Bulletin*, 138(4), 655-691. doi: 10.1037/a0027448
- Cass, S. P. (2017). Alzheimer's Disease and Exercise: A Literature Review. *Current Sports Medicine Reports*, 16(1), 19-22. doi: 10.1249/JSR.0000000000000332
- CDCP (Centers for Disease Control and Prevention). (2015). *Healthy weight*. Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion.
- Chan, J. S. Y., Liu, G., Liang, D., Deng, K., Wu, J., & Yan, J. H. (2019). Special Issue - Therapeutic Benefits of Physical Activity for Mood: A Systematic Review on the Effects of Exercise Intensity, Duration, and Modality. *The Journal of Psychology*, 153(1), 102-125. doi: 10.1080/00223980.2018.1470487
- Chodzko-Zajko, W.J., Proctor, D.N., Fiatarone Singh, M.A., Minson, C.T., Nigg, C.R., Salem, G.J., & Skinner, J. S. (2009). Exercise and physical activity for older adults. *Medicine & Science in Sports & Exercise*, 41(7):1510-30. doi: 10.1249/MSS.0b013e3181a0c95c
- Dadvand, P., Bartoll, X., Basagaña, X., Dalmau-Bueno, A., Martinez, D., Ambros, A., Cirach, M., Triguero-Mas, M., Gascon, M., Borrell, C., & Nieuwenhuijsen, M.J. (2016). Green spaces and General Health: Roles of mental health status, social support, and physical activity. *Environmental International*, 9, 161-167. doi: 10.1016/j.envint.2016.02.029
- DHHS. (2002). *Physical Activity Fundamental to Preventing Disease*. Washington: U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation.
- Diener, E., Heintzelman, S. J., Kushlev, K., Tay, L., Wirtz, D., Lutes, L. D., & Oishi, S. (2017). Findings all psychologists should know from the new science on subjective well-being. *Canadian Psychology/Psychologie Canadienne*, 58(2), 87–104. doi: 10.1037/cap0000063
- Diener, E., Oishi, S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: emotional and cognitive evaluations of life. *Annual Review of Psychology*, 54, 403–425. doi: 10.1146/annurev.psych.54.101601.145056

