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The relationship between perceived exertion, physical activity and quality of life in older women

David A. Sumpter*, Alfonso J. García** and Jesús del Pozo***

THE RELATIONSHIP BETWEEN PERCEIVED EXERTION, PHYSICAL ACTIVITY, AND QUALITY OF LIFE IN OLDER WOMEN

KEYWORDS: Perceived exertion, Physical activity, Quality of life, Older women, Health education.

ABSTRACT: This paper highlights the relationship between perceived exertion, physical activity, and quality of life in a sample of 14 Spanish older adults. In relation to the *Back Scratch Test*, there was a significantly positive correlation between total energy expenditure (METs) and the reported perception of exertion (RPE) as measured by the *Borg Scale 6-20*. In regards to the relationship between health related quality of life and the Borg Scales, there was a significant negative relationship found during the *30-s Chair Stand Test* between the component of the *SF-36 Physical Role* and the *Borg Scale 0-10*. In regards to the relationship between the dimensions of health related quality of life and the Borg Scales, there was a significant negative relationship found between the *Visual Analogical Score (VAS)* and the *Borg Scale 0-10* during the *30-s Chair Stand Test*. Similarly, there was a significant negative relationship found between the VAS and the *Borg Scale 6-20* during the *8-ft-up-and-go Test*. The most important finding of the present study was that RPE during functional exercises may significantly influence the perception of quality of life in older adults.

Concept of Perceived Exertion

The American College of Sports Medicine (ACSM) considers RPE as a method in which an exerciser self-assesses his or her perceptions and feelings of effort, fatigue, or discomfort while performing aerobic or resistance exercise. This self-assessment is performed according to the Borg scale that ranges from 6 to 20. A minimum score of 6 on the RPE scale represents bodily sensations during a state of rest whereas a maximum score of 20 reflects maximum exertion. The higher the intensity of the exercise, the greater the level of discomfort perceived, and the greater the amount of exertion required by the exerciser, thus influencing a greater score on the Borg scale.

The perception of exertion of an individual is considered a function of the absolute exercise intensity or the metabolic rate required by the exercise (Rejeski, 1981). Since it is a subjective perception, the RPE may be influenced not only by the physical characteristics of the person, but also by the disposition of his or her personality. For older adults, the ACSM and the American Heart Association recommend that a value of 5-6 on the CR-10 RPE scale represents moderate intensity and a value of 7-8 represents vigorous intensity (Donath et al., 2013).

Quality of Life and Physical Activity in Older Adults

“Quality of life (QOL)” in old age can be conceptualized by two main approaches: the subjective evaluation of a person’s overall QOL and the objective evaluation of a person’s QOL (oQOL), which is measured from outside the individual (Martin, Schneider, Eicher and Moor, 2012). Two main instruments that measure the oQOL related to illness are SF-36 and EQ-5D, both of which can be used to determine “autonomy-endangering resource losses” in both normal and special adult populations (Martin et al., 2012, p. 34). This can be critically useful when determining and classifying the level of dependency/independence of the individual. Netuveli and Blane (2008), cited by García (2011), found that the majority of older adults rate their QOL positively in relation to social contacts, dependency, health, material aspects, and social comparisons.

Physical activity may be directly related to QOL when it is conceptualized as a framework that incorporates health-related components, such as physical function, mental function, and social function (Paxton, Motl, Aylward and Nigg, 2010). Various studies indicate that regular, sustained physical activity participation by older adults is associated with an improved QOL in the later years. Nonetheless, the mean scores of QOL decreased with increasing age.

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An inverse relationship exists between level of physical activity and age of an individual (Farid and Dabiran, 2012). The normal aging process has a tendency to decrease an individual's level of physical fitness, including components such as strength, endurance, flexibility, and agility. This negative effect of aging "...results in difficulties in daily life activities and normal functioning of the elderly" (Milanovic et al., 2013, p. 550). A high level of physical activity is significantly associated to a higher vitality score and to a lower role limitation-physical score (Farid and Dabiran, 2012). An increase in leisure time physical activity is associated with improved scores on the SF-36 domains, particularly the mental domains.

Health professionals need to develop strategies that may positively change the attitude of a person toward the practice of physical activity (Martínez et al., 2006). This way, the tendency of sedentary behavior with increasing age can be shifted to produce greater health benefits to an aging society (Codina et al., 2013).

