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# Intention to be Physically Active is Influenced by Physical Activity and Fitness, Sedentary Behaviours, and Life Satisfaction in Adolescents

**Alberto Grao-Cruces[1], Antonio Fernández-Martínez[2], Alberto Nuviala[2] and José A. Pérez-Turpin[3]**

[1] University of Cádiz, Department of Physical Education, Cádiz, Spain
[2] »Pablo de Olavide« University, Department of Sport and Computer Science, Seville, Spain
[3] University of Alicante, Department of General and Specific Didactics, Alicante, Spain

## ABSTRACT

*The aim of this study was to determine the association of levels of physical activity (PA), physical fitness (PF), sedentary lifestyle and life satisfaction with the intention to be physically active after secondary school graduation, in teenagers of both genders. A total of 1986 Spanish adolescents (12-16 years) participated in this cross-sectional study. PA, sedentary lifestyle, life satisfaction and intention to be physically active were assessed through validated questionnaires, and PF was evaluated objectively with the ALPHA battery tests. In both genders, adolescents who had significantly higher odds ratios (OR) of showing low intention to be physically active had low level of PA, cardiorespiratory fitness and muscular fitness in the lower body, and they were more sedentary in front of the computer. The girls that spent a lot of time watching TV and the boys with low life satisfaction also showed higher OR of having low intention to be physically active.*

***Key words:*** *exercise, physical conditioning, sedentary lifestyle, sports, teenagers, value of life.*

## Introduction

Adolescence is a key period in the life cycle, where vulnerability to acquire harmful habits increases becoming a risk phase[1–3] and where life patterns that persist in adulthood are acquired[4,5]. It is also one of the critical moments for the consolidation of healthy habits such as physical activity (PA). In this regard, there are different social cognitive theories that have been proven to be a useful framework for understanding the intention to be physically active in risk groups[6,7]. Likewise, there are researches focused on studying this intention in adolescents at the end of secondary school[6,8].

According to Hagger et al.[9], past and present behaviours are relevant factors to explain conduct. In fact, both intention to be physically active and present behaviour need to be studied in order to understand the adhesion to PA[10]. However, the association of the intention to be physically active with the current levels of PA, physical fitness (PF), sedentary lifestyle and life satisfaction is less obvious, and the results so far are scarce or contradictory.

Nowadays PA is an essential resource for maintaining the vital functions and it is a fundamental part of a healthy lifestyle. PA in adolescents has proven to have a protective role against the development of cardiovascular, metabolic, skeletal and even mental diseases[11,12]. Furthermore, the PA levels at this age can positively influence PA in adulthood[5,13]. Former studies suggest the relation between adolescents' PA and the intention to be physically active[13–15], although the results are not conclusive[7,16].

PF is also recognized as a powerful health marker. Several studies have established PF as a predictor of morbidity and mortality throughout life[17–19]. A low level of PF during adolescence is associated with the risk of suffering from cardiovascular, metabolic, or skeletal diseases[18–20]. The influence that PF of adolescents can have on the levels of PA in later life is less clear. The studies carried out and the contradictions in their results do not lead to a consensus about whether PF of school children affects PA in adulthood[5,21,22].

Teenagers who spend much of their leisure time watching television (TV) or abusing of new technologies such as

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the computer (PC) are at a higher risk of suffering from health problems that may affect them physically, psychologically and socially[12,23]. Likewise, similar studies have found out an inverse association between these sedentary behaviours and PA levels in adolescents[24,25], although there is no evidence that the sedentary activities displace PA or that they are mutually exclusive[26,27]. There is also evidence of some negative association between some sedentary behaviour such as watching TV and the intention to be physically active in the future[7], but studies are still limited.

Longitudinal and cross-sectional studies demonstrate the importance of life satisfaction for the proper growth and development of adolescents, suggesting that it is a protection against the effects of adverse experiences during this life stage[28], encouraging better social relationships and preventing depressive symptoms, stress and anxiety, as well as other adverse health behaviours[29,30]. Demonstrated the positive association between PA and life satisfaction in adolescents[31–33], the influence it may have on the intention of performing PA during later periods of life is not known yet.

Based on the above, the aim of this study was to determine the association of PA, PF, sedentary lifestyle and life satisfaction levels with the intention to be physically active after finishing secondary school, in teenagers of both genders.