- Diener, E., Wirtz, D., Tov, W., Kim-Prieto, C., Choi, D., Oishi, S., & Biswas-Diener, R. (2010). New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Social Indicators Research*, 97(2), 143-156. doi: 10.1007/s11205-009-9493-y
- Ding, D., Kolbe-Alexander, T., Nguyen, B., Katzmarzyk, P. T., Pratt, M., & Lawson, K. D. (2017). The economic burden of physical inactivity: a systematic review and critical appraisal. *British Journal of Sports Medicine*, 51(19), 1392–1409. doi: 10.1136/bjsports-2016-097385
- Ding, D., Lawson, K. D., Kolbe-Alexander, T. L., Finkelstein, E. A., Katzmarzyk, P. T., van Mechelen, W., & Pratt, M. (2016). The economic burden of physical inactivity: a global analysis of major non-communicable diseases. *Lancet* (London, England), 388(10051), 1311-1324. doi: 10.1016/S0140-6736(16)30383-X
- Dishman, R. K., Berthoud, H.-R., Booth, F. W., Cotman, C. W., Edgerton, V. R., Fleshner, M. R., ... Zigmond, M. J. (2006). Neurobiology of Exercise. *Obesity*, 14(3), 345-356. doi: 10.1038/oby.2006.46
- Faith, M. S., Leone, M. A., Ayers, T. S., Heo, M., & Pietrobelli, A. (2002). Weight criticism during physical activity, coping skills, and reported physical activity in children. *Pediatrics*, 110(2 Pt 1), e23. doi: 10.1542/peds.110.2.e23
- Focht, B. C., Knapp, D. J., Gavin, T. P., Raedeke, T. D., & Hickner, R. C. (2007). Affective and self-efficacy responses to acute aerobic exercise in sedentary older and younger adults. *Journal of Aging and Physical Activity*, 15(2), 123-138. doi: 10.1123/japa.15.2.123
- Frederick, D. A., Sandhu, G., Morse, P. J., & Swami, V. (2016). Correlates of appearance and weight satisfaction in a U.S. National Sample: Personality, attachment style, television viewing, self-esteem, and life satisfaction. *Body Image*, 17, 191-203. doi: 10.1016/j.bodyim.2016.04.001
- Fredrickson, B. L. (2013). Updated thinking on positivity ratios. *American Psychologist*, 68(9), 814-822. doi: 10.1037/a0033584
- Galán, I., Meseguer, C. M., Herruzo, R., & Rodríguez-Artalejo, F. (2010). Self-rated health according to amount, intensity and duration of leisure time physical activity. *Preventive Medicine*, 51(5), 378-383. doi: 10.1016/j.ypmed.2010.09.001
- Gebel, K., Ding, D., Chey, T., Stamatakis, E., Brown, W. J., & Bauman, A. E. (2015). Effect of Moderate to Vigorous Physical Activity on All-Cause Mortality in Middle-aged and Older Australians. *JAMA Internal Medicine*, 175(6), 970-977. doi: 10.1001/jamainternmed.2015.0541
- Godin, G. (2011). The Godin-Shephard leisure-time physical activity questionnaire. *Health & Fitness Journal of Canada*, 4(1), 18-22. doi: 10.14288/hfjc.v4i1.82
- Goldberg, L.R. (1999). A broad-bandwidth, public domain, personality inventory measuring the lower-level facets of several five-factor models. In I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (Eds.), *Personality psychology in Europe* (Vol. 7, pp. 7-28). Tilburg, The Netherlands: Tilburg University Press.
- Gordon-Larsen, P., Hou, N., Sidney, S., Sternfeld, B., Lewis, C. E., Jacobs, D. R., Jr, & Popkin, B. M. (2009). Fifteen-year longitudinal trends in walking patterns and their impact on weight change. *The American Journal of Clinical Nutrition*, 89(1), 19-26. doi: 10.3945/ajcn.2008.26147

- Hamer, M., & Stamatakis, E. (2010). Objectively assessed physical activity, fitness and subjective wellbeing. *Mental Health and Physical Activity*, 3(2), 67-71. doi: 10.1016/j.mhpa.2010.09.001
- Hausenblas, H. A., & Fallon, E. A. (2006). Exercise and body image: A meta-analysis. *Psychology & Health*, 21(1), 33-47. doi: 10.1080/14768320500105270
- Henriksson, J., & Sundberg, C.J. (2010) General effects of physical activity. In: C. J. Sundberg (Ed.) *Physical Activity in the Prevention and Treatment of Disease*. Stockholm, Professional Associations for physical activity (Sweden), 1-44.
- Hogan, C. L., Catalino, L. I., Mata, J., & Fredrickson, B. L. (2015). Beyond emotional benefits: Physical activity and sedentary behaviour affect psychosocial resources through emotions. *Psychology & Health*, 30(3), 354-369. doi: 10.1080/08870446.2014.973410
- Hsiao, E.T., & Thayer, R.E. (1998). Exercising for mood benefits: The importance of experience. *Personality and Individual Differences*, 24, 829-836. doi: 10.1016/S0191-8869(98)00013-0
- Kannel, W. B., Belanger, A., D'Agostino, R., & Israel, I. (1986). Physical activity and physical demand on the job and risk of cardiovascular disease and death: the Framingham Study. *American Heart Journal*, 112(4), 820-825. doi: 10.1016/0002-8703(86)90480-1
- Kim, E. S., Kubzansky, L. D., Soo, J., & Boehm, J. K. (2017). Maintaining Healthy Behavior: a Prospective Study of Psychological Well-Being and Physical Activity. *Annals of Behavioral Medicine : A Publication of the Society of Behavioral Medicine*, 51(3), 337-347. doi: 10.1007/s12160-016-9856-y
- Kohl, H. W., Craig, C. L., Lambert, E. V., Inoue, S., Alkandari, J. R., Leetongin, G., Kahlmeier, S. (2012). The pandemic of physical inactivity: global action for public health. *Lancet*, 380(9838), 294-305. doi: 10.1016/S0140-6736(12)60898-8
- Korn, L., Gonen, E., Shaked, Y., & Golan, M. (2013). Health perceptions, self and body image, physical activity and nutrition among undergraduate students in Israel. *Plos One*, 8(3), e58543. doi: 10.1371/journal.pone.0058543
- Löckenhoff, C. E., Sutin, A. R., Ferrucci, L., & Costa, P. T., Jr. (2008). Personality traits and subjective health in the later years: The association between NEO-PI-R and SF-36 in advanced age is influenced by health status. *Journal of Research in Personality*, 42(5), 1334-1346. doi: 10.1016/j.jrp.2008.05.006
- Loland, N.W. (2000) The Aging Body: Attitudes toward Bodily Appearance among Physically Active and Inactive Women and Men of Different Ages. *Journal of Aging and Physical Activity*, 8, 197-213. doi: 10.1123/japa.8.3.197
- Löllgen, H., Böckenhoff, A., & Knapp, G. (2009). Physical activity and all-cause mortality: an updated meta-analysis with different intensity categories. *International Journal Of Sports Medicine*, 30(3), 213-224. doi: 10.1055/s-0028-1128150
- Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: does happiness lead to success? *Psychological Bulletin*, 131(6), 803-855. doi: 10.1037/0033-2909.131.6.803
- Mata, J., Hogan, C. L., Joormann, J., Waugh, C. E., & Gotlib, I. H. (2013). Acute exercise attenuates negative affect following repeated sad mood inductions in persons who have recovered from depression. *Journal of Abnormal Psychology*, 122(1), 45-50. doi: 10.1037/a0029881