Physical Activity, Age and Perception of Exertion

Physical activity is "...any bodily movement produced by the skeletal muscles that results in energy expenditure" (Pantelic et al., 2012, p. 290). Older adults should participate in an exercise program to improve both their functional capacity and their capacity to live independently. Depending on the individual's health status, the training program should include strength, balance, flexibility, and aerobic exercises with different training frequencies (3-7 days/week), durations (30-60 min/session), and intensities (3-6 METs) (Donath et al., 2013).

A person's level of physical activity is utilized often as a method to monitor and evaluate his or her health status. In the older adult population, the monitoring of physical activity levels is an important aspect of the prevention of diseases, the fight against physical inactivity, and the reduction in risk of mortality (Pantelic et al., 2012). In comparison to objective measures of physical activity, subjective measures, such as self-report methods, have the potential to overestimate true physical activity levels, which is a significant limitation of the *International Physical Activity Questionnaire* (IPAQ) (Skatrud-Mickelson et al., 2011).

Research shows that fitness level could affect RPE. High and low fit individuals report significantly different RPEs at certain percentages of $\dot{V}O_2$ sub-max. Individuals who are less fit have a tendency to rate their perception of effort while exercising at a specific level of exercise intensity as more difficult and less reliable than individuals who are trained at the same relative intensity (Berg, Kaufman, Noble and Thomas, 2006). During the aging process, the blood flow to the brain reduces, which can decrease cognitive functions, influencing RPE in older adults.

Gros Lambert and Mahon (2006) found that in older adults, the RPE can be more affected by their physical condition and health status than by the process of aging itself.

The purpose of the present study was to:

1. Analyze the relationship between RPE and perception of quality of life (QOL) in older adults.
2. Compare the perception of QOL among older adults that realize physical exercise against those that do not.
3. Verify the existent relationship between the age of the older adults and their perceived exertion and QOL.

From the proposed objectives we can enunciate the following hypotheses:

Hypothesis 1: When older adults perceive that they have QOL, their RPE during physical activity/exercise is lower.

Hypothesis 2: The group of older adults that realized exercise, also perceived a higher QOL.

Hypothesis 3: The less exertion perceived by an older adult during the realization of physical exercise, the higher the perception of QOL.

Hypothesis 4: A positive relationship exists between the age of the older adults and their perception of exertion, in the manner that the greater the age, the greater the perception of physical exertion during exercise.

Hypothesis 5: A negative relationship exists between the age of the older adults and their perception of QOL, in the manner that the greater the age, the lower the perception of QOL.

Hypothesis 6: There exists a negative relationship between the perception of exertion and the perception of QOL, in the manner that the greater the perception of physical exertion, the lower the perception of QOL.

Methods

Participants

Following approval from the University of Seville and the day center "Estancia Diurna Para Mayores STA. Catalina," located in Seville, Spain, 14 older adults (13 women, 1 man) between the ages of 70 and 90 years and with a varied health status and physical condition participated in this study by convenient sampling. The most important criterion of inclusion was that all participants were at least 65 years old and did not have any cognitive limitations that prohibited them from reliably evaluating their perceived exertion during physical exercise or following instructions. All subjects who participated in 4 of the 6 functional exercises of the protocol Rikli and Jones (1999) had to assist the day center and had to be functionally independent.

Dimension SF-36	Mean Score
Physical Function	40.00 (33.03)
Physical Role	69.23 (37.96)
Social Function	90.38 (22.60)
Mental Health	68.30 (23.04)
Corporal Pain	47.38 (26.00)
Emotional Role	87.17 (28.99)
General Health	55.39 (20.90)
Vitality	65.38 (23.04)
Global Physical Health	36.23 (8.50)
Global Mental Health	54.93 (11.68)

Variables presented as Mean (SD)

Table 1. Health related quality of life profile of the sample.