## Materials and Methods

### *Subjects*

The study took place during 2011/2012 school year. A sample of 1986 (1004 boys and 982 girls) healthy Caucasian adolescents (mean ($\overline{X}$) age±standard deviation (SD): 13.89±1.29 years, 12–16 years; body mass index (BMI) $\overline{X}$±SD: 22.23±4.45 kg/m$^2$), from 16 schools of the eight provinces of Andalusia (South of Spain), participated in this study. They were selected by two-stage cluster sampling, using as a reference the database of the Autonomous Region of Andalusia34. The different strata were selected according to the geographical localization, by age and gender. The participation rate allowed working with a margin of error less than 2.5% and a 95% confidence level.

A briefing explaining the nature and purpose of the study was given to adolescents, parents, teachers and school administration, requesting the informed consent from parents and adolescents. This study has fulfilled the highest safety and ethical standards, the laws of the country where it was carried out and the code of ethics established by the University of the Authors for this type of study, and it has been developed following the ethical principles of the Declaration of Helsinki.

### *Measures*

Previously validated self-administered anonymous questionnaires were distributed, requiring an average time of 15 minutes for completion and assessing the intention to be physically active, the current PA, sedentary lifestyle and life satisfaction. The anthropometric measurements (height and body mass, respectively) of barefoot and wearing light clothes subjects were taken by trained researchers. The aerobic and skeletal muscle conditions were measured objectively and all participants were given instructions of the test and practiced before it. They were also instructed to refrain from strenuous PA during the 48 hours preceding these tests.

### *Dependent variable*

The intention to be physically active was assessed through the Spanish version of »Measurement of the Intention to be Physically Active« (MIFA) validated in adolescents[8]. This tool consists of five items to measure the subject's intention to be physically active after leaving the different educational institutions. The items are preceded by the phrase »Regarding your intention to practice any sport and physical activity…..« The answers correspond to a Likert-type scale ranging from one »strongly disagree« to five »strongly agree«. The mean of its items was used to dichotomize as subject with high (>4) and low (1–4) intention to be physically active. The internal consistency of the scale in the study sample was high (Cronbach's alpha=0.820).

### *Independent variables*

Current PA Level was assessed by means of the tool »Moderate-to-Vigorous Physical Activity Screening Measure« developed by Prochaska et al.[35]. This tool consists of two items, where the participants were asked about the number of days they were physically active (from moderate to vigorous) for at least one hour over the past seven days and in a typical week. The response scale was the same for both items: 0=none, 1=one day, 2=two days, 3=three days, 4=four days, 5=five days, 6=six days and 7=seven days. The mean of both items was used to dichotomize between inactive (0–4) and active (5–7). The internal consistency of the PA items was high (Cronbach's alpha=0.861).

Cardiorespiratory fitness was assessed by means of the »20-m Shuttle Run Test« described by Léger et al.[36], included in the PF ALPHA test battery[37]. In short, participants were asked to run between 2 lines 20 m apart, while keeping the pace with audio signals emitted from a previously recorded compact disk (CD). The initial speed was 8.50 km/h, which was increased by 0.5 km/h per minute (1 minute=1 stage). Participants were instructed to run in a straight line, to pivot on completing a shuttle and to follow the pace in accordance with the audio signals. The participants were encouraged to keep running as long as possible throughout the course of the test. The test was over when the participant failed to reach the end of the lines concurrent with the audio signals on two consecutive occasions. Otherwise, the test ended when the participant

stopped because of fatigue. All measurements were carried out under standardized conditions on an indoor rubber floor. The last stage completed was scored (precision of 0.5 stages). The participants were classified in low and high cardiorespiratory fitness according to the FITNESSGRAMM standards for healthy fitness zone[38].

Following the recommendations of Ruiz et al.[37] the two tests included in the PF ALPHA test battery were used to measure the muscular fitness. Lower body muscular fitness was assessed by means of the »Standing Long Jump Test«. The participant, stood behind a line with feet together, and pushed forward to jump as far as possible. The distance was measured from the take-off line to the back of the heel that landed closest to the take-off line. The test was repeated twice, and the best result was kept (in cm)[39–41].

Upper body muscular fitness was assessed by the »Handgrip Strength Test«, using a TKK5101 Grip D-class III dynamometer (Takey, Tokio, Japan) accurate to 0.1 kg. The participants squeezed gradually and continuously for at least two seconds, standing during the whole test, with the arm straight and avoiding contacting any part of the body with the dynamometer with the exception of the hand being measured. Both hands were tested twice, alternately and choosing randomly the hand to be tested first. The sum of the best result obtained in each hand was used (in kg)[39]. In each test, the subjects were classified into low and high muscular fitness according to a measure of central tendency[40,41], in this case the mean.

