



The impact of the quality of life perception on the self-esteem of physically active adults

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ABSTRACT. This study aimed at investigating the impact of the quality of life perception on the self-esteem of physically active adults. A total of 63 male and female swimming practitioners (38.13 ± 11.72) were evaluated. A socio-demographic questionnaire, WHOQOL-Bref Scale, and the Rosenberg Self-Esteem Scale were used as tools. For data analysis the descriptive statistics, Kolmogorov-Smirnov Test, Mann-Whitney U Test, Spearman's Rank Correlation Coefficient, and the Univariate Multiple Regression were used. No significant differences were found either for the quality of life or the self-esteem between sexes; there was a significant positive correlation ($p < 0.05$) among the physical ($r = 0.37$), psychological ($r = 0.36$) and environmental ($r = 0.30$) domains with self-esteem. The regression model explained 20% of the self-esteem variability, with moderate and significant pathways of the physical ($\beta = 0.23$) and psychological ($\beta = 0.23$) domains, whereas the environmental domain did not show a significant predictive relation ($p = 0.988$) with self-esteem. It is concluded that a higher quality of life perception may result in a higher self-esteem for physically active adults.

Keywords: motor activity, health promotion, psychology.

Impacto da percepção de qualidade de vida na autoestima de adultos fisicamente ativos

RESUMO. O presente estudo teve como objetivo investigar o impacto da percepção de qualidade de vida na autoestima de adultos fisicamente ativos. Foram avaliados 63 sujeitos praticantes de natação de ambos os sexos ($38,13 \pm 11,72$); como instrumento foi utilizado um questionário sociodemográfico, WHOQOL-Bref, e a Escala de Autoestima de Rosenberg; para análise dos dados foi utilizada a estatística descritiva e os testes Kolmogorov-Smirnov, 'U' de Mann-Whitney, Coeficiente de Correlação de Spearman e Regressão Múltipla Univariada. Não foram encontradas diferenças significativas para QV e AE entre os sexos; houve correlação positiva significativa ($p < 0,05$) entre os domínios físico ($r = 0,37$), psicológico ($r = 0,36$), e meio ambiente ($r = 0,30$) com a autoestima; o modelo de regressão explicou em 20% a variabilidade da autoestima, com trajetórias moderadas e significativas dos domínios físico ($\beta=0,23$) e psicológico ($\beta=0,23$), já o domínio meio ambiente não apresentou relação preditiva significativa ($p=0,988$) com a autoestima. Conclui-se que a maior percepção de qualidade de vida pode resultar em maior autoestima para adultos fisicamente ativos.

Palavras-chave: atividade motora, promoção da saúde, psicologia.

Introduction

Self-esteem (SE) is a psychological factor considered essential for the physical and mental health of an individual. This factor influences the aspirations, development and fulfillment of personal goals, in addition to the social interaction, and, thus, may either motivate or limit personal and professional aspects of life (Hutz & Zanon, 2011). In this sense, SE is capable of mediating the relationship between dysfunctional thoughts and depression in adults (Simpson, Hillman, & Crawford, 2010), besides

the fact that individuals with low levels of SE tend to abandon or escape from situations they feel incapable to control or succeed, reducing, as a consequence, their social integration and general functionality (Laferrier, Teodorski, & Cooper, 2015). It is believed that SE plays an important role in the quality of life of a person, however, little is known about the influence of the quality of life on the levels of self-esteem.

SE is the individual own appraisal, which describes his/her positive and negative views (Freire & Tavares, 2011). The quality of life (QL), on the

other hand, is a multidimensional construct composed of an individual's subjective perception on his/her physical, mental, and social health, which depends on his/her goals, expectations, standards and concerns related to the cultural context in which he/she is inserted in (World Health Organization [WHO], 1993; World Health Organization Quality of Life [WHOQOL], 1998). Therefore, SE may influence mental health, the social relations and the expectations of each individual. Higher SE levels are associated with a better general satisfaction with life (Lachman & Weaver, 1998); on the other hand, a lower SE regards unemployment, less integration with the community, impaired physical health, and a general decrease in functionality (Laferrier et al., 2015).