Instruments

The *EuroQol-5D (EQ-5D) Health Survey* is a standardized measure of health status and offers a simple, descriptive profile of the participant. A global visual analogical score (VAS) of QOL was obtained for each participant. The EQ-5D consists of 2 pages: the first page consists of 6 questions that assess 5 different dimensions: mobility, self-care, usual activities, pain/discomfort, and anxiety/depression; the second page consists of a visual scale from 0 (the worst state of health imaginable) to 100 (the best state of health imaginable) that offers each participant the opportunity to measure his or her own perception of his or her present health state; each participant evaluated his or her perception of how “good” or “bad” his or her present health state was on the day that this questionnaire was administered. Each participant indicated whether he or she perceived his or her present health state to be better, the same, or worse than during the past 12 months.

The *Short-Form Health Survey-36 (SF-36)* is a generalized measure of *Health-Related Quality of Life (HR-QOL)*. It consists of 36 questions divided among 8 categories (Physical Function, Social Function, Mental Health, Pain, Physical Problems, Emotional Problems, General Health, and Vitality). The physical component includes scales to measure physical function, role limitations related to health problems, body pain, and general health. The mental component incorporates scales to measure vitality, social functioning, and role limitations related to personal or emotional problems, and mental health (Tompkins, Bosch, Chenowith, Tiede y Swain, 2008).

The *IPAQ (Long Version Format Auto Administrated-Last 7 Days; revised in 2002)* offers an international measure for physical activity in young persons and in middle-aged adults (15-69 years). The IPAQ is composed of the following 5 parts, respectively: Physical activity related to work; physical activity related to transportation; housework/house maintenance/family care; recreational-related, sport-related, and free time-related physical activities; time dedicated to sitting down.

Experimental Design

The present study is cross-sectional and descriptive. The data were collected during a sole determined period for each participant and represent characteristics of older persons of distinct ages in a habitual environment.

Procedures

All participants provided written voluntary informed consent. This study consisted of 2 trials of each of the 4 selected functional exercises based on the Rikli and Jones (1999) protocol: *30-s chair stand, chair sit-and-reach, back scratch, and 8-ft-up-and-go*. Each selected functional exercise was conducted twice on separate occasions by 6 of the 14 participants. During each of the first trials, the participants rated their RPE based on *Borg's Perceived Exertion Scale 0-10* immediately following the termination of the trial. During the second trial, the participants

rated their RPE based on *Borg's Perceived Exertion Scale 6-20* directly at the end of the trial. During each trial, heart rate was measured manually by the researcher to obtain a “resting” value and a final value.

Statistical Analysis

All data were either reported as Pearson correlations or relationships displayed in the form of a table. The value of $p < .05$ or $p < .01$ was considered statistically significant. Statistical analyses were performed using the statistical package software SPSS version 20.

Results

In regards to the first objective, analyze the relationship between RPE and perception of QOL in older adults, Table 2 displays a significant negative relationship between health related QOL and the *Borg Scales* during the *30-s Chair Stand Test* between the component of the SF-36 Physical Role and the *Borg Scale 0-10* (Pearson $r = -.951; p < .01$). In addition, there was a significant negative relationship found during the *30-s Chair Stand Test* between the component of the SF-36 General Health and the *Borg Scale 0-10* ($-.951; p < .01$). Furthermore, there was a significant negative relationship found during the *30-s Chair Stand Test* between: the component of the SF-36 Vitality and the *Borg Scale 0-10* ($-.885; p < .05$), the component of the SF-36 Social Functioning and the *Borg Scale 0-10* ($-.889; p < .05$), the component of the SF-36 Emotional Role and the *Borg Scale 0-10* ($-.889; p < .05$), the component of the SF-36 Mental Health and the *Borg Scale 0-10* ($-.945; p < .01$), and the Standardized Mental Component of the SF-36 and the *Borg Scale 0-10* ($-.944; p < .01$). In regards to the relationship between health-related QOL and the *Borg Scales*, Table 2 shows a significant negative relationship during the *8-ft-up-and-go Test* between: the component of the SF-36 Physical Role and the *Borg Scale 6-20* ($-.866; p < .05$), the component of the SF-36 General Health and the *Borg Scale 6-20* ($-.862; p < .05$), the component of the SF-36 Vitality and the *Borg Scale 6-20* ($-.830; p < 0.05$), the component of the SF-36 Mental Health and the *Borg Scale 6-20* ($-.817; p < .05$), and the Standardized Mental Component of the SF-36 and the *Borg Scale 6-20* ($-.859; p < .05$).

