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Sport Sciences for Health

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Sport Sciences for Health is the official journal of the Società Italiana delle Scienze Motorie e Sportive (SISMeS), an Italian scientific society that aims to promote, support and disseminate knowledge and innovations in the sciences of sport and physical activity for health and quality of life.

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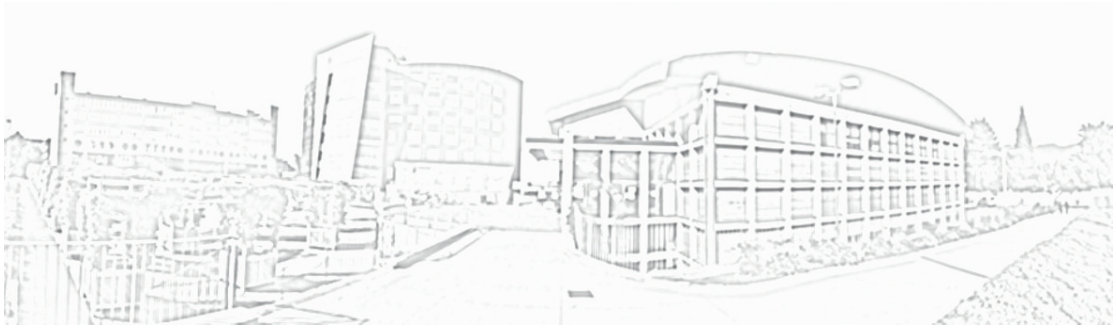

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Conflict of Interest Statement

Claudio Orizio, Guest Editor, declares that he has no conflict of interest related to the publication of this Supplement.

23 PED
Physical education in kindergarten and primary school. Results of an empirical study

M. Vicini[1]

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Aim: To collect data about the organization, meaning and value of physical education in kindergarten and primary school, and about how this has been translated into teaching practices. For the teachers who participated in the study, the critical reflection on their experience has created an opportunity for enrichment with a greater understanding of the educational value of this teaching field.
Methods: Empirical survey, carried out using a questionnaire, which consisted of 29 questions, of which 18 were closed response (general data, design, curriculum, and evaluation) and 11 were open response (concepts of competence, body, connection to DM objectives N 254/2012, and training). The questionnaire was given to a random sample of kindergarten and primary school teachers in Lombardy, mainly in the province of Bergamo: there were 307 total teachers, of which 165 were from kindergartens and 142 from primary schools.
Results: The collected data showed a variety of understandings regarding the concept of physical education (in the most popular terminology variants: physical education, psychomotor education, motor sciences) and the objectives assigned to it in the different school levels examined. It also highlighted a number a critical issues related to the concepts of competence, body and evaluation, that are correlated to approaches, meaning, didactics, and evaluation practices related to different conceptual and cultural frameworks.
Conclusions: The survey had a twofold outcome: an informational result, that is, a collection of data on specific issues related to the discipline of physical education (a quantitative aspect); and an educational result, from the teachers' perceptions and reflections (a qualitative aspect), and the opportunity to better understand the added value (historical/cultural/anthropological/scientific) of motor, physical, and sports education in kindergarten and primary school.

24 PED
An educational pilot project for active and healthy ageing

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Aim: Life expectancy in the world population has increased over the last few years and in the European Region the aging rate is the highest in the world. This requires interventions that can ensure successful aging preventing non-communicable diseases. The World Health Organization recommends the association of an appropriate physical activity and healthy, balanced diet. Promoting healthy lifestyles and adopting healthy habits can lead to a successful aging by improving anthropometric parameters, quality of food choices and perceived quality of life.
Methods: The "Get in motion the third age" project consists in a three months lasting training course aimed at promoting the regular practice of physical activity and correct dietary choices in the elderly through an educational intervention based on physical activity and food education. During the project anthropometric measurements (body weight, waist circumference, height and BMI) were performed and adherence to the Mediterranean diet were assessed in addition to referred health status.
Results: Data show that a program including structured physical activity (twice a week) supervised by qualified personnel, together with meetings on healthy eating, can play a key role in elderly health status ameliorating, improving weight (−1.46 kg), waist circumference (−4.4 cm) as well as dolour and anxiety score.
Conclusion: The results suggest that an educational intervention based on food education and structured exercise can help prevent aging decline, the risk of depression and contributes to successful aging, through the containment of pain, the maintenance of the usual activities and the autonomy in personal care. A secondary aim is that the elderly can also transfer to the family, in particular to children, the right lifestyle and can play an important community role in preventing childhood obesity.
Reference
1. WHO (2015) The European health report 2015. Targets and beyond—reaching new frontiers in evidence

25 PED
Long-term motor and sports educational strategies and active lifestyle: prevention of occupational stress for psychophysical well-being