Sedentary activities were assessed by means of the questionnaire »Health Behaviour in School-aged Children« (HBSC)[42]. Participants had to answer six items indicating the number of hours spent daily on weekdays and at weekends watching TV, using a PC and doing homework. The response scale gave 9 options: 1=zero hours, 2=half an hour, 3=one hour, 4=two hours, 5=three hours, 6=four hours, 7=five hours, 8=six hours and 9=seven hours. For each of these sedentary activities a weighted mean (according to the days of the week) was used between its two items, and the answers were dichotomized as high (5–9) and low (1–4) sedentary lifestyle level. The internal consistency of the items related to a sedentary lifestyle was high (Cronbach's alpha=0.721; 0.745 and 0.719 for the items TV, PC and homework respectively)

The Spanish version of »Satisfaction with Life Scale« (SWLS)43, validated in adolescents, was used to assess life satisfaction. This consists of five items, whose response values range from one to five, where one indicates »strongly disagree« and five »strongly agree«. The final result of the scale was calculated by adding the scores obtained in each of its items, so it can range from 5 to 25. The final result was dichotomized as very happy (21–25) or unhappy (5–20). The internal consistency of the scale in the study sample was high (Cronbach's alpha=0.824).

### *Control Variables*

Anthropometric measurements of weight [TANITA BC-420-S class III scale (TANITA Corporation Inc., Arlington Heights, Illinois, US)] and height [SECA 214 (SECA Ltd., Hamburg, Germany) portable stadiometer] were completed on barefoot teenagers dressed in light clothes. BMI (weight in kilograms divided by the square of the height in meters) was calculated.

## Statistics

Data analysis was performed using IBM SPSS Statistics 20.0 for Windows (IBM Software Group, Chicago, Illinois, United States) and the level of statistical significance was set as $\alpha<0.05$. Comparison of gender of the anthropometric measures, intention to be physically active, PA level, PF tests, sedentary lifestyle and life satisfaction were performed by means of the Student's t-test for independent samples.

The association of PA, aerobic and muscular fitness, sedentary lifestyle and life satisfaction (independent variables) with the intention to be physically active (dependent variable) was assessed by means of linear regression analysis.

Furthermore, binary logistic regression was performed to examine the association of low intention to be physically active with PA level (active [referent] vs. inactive), aerobic and muscular fitness (high [referent] vs. low, for each of the tests), sedentary lifestyle (low [referent] vs. high, for TV, PC and homework) and life satisfaction (very happy [referent] vs. unhappy).

All regression analyses were made separately (each independent variable with the dependent variable), were completed on boys and girls separately, and were adjusted (control variable) by age and BMI.

## Results

Boys showed significantly higher BMI, intention to be physically active, PA, aerobic and muscular fitness and life satisfaction, while girls showed more dedication to school obligations (Table 1).

Table 2 shows the association of activity and physical fitness, sedentary lifestyle, and life satisfaction with the intention to be physically active. In adolescents, boys and girls, the PA levels (ß=0.393 and ß=0.348, respectively), cardiorespiratory fitness (ß=0.347 and ß=0.397), lower body muscular fitness (ß=0.304 and ß=0.268), upper body muscular fitness (ß=0.148 and ß=0.133) and life satisfaction (ß=0.314 and ß=0.179) were positively associated with the intention to be physically active. The time spent in front of TV and PC screen was negatively associated with the intention to be physically active both in boys (ß=–0.067 and ß=–0.099, respectively) and girls (ß=–0.132 and ß=–0.145) (Table 2).

Adolescents, boys and girls, that had significantly higher odds ratios (OR) of showing low intention to be physically active after finishing secondary school were the ones with low level of PA (OR=2.427 and OR=2.105, respectively), low cardiorespiratory fitness (OR=3.154 and