In regards to the first objective pertaining to the relationship between the dimensions of health related QOL and the *Borg Scales*, in Table 3 it can be seen that there was a significant negative relationship found between the VAS score and the *Borg Scale 0-10* during the *30-s Chair Stand Test* ($-.853; p < .05$). Similarly, Table 3 shows a significant negative relationship between the VAS score and the *Borg Scale 6-20* during the *8-ft-up-and-go Test* ($-.950; p < .01$). There was a significant negative relationship found between the EQ-5D-3L utility index and the *Borg Scale 6-20* during the *8-ft-up-and-go Test* ($-.822; p < 0.05$).

HRQoL	Borg 30-Sit to Stand Testand		Borg Sit Reach Test		Borg Back Scratch Test		Borg 8-ft-up-and-go Test	
	6-20	0-10	6-20	0-10	6-20	0-10	6-20	0-10
Physical Functioning	-.486	.022	-.402	-.327	.255	.087	-.050	-.703
Physical Role	-.790	-.951**	-.510	.255	-.246	-.119	-.866*	-.357
Bodily Pain	-.166	-.387	-.514	-.490	.267	-.419	.023	-.280
General Health	-.652	-.951**	-.593	.477	-.492	.083	-.862*	-.148
Vitality	-.734	-.885*	-.806	.284	.200	-.390	-.830*	-.308
Social Functioning	-.775	-.889*	-.400	.200	-.680	.203	-.800	-.400
Emotional Role	-.775	-.889*	-.400	.200	-.188	.000	-.800	-.400
Mental Health	-.754	-.945**	-.662	.182	-.068	-.333	-.817*	-.350
Standardized Physical Component	-.731	-.723	-.733	-.090	-.002	-.088	-.544	-.588
Standardized Mental Component	-.711	-.944**	-.560	.304	-.112	-.320	-.859*	-.241

6-20: Borg scale six to twenty; 0-10: Borg scale zero to ten; * $p < .05$; ** $p < .01$

Table 2. Relationship between Health Related Quality of life and Borg Scale (all test).

HRQoL	Borg 30-Sit to Stand Testand		Borg Sit Reach Test		Borg Back Scratch Test		Borg 8-ft-up-and-go Test	
	6-20	0-10	6-20	0-10	6-20	0-10	6-20	0-10
Physical Functioning	-.486	.022	-.402	-.327	.255	.087	-.050	-.703
Physical Role	-.790	-.951**	-.510	.255	-.246	-.119	-.866*	-.357
Bodily Pain	-.166	-.387	-.514	-.490	.267	-.419	.023	-.280
General Health	-.652	-.951**	-.593	.477	-.492	.083	-.862*	-.148
Vitality	-.734	-.885*	-.806	.284	.200	-.390	-.830*	-.308
Social Functioning	-.775	-.889*	-.400	.200	-.680	.203	-.800	-.400
Emotional Role	-.775	-.889*	-.400	.200	-.188	.000	-.800	-.400
Mental Health	-.754	-.945**	-.662	.182	-.068	-.333	-.817*	-.350
Standardized Physical Component	-.731	-.723	-.733	-.090	-.002	-.088	-.544	-.588
Standardized Mental Component	-.711	-.944**	-.560	.304	-.112	-.320	-.859*	-.241

6-20: Borg scale six to twenty; 0-10: Borg scale zero to ten; * $p < .05$; ** $p < .01$

Table 3. Relationship between Health Related Quality of life (EQ-5D-3L) and Borg Scale (all test).

In relation to the *Back Scratch Test*, Figure 1 shows there was a significantly positive correlation between total energy expenditure (METs) and the RPE as measured by the *Borg Scale 6-20* ($p < .05$; Pearson $r = 0.8804$; $r^2 = 0.7750$). The variability in total METS during the *Back Scratch Test* accounted for approximately a 78 percent variation in the RPE as measured by the *Borg Scale 6-20*. In comparison, in relation to the *Back Scratch Test* as measured by the *Borg Scale 0-10*, Figure 2 shows there was a fairly strong negative correlation between METS and RPE although it did not reach statistical significance ($p > .05$; Pearson $r = -.7950$; $r^2 = .6320$).

In relation to the *8-ft-up-and-go Test*, there was no significant positive correlation found between total METS and RPE as measured by the *Borg Scale 6-20* ($p > .05$; Pearson $r = .2339$; $r^2 = .05471$). The variability in total METS during the *8-ft-up-and-go Test* accounted for about a 5 percent variation in the RPE as measured by the *Borg Scale 6-20*.