G. Greco[1], *F. Cappa*[1], *C. Volpe*[2], *C. Montrone*[2], *F. Fischetti*[1]

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Aim: The present study aimed to determine the effects of demographic and occupational characteristics, anthropometric indices, lifestyle adopted, and leisure-time physical activity levels on stress sources and coping strategies, and perception of the state of physical and mental health of the State Police officers from the Apulia.
Methods: The sample included 101 police officers (age 46.08 ± 5.66 years; body mass 81.60 ± 14.04 kg; and body height 173.47 ± 6.14 cm) volunteered to this study. The Occupational Stress Indicator and the Short Form-12 were used, in addition to a survey of socio-demographic, occupational and anthropometric data. Statistical analyses were performed using descriptive analysis followed by multiple linear regression analysis with the stepwise method. The level of significance was set at $p < 0.05$.
Results: Follow an active lifestyle, practicing motor or sports activity at any level, could allow the State Police officers to cope with stress adequately. In addition, the beneficial effects of active lifestyle on some sources of stress and perception of the physical health status are mediated by the abdominal circumference.
Conclusions: These findings suggest that the Public Security Department should adopt an institutional policy that allows police officers to practice regular physical activity in order to maintain and improve their physical fitness, health, job performance, and quality of life.

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PSYCHOLOGY

1 PSY
Profile of Mood States and psychological responses to High Intensity Interval Exercise. A crossover study on the effect of chronotype

M. Bonato[1], A. La Torre[1], R. Baldassarre[2], M. F. Piacentini[2], J. A. Vitale[3]

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Aim: The aim of this study was to investigate the influence of chronotype on mood state and RPE before and in response to acute high intensity interval exercise (HIIE) performed at different times of the day.
Methods: Based on the morningness-eveningness questionnaire, 12 M-types (age 21 ± 2 years; height 179 ± 5 cm; body mass 74 ± 12 kg) and 11 E-types (age 21±2 years; height 181 ± 11 cm; body mass 76±11 kg) were enrolled in a randomized crossover study. All subjects underwent measurements of Profile of Mood States (POSM), before (PRE), after 12 (POST12) and 24 h (POST24) the completion of both morning (08.00 am) and evening (08.00 pm) HIIE. Additionally, Global Mood Disturbance (GMD), and Energy Index (EI) were calculated. Rating of perceived exertion (RPE), was obtained PRE and 30 min POST HIIE.
Results: Two-way ANOVA with Tuckey's multiple comparisons test of POMS parameters during morning HIIE showed significant differences in fatigue at PRE ($P = 0.024$) and POST24 ($P = 0.045$), vigour at PRE ($P = 0.023$) and POST24 ($P = 0.011$), and EI PRE ($P = 0.006$) and POST24 ($P = 0.012$) between M-type and E-types. Significant differences were found after the evening HIIE in fatigue ($P = 0.019$), vigour ($P = 0.019$), and EI ($P = 0.003$) only in POST12. For what concerns Borg perceived exertion, comparing morning versus evening values in PRE condition, an higher RPE was observed in relation to evening HIIE for M-types ($P = 0.0107$) while E-types showed higher values in the morning ($P = 0.008$). Finally, intragroup differences showed that E-types had a higher RPE respect to M-types before ($P = 0.002$) and after 30 min ($P = 0.042$) the morning session of HIIE. No significant changes during evening HIIE were found.
Conclusions: Chronotype seems to significantly influence fatigue values, perceived exertions and vigour in relation to HIIE performed at different times of the day. Specifically, E-types will meet more of a burden when undertaking a physical task early in the day.

2 PSY
Visual-spatial skills and physical activity: a cross-sectional study on undergraduate students of sport science

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Aim: Visual-spatial skills are very important for health and autonomy. They allow to move around the space more easily and to relate to surrounding objects more effectively (De Beni et al. 2014). The aim of this study was to investigate the relationships between visual-spatial skills and levels of physical and sport activity in a group of Motor Science students.
Methods: One hundred forty-five students ($M = 24 \pm 1$; range: 22–29 years), who were attending the Master Degree in Motor Science at the University of Turin, participated in this study. The participants completed a socio-demographic questionnaire, the Spatial Orientation Questionnaire (sQOS), the Spatial Anxiety Questionnaire (QAS), the Attitude Questionnaire towards Orientation Tasks (QACO) (De Beni et al., 2014) and the Global Physical Activity Questionnaire (GPAQ).
Results: Significant differences were observed between: (1) female and male students in GPAQ [$t(140) = 2.188$; $p = 0.03$], in sQOS [$t(139) = 3.178$; $p = 0.002$] and in QACO [$t(141) = 1.964$; $p = 0.05$]; (2) students of the first and the second year in QACO [$t(141) = 1.928$; $p = 0.05$] and GPAQ [$t(140) = 2.561$; $p = 0.011$]; (3) students who practiced sport categorized as open and closed skills in GPAQ [$t(139) = 2.020$; $p = 0.05$].
Conclusions: In accordance with the literature (e.g., Habacha et al., 2014) our study underlines the influence of sport practice on visual space skills and the difference between males and females. Future studies should investigate these findings considering the different university contexts, more age ranges and possible cause-effect relationships.

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3 PSY
Psychological readiness and self-confidence to return to sport after injury: Initial validation of the Italian versions of two questionnaires

C. Conti, S. di Fronso, R. Di Battista, L. Bortoli, C. Robazza, M. Bertollo

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Aim: To examine the internal consistency and the concurrent validity of the Italian versions of the Injury-Psychological Readiness Return to