**TABLE 1**
MEAN (X) AND STANDARD DEVIATION (SD) FOR ANTHROPOMETRIC MEASURES, INTENTION TO BE PHYSICALLY ACTIVE, ACTIVITY AND FITNESS LEVEL, SEDENTARY LIFESTYLE AND LIFE SATISFACTION

| Variable | Boys (N = 1004) | | | Girls (N = 982) | | | |
|---|---|---|---|---|---|---|---|
| | N | $\overline{X}$ | SD | N | $\overline{X}$ | SD | p |
| Age (years) | 1004 | 13.93 | (1.30) | 982 | 13.84 | (1.28) | 0.097 |
| Weight (kg) | 1004 | 61.92 | (15.48) | 982 | 55.29 | (12.17) | <0.001 |
| Height (cm) | 1004 | 165.13 | (9.81) | 982 | 158.45 | (6.70) | <0.001 |
| BMI (kg/m$^2$) | 1004 | 22.70 | (4.64) | 982 | 22.02 | (4.23) | 0.002 |
| Intention to be physically active (1–5) | 1004 | 4.16 | (.84) | 982 | 3.47 | (.94) | <0.001 |
| Activity and physical fitness | | | | | | | |
| PA (days a week) | 1004 | 4.37 | (1.91) | 982 | 3.50 | (1.95) | <0.001 |
| 20-m shuttle run test (ml/kg/min) | 945 | 44.53 | (6.44) | 914 | 38.55 | (4.89) | <0.001 |
| Standing long jump (cm) | 970 | 172.28 | (32.20) | 940 | 140.28 | (23.22) | <0.001 |
| Handgrip strength test (kg) | 990 | 61.00 | (16.67) | 969 | 46.51 | (9.47) | <0.001 |
| Sedentary lifestyle | | | | | | | |
| Television (hours/day) | 1004 | 2.24 | (1.37) | 982 | 2.27 | (1.31) | 0.627 |
| Computer (hours/day) | 1004 | 2.04 | (1.54) | 982 | 2.14 | (1.56) | 0.147 |
| Homework (hours/day) | 1004 | 1.66 | (1.14) | 982 | 2.09 | (1.11) | <0.001 |
| Life satisfaction (1–25) | 969 | 19.56 | (4.23) | 928 | 19.05 | (4.55) | 0.010 |

PA (days a week) – average number of days that accumulated at least one hour of moderate-vigorous activity over the past seven days and in a typical week (a mean of the responses to both items).

**TABLE 2**
ASSOCIATION OF ACTIVITY AND PHYSICAL FITNESS, SEDENTARY LIFESTYLE AND LIFE SATISFACTION (INDEPENDENT VARIABLES) WITH THE INTENTION TO BE PHYSICALLY ACTIVE (DEPENDENT VARIABLE) IN ADOLESCENTS

| Variable | Boys (N = 1004) | | | | | Girls (N = 982) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | N | ß | SE | r | p | N | ß | SE | r | p |
| Activity and physical fitness | | | | | | | | | | |
| Physical Activity | 1004 | 0.393 | 0.013 | 0.402 | <0.001 | 982 | 0.348 | 0.015 | 0.357 | <0.001 |
| Cardiorespiratory fitness | 945 | 0.347 | 0.004 | 0.339 | <0.001 | 914 | 0.397 | 0.008 | 0.319 | <0.001 |
| MF (Standing long jump) | 970 | 0.304 | 0.001 | 0.259 | <0.001 | 940 | 0.268 | 0.001 | 0.226 | <0.001 |
| MF (handgrip strength test) | 990 | 0.148 | 0.002 | 0.046 | <0.001 | 969 | 0.133 | 0.004 | 0.079 | <0.001 |
| Sedentary lifestyle | | | | | | | | | | |
| Television | 1004 | –0.067 | 0.020 | –0.075 | 0.042 | 982 | –0.132 | 0.024 | –0.133 | <0.001 |
| Computer | 1004 | –0.099 | 0.017 | –0.104 | 0.003 | 982 | –0.145 | 0.020 | –0.153 | <0.001 |
| Homework | 1004 | 0.016 | 0.024 | 0.010 | 0.639 | 982 | 0.041 | 0.029 | 0.032 | 0.230 |
| Life satisfaction | 969 | 0.314 | 0.006 | 0.320 | <0.001 | 928 | 0.179 | 0.007 | 0.192 | <0.001 |

ß – Standardized regression coefficients, SE – Standard error, r – Zero-order correlation, MF – Muscular fitness. All analyses were completed separately (each independent variable with the dependent variable), and were adjusted (control variables) by age and body mass index.

OR=3.180) and low body muscular fitness (OR=1.700 and OR=1.934) and those who were more sedentary in front of the computer screen (OR=1.447 and OR=1.656). Girls that spent a lot of time watching TV also showed higher OR of having low intention to be physically active (OR=1.536). Boys with low life satisfaction reported higher OR of having low intention to be physically active in the future (OR=2.700) (Table 3).