In relation to the *Sit-and-Reach Test*, there was no significant negative correlation found between total METS and RPE as measured by the *Borg Scale 6-20* ($p > .05$; Pearson $r = -.1351$; $r^2 = .01825$). The variability in total METS expended during the *Sit-and-Reach Test* accounted for about a 2 percent variation in the RPE as measured by the *Borg Scale 6-20*.

In relation to the *30-s Chair Stand Test*, there was no significant positive correlation found between the final pulse and the RPE as measured by the *Borg Scale 6-20* ($p > .05$; Pearson $r = .1373$; $r^2 = .01884$). The variability in the final pulse during the *30-s Chair Stand Test* accounted for approximately a 2 percent variation in the RPE as measured by the *Borg Scale 6-20*. In addition, there was no significant positive correlation found between total METS and RPE as measured by the *Borg Scale 0-10* during the *30-s Chair Stand Test*.

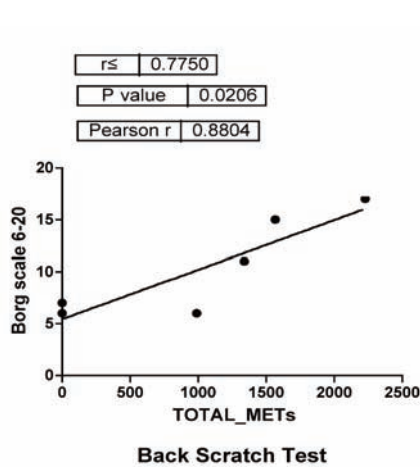


Figure 1. Correlation between total METs expended during Back Scratch Test and Borg Scale 6-20.

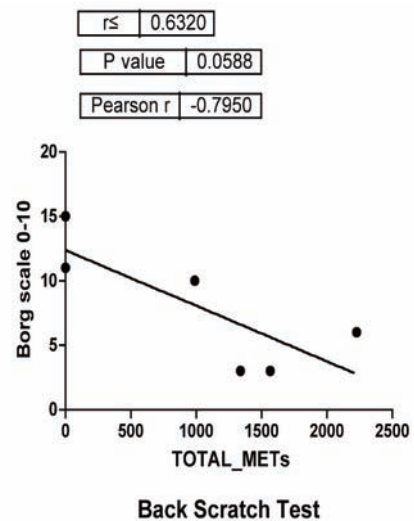


Figure 2. Correlation between total METs expended during Back Scratch Test and Borg Scale 0-10.

Discussion

This study aimed to investigate the relationship between perceived exertion, physical activity, and QOL in older adults. In relation to the *first objective* of analyzing the relationship between RPE and QOL in older adults, the present study found a significant negative relationship during the *30-s Chair Stand Test* between the Physical Role component of the SF-36 and the *Borg Scale 0-10*. The physical role of the older adult was significantly related to a higher RPE score on *Borg's 0-10* RPE scale during the *30-s Chair Stand Test* and it was significantly related to a higher RPE score on *Borg's 6-20* RPE scale during the *8-ft-up-and-go Test* (SEE Table 2.). There was a significant negative relationship found in the present study between the VAS component of the EQ-5D and *Borg's 6-20* RPE scale during the *8-ft-up-and-go Test* (SEE Table 3.), which can be interpreted in the following manner: the lower the perception of health of the older adult, the higher the RPE score reported. Wanderley, Silva, Marques, Oliveira, Mota, and Carvalho (2011), found that individuals with higher physical activity levels were more likely to score higher on the physical functioning subscale of the SF-36. For older adults, their level of physical fitness may be a crucial factor when evaluating their level of perceived exertion during exercise and Wanderley et al. (2011) supports that high physical activity levels facilitate a higher QOL in relation to the physical abilities of the person. Older adults with lower levels of physical fitness (which can contribute to a decrease in perception of QOL) may report higher levels of perceived exertion during exercise. Therefore, the first hypothesis of the present study (when older adults perceive they have QOL, their RPE during physical activity or exercise is lower) is confirmed.

