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Reference

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PHYSICAL EDUCATION AND SPORT PEDAGOGY

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“Lombardia in gioco: a scuola di sport” Advocacy project 2015–2016

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Aim: The aim of this paper was to present the advocacy [1] project called “Lombardia in gioco: a scuola di sport” addressed to primary schools. The current project was promoted by Regione Lombardia [2], CONI Lombardia and USR Lombardia with the support of the following 5 universities: UNICATT, UNIMI, UNIBS, UNIPV and UNINSUBRIA.

Methods: Both experts and supervisors were trained from a didactic point of view and instructed for the monitoring process by the Universities. Each expert conducted an intervention of 20 lessons distributed in a span of 7 months. The assessment of children included anthropometric measures, the evaluation of cardiorespiratory, musculoskeletal and motor fitness, cognitive function, enjoyment and physical activity level. A satisfaction questionnaire was administered to curricular teachers, school principals and children's parents.

Results: 249 experts with a bachelor in Sport Science, coordinated by 13 supervisors, assisted the teacher during the curricular physical education classes. In total, the interventions included 74,220 children, 3711 classes and 327 schools. More than 150,000 data were collected and processed by the Universities showing that: an average increase of motor performance by 5 % occurred; positive results in cognitive function and enjoyment were found, enjoyment significantly and positively related to motor performance and its enhancement; children were not enough physically active after school; a very high percentage of school teachers and principals and children's parents were in favor of the project.

Conclusions: For the first time in Lombardy Region, it was possible to carry out an advocacy project with a determinant contribution of the aforementioned institutions: the Universities for the training of the experts and supervisors and to guarantee scientifically the monitoring procedures, CONI for the administrative and political support,

Regione Lombardia and local authorities for the funding support, USR for the identification of sample schools.

References

- [1] WHO Health Promotion Glossary (1998).
[2] DRG Regione Lombardia (2015).

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Effects of a physical education program on the development of early literacy abilities in preschool children

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Aim: Several studies showed a relationship between physical activity and cognition in school-aged children (Carson et al. 2015). The aim of this study was to analyse whether the amount and frequency of a physical education (PE) program affected the early reading and writing skills in preschool children.

Methods: This study involved 189 children (age: 4.62 ± 0.97 years; height: 107.83 ± 7.82 cm, body weight: 19.84 ± 4.95 kg) of 8 Palermo kindergartens who were randomly divided in a control group (C, $n = 29$), a 1-intervention group (I-1, $n = 120$) and a 2-intervention group (I-2, $n = 40$). I-1 and I-2 children performed a PE program of 16-week length for 4 and 10 h/week, respectively (total hours: 52 and 180, respectively), carried out by PE teachers; while C children do not perform any PE program. This program was planned in 21 learning modules aimed to develop the bodily schemes, basic motor skills, fine motor control, coordination abilities, autonomy, socialization, emotion and affectivity control. Before and after a PE program, early reading and writing skills were assessed with PRCR-2 test. Analyses of covariance (ANCOVA) were performed to compare outcomes for I-1, I-2 and C groups at post-test and the covariate was the participants' measure of cognitive skills at pre-test. Statistical significance was defined at $p < 0.05$.

Results: I-1 and I-2 groups showed a significant decrease in the number of errors concerning the serial work skills from left to right, the visual analysis and memory compared with C group after a PE program. The ability to use the requested directionality significantly improves in I-1 children compared with I-2 and C groups following a PE program. Differently, the process of eye movements and the tracking speed significantly develops in I-2 group respect to I-1 and C.

Discussion: PE program positively affects the development of early literacy abilities in preschool children. The level of cognitive skills appears to be not dependent by the PE amount; however this is positively associated with that ability more complex and predictive of early literacy.

Reference

- Carson V, Hunter S et al (2016) Systematic review of physical activity and cognitive development in early childhood. *J Sci Med Sport* 19:573–578.