**TABLE 3**
OR AND 95% CI FOR LOW INTENTION TO BE PHYSICALLY ACTIVE ACCORDING TO THE ACTIVITY AND PHYSICAL FITNESS, SEDENTARY LIFESTYLE AND LIFE SATISFACTION IN ADOLESCENTS

| Variable | | Boys (N = 1004) | | | | Girls (N = 982) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | N | p | OR | 95% CI | N | p | OR | 95% CI |
| Activity and Physical fitness | | | | | | | | | |
| Physical Activity | Active | 507 | | 1 | Referent | 315 | | 1 | Referent |
| | Inactive | 497 | <0.001 | 2.427 | 1.860–3.166 | 667 | <0.001 | 2.105 | 1.588–2.790 |
| Cardiorespiratory fitness | High | 471 | | 1 | Referent | 456 | | 1 | Referent |
| | Low | 474 | <0.001 | 3.154 | 2.305–4.315 | 458 | <0.001 | 3.180 | 2.277–4.441 |
| MF (Standing long jump) | High | 475 | | 1 | Referent | 461 | | 1 | Referent |
| | Low | 495 | 0.001 | 1.700 | 1.255–2.303 | 479 | <0.001 | 1.934 | 1.439–2.601 |
| MF (Handgrip Strength) | High | 433 | | 1 | Referent | 430 | | 1 | Referent |
| | Low | 557 | 0.144 | 1.275 | 0.920–1.766 | 539 | 0.187 | 1.256 | 0.895–1.763 |
| Sedentary lifestyle | | | | | | | | | |
| Television | Low | 573 | | 1 | Referent | 534 | | 1 | Referent |
| | High | 431 | 0.068 | 1.275 | 0.982–1.654 | 448 | 0.002 | 1.536 | 1.169–2.018 |
| Computer | Low | 634 | | 1 | Referent | 577 | | 1 | Referent |
| | High | 370 | 0.007 | 1.447 | 1.107–1.892 | 405 | <0.001 | 1.656 | 1.251–2.191 |
| Homework | Low | 764 | | 1 | Referent | 614 | | 1 | Referent |
| | High | 240 | 0.828 | 0.967 | 0.715–1.310 | 368 | 0.231 | 1.187 | 0.897–1.570 |
| Life satisfaction | Very Happy | 473 | | 1 | Referent | 389 | | 1 | Referent |
| | Less | 496 | <0.001 | 2.700 | 2.053–3.553 | 539 | 0.216 | 1.203 | 0.898–1.611 |

OR – Odds ratio, CI – Confidence interval. All analyses were completed separately (each independent variable with the dependent variable), and were adjusted (control variables) by age and body mass index.

## Discussion

The results showed that adolescents, boys and girls, with low PA levels, cardiorespiratory fitness and lower body muscular fitness are more likely to have low intention to be physically active after finishing their studies in secondary school. Additionally, adolescents that spend a lot of time sitting in front of the PC have a 1.4 times higher risk of reporting low intention to be physically active. In girls a lot of time spent in front of TV also increases 1.5 times the risk of having little intention to be physically active; while boys with lower life satisfaction are 2.7 times more likely to show low intention to be physically active.

It was observed that PA was positively associated with the intention to be physically active in the future in adolescents of both genders, consistent with the findings of Moreno-Murcia et al.[15] in a sample of 472 Spanish adolescents aged 16–20, Dishman et al.[14] in 431 girls schooled in the United States and Kwan et al.[13] in a sample of 212 Canadian university freshmen. However, de Brujin et al[16] in 221 Dutch adolescents, and Poobalan et al.[7] in a sample of 1313 Scottish adolescents aged 18–25 did not find a significant association between PA and the intention to be physically active. The results obtained are reinforced by those which prove that PA habits consolidated during adolescence tend to persist in adulthood[5,13].

Cardiorespiratory and muscular fitness were positively associated with the intention to be physically active in adolescents of both genders, although a low level of handgrip strength did not mean a higher significant risk of lower intention to be physically active. Beunen et al.[21] in a sample of 166 Belgian adolescents and Beunen et al.[44] in 109 Belgian adolescents noticed that characteristics of PF in adolescence (13–18 years) (mostly related to muscular fitness) contribute significantly to PA during adulthood (40 years old). Despite this positive association between PF and PA in the future, it turned out to be opposite for certain measures of the upper body muscular fitness[44]. Huotari et al.[5] in a sample of 1525 Finns also found a positive association between PF in adolescence (12–18 years old) and PA in adult life (37–43 years old), although it was only significant for males. Nevertheless, Kemper et al.[45] in a sample of 400 Dutch noticed that PF during adolescence (13–17 years old) was significantly but weakly related to PA in adulthood (33 years old) (explained <2% of the variance), whereas Trudeau et al.[22] did not found that PF in pre-adolescent aged 10–12 was related to PA nor to the intention to perform physical activity during

adulthood (35 years old). However, there is no evidence of other studies that have studied the association of PF with the intention to be physically active after finishing secondary school, which complicates the discussion of the results.