- Mlačić, B., & Goldberg, L. R. (2007). An analysis of a cross-cultural personality inventory: The IPIP Big-Five factor markers in Croatia. *Journal of Personality Assessment*, 88(2), 168-177. doi: 10.1080/00223890701267993
- Pasco, J. A., Jacka, F. N., Williams, L. J., Brennan, S. L., Leslie, E., & Berk, M. (2011). Don't worry, be active: Positive affect and habitual physical activity. *Australian and New Zealand Journal of Psychiatry*, 45(12), 1047-1052. doi: 10.3109/00048674.2011.621063
- Pawlowski, T., Downward, P., & Rasciute, S. (2011). Subjective well-being in European countries – on the age-specific impact of physical activity. *European Review of Aging and Physical Activity*, 8, 93-102. doi: 10.1007/s11556-011-0085-x
- Pop, C.L. (2017) Physical activity, body image and subjective well-being. In: M. Mollaoglu (Ed.) *Well-being and Quality of Life – Medical Perspective*. InTechOpen: Rijeka, Croatia. Retrieved from <https://www.intechopen.com/books/well-being-and-quality-of-life-medical-perspective/physical-activity-body-image-and-subjective-well-being>.
- Reed, J., & Ones, D. S. (2006). The effect of acute aerobic exercise on positive activated affect: A meta-analysis. *Psychology of Sport and Exercise*, 7(5), 477-514. doi: 10.1016/j.psychsport.2005.11.003
- Rhodes, R. E., Jansen, I., Bredin, S. S. D., Warburton, D. E. R., & Bauman, A. (2017). Physical activity: Health impact, prevalence, correlates and interventions. *Psychology & Health*, 32(8), 942-975. doi: 10.1080/08870446.2017.1325486
- Richards, J., Jiang, X., Kelly, P., Chau, J., Bauman, A., & Ding, D. (2015). Don't worry, be happy: cross-sectional associations between physical activity and happiness in 15 European countries. *BMC Public Health*, 15, 53. doi: 10.1186/s12889-015-1391-4
- Samitz, G., Egger, M., & Zwahlen, M. (2011). Domains of physical activity and all-cause mortality: systematic review and dose-response meta-analysis of cohort studies. *International Journal Of Epidemiology*, 40(5), 1382-1400. doi: 10.1093/ije/dyr112
- Sterbova, D., Harvanova, J., Hrochova-Hruba, R., & Elfmark, M. (2009). Life satisfaction and the motivation to adopt physical activity in females of middle and late adulthood. *Gymnica*, 39(2), 33-42.
- Warburton, D. E. R., & Bredin, S. S. D. (2017). Health benefits of physical activity: a systematic review of current systematic reviews. *Current Opinion in Cardiology*, 32(5), 541–556. doi: 10.1097/HCO.0000000000000437
- Warburton, D. E. R., Nicol, C. W., & Bredin, S. S. D. (2006). Prescribing exercise as preventive therapy. *CMAJ: Canadian Medical Association Journal = Journal De L'association Medicale Canadienne*, 174(7), 961-974. doi: 10.1503/cmaj.1040750
- Wendel-Vos, G. C. W., Schuit, A. J., Tijhuis, M. A. R., & Kromhout, D. (2004). Leisure time physical activity and health-related quality of life: cross-sectional and longitudinal associations. *Quality Of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, 13(3), 667-677. doi: 10.1023/B:QU RE.0000021313.51397.33
- WHO (2010). *Global recommendations on physical activity for health*. World Health Organization, 1-57.
- Wiese, C. W., Kuykendall, L., & Tay, L. (2018). Get active? A meta-analysis of leisure-time physical activity and subjective well-being. *The Journal of Positive Psychology*, 13(1), 57-66. doi: 10.1080/17439760.2017.1374436

