

References

1. Tuna HD, Edeer AO, Malkoc M, Aksakoglu G. Effect of age and physical activity level on functional fitness in older adults. *Eur Rev Aging Phys Act.* 2009;6:99–106.
2. Nawrocka A, Mynarski W, Cholew J. Adherence to physical activity guidelines and functional fitness of elderly women, using objective measurement. *Ann Agr Env Med.* 2017;24:632–635.
3. WHO. Global Recommendations on Physical Activity for Health. Switzerland: World Health Organization; 2011. Available from: http://apps.who.int/iris/bitstream/10665/44399/1/9789241599979_eng.pdf
4. Department of Health. Start Active, Stay Active: A report on physical activity for health from the four home countries' Chief Medical Officers. London: Department of Health; 2011. Available from: https://www.sportengland.org/media/2928/dh_128210.pdf.
5. Rikli R, Jones C. Development and validation of a functional fitness test for community- residing older adults. *J Aging Phys Activ.* 1999;7:129–161.

Keywords

Physical fitness, Elder, Physical activity, Recommendation.

0109

Effects of strength and conditioning programs in strength and dynamic balance in older adults

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Background

To independently accomplish their daily routines with no need of assistance, older adults require an optimal physical fitness. In fact, this lack of physical fitness may reduce older individuals' quality of life, leading to dependence on personal daily assistance or even to becoming significantly more prone to fatal falls [1]. Prevention through physical activity programs, are used to slow down and delay these aging effects, by improving individuals' agility, flexibility and body improved functionality. Most of these programs take place in in-water environment due to age limiting factors such as high-risk osteoporosis, reduced mobility, higher risk of fracture from falls, arthritis and spinal disorders among other.

Objective

To assess the effects of two strength and conditioning programs in strength and dynamic balance in older adults.

Methods

One hundred elderlies (36 males and 64 females) aged 67.3 ± 5.2 years old enrolled the 5-year long intervention program and were assessed for lower body strength (LBS) and dynamic balance (DB). Two intervention programs were set up and subjects were included in each group according to their own will. Program A ($n = 52$; 24 males and 28 females; age 67.2 ± 5.2 y-o) consisted of 1 in-water session and 2 in dry-land sessions per week. Program B ($n = 48$; 12 males and 36 females; age 67 ± 5.2 y-o) consisted of 2 in-water sessions and 1 in dry-land session per week. Wilcoxon test was used on inferential analysis for repeated measures (pre-post). Significance level was kept at 5%. The effect size for this test was calculated by dividing the z value by the square root of N [2].

Results

Combined data from both programs showed that LBS and DB improved significantly at the end of the intervention programs: LBS from 18.3 ± 3.2 reps to 18.8 ± 3.1 reps ($p=0.003$; $r=-0.295$), DB 4.2 ± 0.7 secs to 4.0 ± 0.7 secs ($p=0.017$; $r=-0.245$). Program A significantly improved LBS from 19.1 ± 2.8 reps to 19.9 ± 2.7 reps ($p=0.001$; $r=-0.465$) but not DB 4.1 ± 0.7 secs to 4.0 ± 0.7 secs ($p=0.083$; $r=-0.240$). No differences were found neither in Program B LBS – 17.5 ± 3.4 reps to 17.6

± 3.1 reps ($p=0.462$; $r=-0.106$) – nor DB – 4.2 ± 0.6 secs to 4.1 ± 0.6 secs ($p=0.083$; $r=-0.250$).

Conclusions

Strength and conditioning programs over a 5-year time span seem to substantially delay the negative effects of aging on LBS/DB in the elderly. No visible decline in the assessed parameters was observed. Our results may suggest different effects of in-water and dry-land programs. However, participants generally responded positively to both intervention programs.

References

1. World Health Organization. Falls Fact Sheet. Updated August 2017. <http://www.who.int/mediacentre/factsheets/fs344/en/>
2. Rosenthal R. Parametric measures of effect size. In: Cooper H, Hedges LV, editors. *The handbook of research synthesis*. New York: Russell Sage Foundation; 1994. p. 231–244.

Keywords

Elderly, Physical activity, Quality of life, Strength, Balance.

0110

Compassion attributes and actions in adolescents: are they related to affect and peer attachment quality?

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Background

Research has been showing potential benefits of compassion practice in various populations, nonetheless it is relevant to extend the assessment of compassion attributes and actions for adolescents and explore its relationship with other psychosocial adjustment constructs.

Objective

To explore association patterns between the various directions of compassion (self- directed, directed to others and receiving compassionate from others) and variables related to affect, social comparison and peers' attachment to quality.

Methods

A total of 338 adolescents, aged between 12 and 18 years old, completed a set of self-report instruments to assess their compassionate attitudes and actions towards themselves and others (EAAC), peers attachment to quality (AQ-C), positive and negative affect (PANAS), and peers social comparison (SCS-A).

Results

Significant correlations were found in the expected direction between self-compassion, compassion for others and received from others and the study variables (positive and negative affect, social comparison and attachment style). Specifically, positive affect, positive peer comparison, and secure attachment style were positively associated with compassionate attributes and actions. Negative affect, in turn, showed a negative correlation with compassionate actions in the three analysed directions, and with compassionate attributes when considering receiving compassion from others. The avoidant insecure attachment style revealed a negative association with compassionate attributes and actions in the different directions. Finally, the ambivalent insecure attachment style revealed a significant negative correlation with self-directed compassionate actions and with receiving compassion from others, regarding actions and attributes.

Conclusions

These findings suggest the importance of stimulating a compassionate mind in adolescents. In fact, the positive association between