It was observed that the variable sedentary time in front of PC was inversely associated with the intention to be physically active in adolescents. Similarly, it was found that girls who spend more time watching TV had a higher risk of reporting a low intention to be physically active. In this regard, Poobalan et al.[7] in a sample of 1313 Scottish teenagers aged 18–25 found a negative association between the time spent watching TV and the intention to be physically active, but not for other sedentary behaviours such as using the PC. In any case, the negative associations between sedentary lifestyle and future intentions of PA, as well as those reported with the PA behaviours in adolescents[24,25], do not seem to emanate from a competition between sedentary and physical activities[26,27].

A positive association was found between life satisfaction and intention to be physically active, although girls with high life satisfaction were not significantly less prone to show a low intention to be physically active in the future. There is no evidence of precedents that have studied this association; however, life satisfaction has proved its association with PA behaviours. Iannotti et al.[32] in a sample of 204534 adolescents from 41 European countries and Americans aged 11, 13 and 15 years old found a positive relationship between PA and life satisfaction. Paupério et al.[33] in 5624 Portuguese adolescents aged 12–17 found more life satisfaction among the subjects with higher participation in sports. Valois et al.[31] findings on 4758 American students from 9th–12th grade also follow the same line associating lack of PA and sports participation with a decrease of life satisfaction.

Based on these results, increasing PA, PF and life satisfaction as well as reducing the time spent watching TV or using the computer could positively influence the intention of adolescents to be physically active in the future, results of practical application for teachers in charge of promoting PA at school and out of school context. New intervention studies are necessary to confirm or refute these findings.

A limitation of this study is its descriptive and cross-sectional nature, since by not experimentally manipulating any variable a causal relationship cannot be established; together with intentions that do not correspond necessarily with future behaviours[13]. Another limitation was that some of the questionnaire items might have been misinterpreted intentionally or unintentionally by some adolescents. However, the intentional misinformation was probably minimized by the fact that questionnaires were filled out anonymously and all questionnaires showed good reliability and validity in this age group (12–16 years old). Besides, PF was assessed with objective measures.

## Conclusions

The study has revealed that having a low PA level, low cardiorespiratory fitness, low lower body muscular fitness and a lot of time in front of the computer increase the risk of having low intention to be physically active in the future in adolescents. Additionally, girls who spend a lot of time watching TV and boys with low life satisfaction might be more likely to report low intention to be physically active after finishing their studies in secondary school.

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*A. Grao-Cruces*

*University of Cádiz, Department of Physical Education, Calle Ancha 16, Cádiz, Spain*
*e-mail: alberto.grao@uca.es*

## NAMJERA PREMA FIZIČKOJ AKTIVNOŠĆU JE POD UTJECAJEM TJELESNE AKTIVNOSTI I FITNESSA, SJEDILAČKOG PONAŠANJA I ŽIVOTNOG ZADOVOLJSTVA U ADOLESCENATA

## S A Ž E T A K

Cilj ovog istraživanja bio je utvrditi povezanost razine tjelesne aktivnosti (PA), fizičke spremnosti (PF), sjedilačkog načina života i zadovoljstva životom s namjerom da se bude fizički aktivan nakon srednjoškolske mature, u tinejdžera oba spola. Ukupno 1986 španjolskih adolescenata (12-16 godina) sudjelovalo je u ovoj poprečno presječnoj studiji. PA, sjedilački način života, zadovoljstvo životom i namjera da se fizički aktivni procjenjivani su validirane upitnike i PF su procijenjeni objektivno s testovima alfa baterija. U oba spola, adolescenti koji su imali značajno veće izglede (OR) za nisku namjeru fizičke aktivnosti su imali nisku razinu PA, kardiorespiratorne sposobnosti i mišićne sposobnosti u donjem dijelu tijela i više su provodili vrijeme sjedeći ispred računala. Djevojke koje su provele puno vremena gledajući televiziju i dječaci s niskim životnim zadovoljstvom su pokazali veće izglede za nisku namjera fizičke aktivnosti.