In relation to the *second objective* of comparing the QOL among older adults that realize physical exercise against those that do not, the present study failed to distinguish differences in QOL. Nonetheless, Porto, Guedes, Fernandes and Reichert (2012), found that Brazilian older adults between 60 and 70 years of age who obtained lower scores in relation to self-perceived

QOL were more likely to be physically inactive in comparison to older adults who obtained higher scores for self-perceived QOL. A higher level of physical activity was related to a higher self-perceived QOL score. In the older population, the results of the previously mentioned study support that an improvement in relation to self-perceived QOL is significantly related to physical activity. Also, the results of the aforementioned study suggest that after the age of 60 years, although there are slightly more women considered to be inactive, both men and women exhibit similar behavioral patterns in relation to physical activity levels (Porto et al., 2012). Paxton, Motl, Aylward, and Nigg (2010), found significant associations between physical activity and QOL pertaining to self-efficacy and mental health difficulties. In predominately Asian populations, older adults who have low levels of physical activity tend to have poor mental health, and in fact, physical activity was found to be directly related to mental health difficulties. In the present study, of the participants who were not capable of performing physical activity independently, some suffered from physical disability and others suffered from mental disability. In relation to Hypothesis 2, it was never confirmed whether the 6 older adults who were capable of realizing exercise in the present study enjoyed a higher QOL than the other 8 physically inactive older adults.

In relation to the *third objective* of verifying the relationship between age and RPE and QOL, the results of the present study indicate that significant negative relationships were found between the: VAS score and the *Borg RPE 0-10 Scale* during the *30-s Chair Stand Test*; VAS score and the *Borg RPE 6-20* scale during the *8-ft-up-and-go Test*; EQ-5D-3L utility index and the *Borg RPE 6-20* scale during the *8-ft-up-and-go Test*. Milanovic et al. (2013) found that the level of physical activity decreased with age and was related to a decrease in functional fitness. This decrease in functional fitness throughout the normal aging process could negatively influence RPE values during exercise, which could result in a lower perceived QOL. Ayanniyi, Fabunmi and Akinpelu (2012) concluded that the chronological age of the Nigerian participants did not have a significant relationship with

their levels of physical activity. Milanovic et al. (2013) found that moderate physical activity was more prevalent and dominant compared to walking and higher intensity physical activity, and interestingly, the moderate physical activity contributed to "... almost half the energy consumed in both men and women, regardless of age category" (p. 553). The results of the IPAQ demonstrated that older adults aged 70-80 years were less physically active in all dimensions (work-related, transportation, housework/gardening, leisure-time activity) than their younger counterparts of 60-69 years of age (Serrano et al., 2013). Milanovic et al. (2013), also found a statistically significant difference ($p < 0.05$) between young elderly (60-69 years) and old elderly (70-80 years) men in relation to the following functional exercises from the Senior Fitness Test: eight-foot up and go, 30-second chair stand, arm curl, and 2-minute step test. Nonetheless, the previously mentioned study found no statistically significant differences between young women and old women in relation to the back scratch, chair sit and reach, and 2-minute step test. Skatrud-Mickelson et al. (2011), found that 76.5% of women that overestimated their physical activity intensity were non-exercisers. In terms of age, the younger participants in this study tended to underestimate their physical activity intensity as compared to the older participants. It can be inferred that the physical fitness or condition of the person seems to be an important factor when evaluating his or her RPE during exercise. It is believed that the higher the RPE reported during exercise, the lower the physical fitness and the lower the QOL of the person. The person's specific level of RPE reported during exercise can portray an overall image of his or her level of physical fitness and QOL. These results support the third hypothesis (the lower the RPE during exercise, the higher the QOL).

Reference to the most important finding of the present study was that RPE during functional exercises may significantly influence the perception of QOL in older adults. Most exercise scientists have the professional knowledge and ability to motivate both healthy and special populations, such as persons in clinical and rehabilitation settings as well as older adults, to increase physical activity levels, which can result in an improved QOL (Serrano et al., 2013).

One important limitation when interpreting self-perceived QOL scores is that this measurement is highly subjective and predominantly depends on the individual's attitude toward a variety of daily life events, and most importantly, the subjective evaluation of QOL depends exclusively on how a particular individual perceives his or her own aging process (Porto et al., 2012).