The literature on the relations between SE and QL has been based on the study of self-esteem as a requirement, a predictive factor of better levels of quality of life (Kuehner & Bueger, 2005; Standage & Gillison, 2007; Novato, Grossi, & Kimura, 2008; García-Martínez, De Paz, & Márquez, 2012; Platten, Newman, & Quayle, 2013; Manhas, 2014; Joseph, Royse, Benitez, & Pekmezi, 2014).

Although there is enough evidence to justify the direction of this relation, it is believed that SE may also be the result of a higher perception of the QL. Leary, Tambor, Terdal and Downs (1995) suggest that SE is influenced by either the success or failure of interpersonal relationships, making it possible that higher levels of SE result from a positive perception of the QL. However, investigations on SE as a product of the QL are scarce, and only two studies have been found in this line of thought (Standage & Gillison, 2007; Silveira et al., 2013).

The level of physical activity is another intervening factor in both variables (SE and QL). Studies have shown that the regular practice of physical activities protects the individual against the development of chronic diseases and enhances the QL in general, specifically regarding several of its indicators (Joseph et al., 2014). Physical exercises may increase the QL due to their mediating effects on self-efficacy, physical self-esteem and affection (Elavsky, 2009), in addition to positively change the way an individual physically sees himself/herself (Zanuso, Balducci, & Jimenez, 2009). These exercises may also provide experiences of mastery/competence, and positive social interactions (Laferrier et al., 2015). It is expected, thus, that regular practitioners of physical activity show good levels of self-esteem and quality of life.

Based on the lack of understanding about SE as a product of the QL, the present study aims at investigating the impact of the quality of life perception on the self-esteem of physically active adults. According to the evidence that consolidate the impact of SE on the QL of different populations, it is hypothesized that there is a bidirectionality in this relation.

Material and methods

Population and Sample

The population of this study includes adult swimming practitioners. Sixty-three 18-to-58-year-old (38.13 ± 11.72) male and female adult swimming practitioners (32 men and 31 women) who used to attend classes twice a week have been observed for at least three months. These subjects belong to eight fitness centers of a municipality in the northwestern region of Paraná. The non-probabilistic sample was chosen for convenience, according to the presence of individuals at the time of collection. The participation was voluntary and occurred with the signing of a Free Informed Consent Form (FICF).

Tools

In order to characterize the sample, a socio-demographic questionnaire structured by the researchers was applied, with questions about age, marital status, education, monthly income, frequency and time of swimming practice.

WHOQOL-Bref questionnaire was used to evaluate the quality of life, consisting of 26 questions, two of which refer to the individual perception of the QL and health perception, and the others (24) are subdivided into four domains: physical, psychological, social relations and the environment. Each domain may reach scores between 4 and 20, with higher values indicating better levels of the QL. Totalizing the scores of the four domains and the two questions concerning the perception of the individual, it is possible to reach a minimum score of 20 and a maximum of 100. The closer to 100, the better the overall QL of the subject evaluated (Fleck & Chachamovich, 1999).

In order to verify self-esteem, it was used Rosenberg Self-Esteem Scale (Rosenberg, 1979), which was validated for the Portuguese language by Hutz and Zanon (2011). This is a one-dimensional measure that consists of ten items related to a set of feelings and self-acceptance that assesses global self-esteem. The items are answered according to a four-point Likert scale (from 1- I totally disagree to 4-I completely agree). The scale score may range from 10 to 40, calculated by totalizing the answers of the

10 items. For interpreting the scores, values higher or equal to 30 are considered satisfactory, and scores below 30 are unsatisfactory (Simonetti, 1989).

Collection procedures

This is a quantitative observational cross-sectional study, approved by the Research Ethics Committee, based on the opinion number 238/2011, linked to the Institutional Project referred to as 'Impact of psychological variables on health-related behavior'. Data collection was carried out in the second half of 2015, after the allowance of the fitness centers. A direct interview was used when applying all the tools, before or after the practice of the modality, at the time pre-scheduled by the researchers.