Zarini, G. G., Vaccaro, J. A., Canossa Terris, M. A., Exebio, J. C., Tokayer, L., Antwi, J., ... Huffman, F. G. (2014). Lifestyle behaviors and self-rated health: the living for health program. *Journal of Environmental And Public Health*, 2014, 315042. doi: 10.1155/2014/315042

POVEZANOST IZMEĐU FIZIČKE AKTIVNOSTI I ZADOVOLJSTVA FIZIČKIM IZGLEDOM, PERCEPCIJE VLASTITOG ZDRAVLJA I AFEKTIVNE KOMPONENTE DOBROBITI

Sažetak

Ovom se studijom istraživala povezanost između fizičke aktivnosti različitog intenziteta i zadovoljstva fizičkim izgledom, percepcije vlastitog zdravlja i afektivne komponente dobrobiti. Podaci su prikupljeni u okviru istraživačkog projekta o dobrobiti u Hrvatskoj (CRO-WELL). Uzorak (N=2751; raspon dobi 19-81) su činili odrasli korisnici interneta koji su ispunili on-line upitnik. Sudionici su procjenjivali zadovoljstvo fizičkim izgledom i zdravstveni status. Dobrobit je ispitivana Skalom pozitivnih i negativnih doživljaja, koja mjeri koliko su sudionici doživjeli pozitivnih (6 čestica) i negativnih (6 čestica) osjećaja tijekom proteklog mjeseca. Intenzitet fizičke aktivnosti mjeren je pomoću dvije mjere, broja dana u tjednu koje sudionik provede vrlo aktivno, npr. na fitnessu ili baveći se sportom i dana provedenih u nekoj mirnijoj aktivnosti poput šetnje ili vrtlarstva. Prikupljeni su podaci i o osobinama ličnosti, socio-demografskim karakteristikama i objektivnim zdravstvenim pokazateljima te su korišteni kao kontrolne varijable u analizama. Rezultati regresijskih analiza pokazali su da obje mjere fizičke aktivnosti predviđaju zadovoljstvo fizičkim izgledom. Zadovoljstvo zdravljem predviđa samo viši intenzitet fizičke aktivnosti. Što se tiče afektivne komponente dobrobiti, i umjerena i visoka fizička aktivnost značajno su doprinijele predviđanju pozitivnih osjećaja u prošlom mjesecu, no prediktivna vrijednost bila je mala. Nalazi ove studije upućuju na različitu ulogu visoke i umjerene fizičke aktivnosti na život pojedinca te pridonose boljem razumijevanju njihove povezanosti s različitim mjerama dobrobiti, doživljajem vlastitog izgleda i subjektivnim zdravljem.

Ključne riječi: fizička aktivnost, fizički izgled, afektivna dobrobit, zdravlje

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