Another important limitation in regards to the CR-10 RPE scale is that this instrument does not provide comparative information about the cardio-circulatory, respiratory, and metabolic levels, especially for older adults (Donath et al., 2013). The individual can misinterpret his or her perception of effort, which produces a high frequency in relation to a reduced ability to estimate the RPE based on the actual physiological responses, which in turn is followed by the risk of overestimating the physical strength or exertion of the individual. In addition, some older adults, especially men, may report their level of perceived exertion as a little less than the reality in order not to be judged and considered as weak (Yu and Bil, 2010). In fact, the main limitation of interpreting RPEs for aerobic exercise is that the perception of effort during exercise will be different for each individual, which could affect the reliability of the experimenter's data.

Intiguently, an individual's loss of aerobic ability is approximately 10 percent per decade, which contributes to the shift in behavioral tendency towards more sedentary or physical inactive habits throughout the course of life. Less active individuals tend to overestimate the intensity of physical activity and they have a higher risk of eventually attaining a chronic disease. Research suggests that simply meeting physical activity recommendations may not be sufficient to maintain a comfortable perception of QOL. In fact, "prolonged sedentary behaviours, other than sleep, may deleteriously affect health and mortality risks" (Skatrud-Mickelson et al., 2011, p. 1643). Therefore, the concept of perceived exertion should be utilized by health professionals for both healthy and special populations so that they can learn to accurately evaluate their own level of intensity during physical exercise, which can be a useful method to improve both health and QOL.

RELACIÓN ENTRE LA PERCEPCIÓN DE ESFUERZO, ACTIVIDAD FÍSICA Y CALIDAD DE VIDA EN MUJERES MAYORES

PALABRAS CLAVE: Percepción de esfuerzo, Actividad física, Calidad de vida, Educación para la salud, Mujeres mayores.

RESUMEN: El presente trabajo destaca la relación entre la percepción de esfuerzo, la actividad física y la calidad de vida en una muestra de 14 mujeres mayores españolas. En relación con el *Back Scratch Test*, hay una correlación positiva y significativa entre el esfuerzo realizado (METs) y la percepción de esfuerzo que tienen (RPE) medida a través de la *Escala de Borg 6-20*. Además, existe una relación entre la calidad de vida relacionada con la salud y la Escala de Borg, encontrándose una relación negativa entre los 30-s del *Test de Estar Sentado* y el rol físico que aparece en el SF-36. Igualmente, existe una relación negativa y significativa entre la *Escala Visual Analógica (VAS)*, la *Escala de Borg 0-10* en relación con el *Test de Estar Sentado 30-s*. De manera similar, hay una relación negativa y significativa entre el VAS y la *Escala de Borg 6-20* y en relación con el *Test 8-ft-up-and-go*. El hallazgo más destacable de esta investigación es que, durante la realización de ejercicios funcionales, hay una influencia significativa en la percepción de calidad de vida que poseen las adultas mayores.

RELAÇÃO ENTRE A PERCEPÇÃO DE ESFORÇO, ACTIVIDADE FÍSICA E QUALIDADE DE VIDA EM MULHERES SENIORES

PALAVRAS-CHAVE: Percepção de esforço, Actividade física, Qualidade de vida, Educação para a saúde, Mulheres seniores.

RESUMO: O presente trabalho destaca a relação entre a percepção de esforço, a actividade física e a qualidade de vida numa amostra de 14 mulheres seniores espanholas. Relativamente ao *Back Scratch Test* existe uma correlação positiva e significativa entre o esforço realizado (METs) e a percepção de esforço (RPE) medida através da *Escala de Borg 6-20*. Adicionalmente, existe uma relação entre a qualidade de vida relacionada com a saúde e a Escala de Borg, verificando-se uma relação negativa entre os 30-s do *Chair Stand Test* e o Papel Físico do SF-36. De igual modo, verifica-se uma relação negativa e significativa entre a *Escala Visual Analógica (VAS)* e a *Escala de Borg 0-10* em relação ao *Chair Stand Test 30-s*. De forma similar, existe uma relação negativa e significativa entre o VAS e a *Escala de Borg 6-20*, bem como com o *Teste 8-ft-up-and-go*. O resultado mais importante desta investigação é que a RPE durante a realização de exercícios funcionais pode influenciar decisivamente a percepção de qualidade de vida em adultos seniores.

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