Data analysis

Frequency and percentage were used for the categorical variables when analyzing the data. For the numerical variables, the normality of the data was initially verified by using Kolmogorov-Smirnov test. Since the data did not show a normal distribution, a descriptive statistics in Median (Md) and Quartiles (Q1; Q3) was used. Mann-Whitney U test was used to compare the sexes. The variables of SE and QL were correlated by using Spearman's Rank Correlation Coefficient, with a significance of $p < 0.05$ for all the tests.

After verifying the correlations among the variables, a regression model was conducted. Although the sample is not considered to be significantly substantial for multiple regression models, Knofczynski and Mundfrom (2008) report that the minimum of two subjects is acceptable for a regression model with a good prediction level. The existence of outliers was evaluated by using Mahalanobis square distance (D^2), and the univariate normality was evaluated through the asymmetry coefficients ($ISkI < 3$) and kurtosis ($IKuI < 10$). Since the data did not show a normal distribution, the Bollen-Stine Bootstrap method was used to correct the value of the coefficients estimated by the Maximum Likelihood method implemented in AMOS software version 18.0. There were no DM^2 values, indicators of the existence of outliers, nor sufficiently strong correlations among variables that could indicate problems with multicollinearity (Variance Inflation Factors < 5.0). Based on Kline's recommendations (Kline, 2012), the regression coefficient interpretation had as reference: little effect for coefficients < 0.20 , a mean effect for coefficients up to 0.49 and a strong effect for coefficients > 0.50 ($p < 0.05$).

Results

The sample profile showed a prevalence of individuals with an active occupational situation (85.71%), which indicates a work routine with non-sedentary habits. Most of the subjects have a monthly income above two minimum wages (65%), and only 4.76% of the sample had not finished high school.

Table 1. Comparison of the quality of life domains and self-esteem of the swimming practitioners in the fitness centers of Maringá-PR, in relation to male and female individuals.

Variables	Male (n = 32) Md (Q1;Q3)	Female (n = 31) Md (Q1;Q3)	p
Quality of life domain			
Domain 1 – Physical	16.5 (14.4; 18.5)	15.4 (14.9; 16.5)	0.257
Domain 2 – Psychological	16.0 (14.8; 17.3)	16.7 (14.7; 18.0)	0.590
Domain 3 – Social Relations	16.0 (14.7; 17.3)	16.0 (16.0; 17.3)	0.481
Domain 4 – Environment	15.5 (13.5; 16.3)	15.5 (13.5; 17.0)	0.720
Domain 5 – Self-evaluation	16.0 (14.0; 18.0)	16.0 (14.0; 20.0)	0.575
Total QL	80.1 (74.1; 85.7)	81.7 (74.9; 86.0)	0.853
Self-esteem	34.5 (30.0; 36.80)	32.0 (30.0; 36.0)	0.344

*Significant Difference: $p < 0.05$ - Mann-Whitney U Test.

When observing the study variables (Table 1), high values of quality of life ($Md > 80$) and self-esteem ($Md > 30$) were evidenced. Concerning the comparison between the groups, no significant difference ($p > 0.05$) was found among male and female swimming practitioners in Maringá, Paraná State. This indicates that both sexes had similar levels of quality of life and self-esteem perception.

Considering the similarity between the groups (Table 1), the correlation between the self-esteem and the quality of life domains of the sample in general was evaluated. There was a positive significant ($p < 0.05$) correlation between self-esteem and physical ($r = 0.37$), psychological ($r = 0.36$) and environmental ($r = 0.30$) domains. Based on this result, a regression model was conducted between the quality of life domains and self-esteem (Figure 1) that showed a significant correlation ($p < 0.05$).

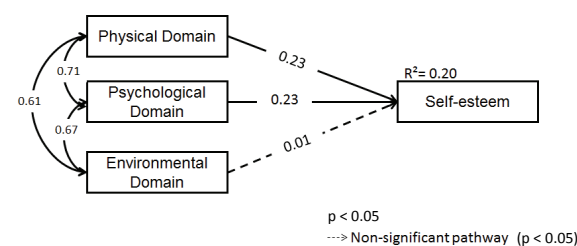


Figure 1. Regression model of the impact of quality of life on the self-esteem of the swimming practitioners in the fitness centers of Maringá, Paraná State.

It was verified that the physical, psychological and environmental domains were able to explain 20% of the variability of the self-esteem perception

of the swimming practitioners (Figure 1). In relation to the individual pathways of the model, it was verified that the pathways of the physical domain (Standard Error = 0.41; Critical Ratio/CR = 1.38; $p = 0.045$) and psychological domain (Standard Error = 0.43; CR=1.28; $p=0.038$) had a significant and moderate effect ($\beta > 0.20$). This indicates that with each increase of 01 standard deviation in the physical and psychological domains, there is an increase of 0.23 standard deviation in the self-esteem perception of these subjects. However, the environmental domain (SE = 0.01, CR = 0.01, $p = 0.988$) had no significant effect.

Discussion

It was seen that the quality of life perception of physically active adults, swimming practitioners, exerts a positive influence on their self-esteem. This result confirms the initial hypothesis and is an advance in the literature concerning this subject, which until then treated self-esteem as a predictor of quality of life. This study showed that this relation may be bidirectional, since the quality of life may also influence people's self-esteem.

By using the multivariate regression model, a significant positive impact of the physical and psychological domains of the quality of life perception on the variability of self-esteem could be verified (Figure 1), whereas the environmental domain, although correlated with self-esteem, did not show predictive relations with it. This indicates that personal characteristics, the individual's perception of his/her physical and mental health, directly influence how he/she sees himself/herself regarding his/her value, abilities and performance in relation to the others. In other words, feeling well, feeling healthily, provides benefits to the self-esteem of adults.

The results are similar to those of Standage and Gillison (2007), who found, through three different models of structural equations, that SE is able to predict health-related QL, that is, the QL positively predicted the overall SE, and that both are distinct but related variables. As far as it is known, these seem to be the quantitative indications that there is a bidirectionality in the relation between the QL and SE, given the predominance existent in the literature that treats SE as a predictor of the QL, without considering a possible feedback (Kuehner & Buerger, 2005; Novato et al., 2008; García-Martínez et al., 2012; Platten et al., 2013; Manhas, 2014; Joseph et al., 2014).

In contrast to these results, Silveira et al. (2013) did not find a significant impact of the QL at the levels of SE of chemical dependents. In this sense,

the characteristic of an unhealthy population might be a possible explanation for such divergences.

It was also observed that healthy adults who regularly practice physical activity showed high values of the QL perception in all its domains, and satisfactory levels (> 30 pts) of self-esteem. These results remained similar when comparing the sexes. This indicates that both male and female individuals may benefit from regular physical activity, which is consistent with the literature that suggests that physical activity has positive effects on the QL and SE of healthy people (Maher et al., 2012; Park, Han, & Kang, 2014; Joseph et al., 2014).

Despite the contributions shown in this study, some limitations should be pointed out. The number of subjects was a limiting factor for the use of more substantial methods of analysis, such as the Modeling of Structural Equations, in addition to limiting the generalization potential of the results, however, it is emphasized that the analyzes were satisfactory and the number of participants was sufficient to analyze what was proposed. Another limiting factor is the absence of a sedentary group in order to compare the effects between the groups of practitioners and non-practitioners of physical activities. Finally, only swimmers were investigated rather than others who practice a variety of physical activities. This is a limiting factor in the sense of not widely exploring the practice of physical activity; however, it strengthens the consistency of the results for this specific population (swimming practitioners).

Further investigations may improve the understanding of the bidirectional relationship between the QL and SE; it is also suggested a greater number of subjects, which should involve the use of structural equation models to analyze the results, allowing, thus, a better study of the relations and interrelations among these variables. The use of a more heterogeneous sample, in the sense of including practitioners and non-practitioners of physical activities, besides a greater variety of physical activities, may improve the understanding and generalization of the results.

Conclusion

Based on the aim and the results found in this study, it can be concluded that higher levels of the quality of life perception may benefit the self-esteem of healthy and physically active adults. From the literature, it is also inferred that there is a mutual relation among these variables, since self-esteem also exerts influence on people's quality of life perception. In this sense, physical activity is

important for promoting health and improving the quality of life, in view of its consolidated role that benefits both, self-esteem and health (physical and mental) of the practitioners.

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Received on May 16, 2016.

Accepted on November 1, 2016.

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