

Body moving towards the “WELL-BEING”

MANUELA VALENTINI¹, LUCIA VIRGILI², TIZIANA D’ISANTO³, ARIO FEDERICI⁴

^{1,2} Department of Humanistic Studies, University of Urbino Carlo Bo, ITALY

³ Department of Human, philosophical and education sciences, University of Salerno, ITALY

⁴ Department of Biomolecular sciences, University of Urbino Carlo Bo, ITALY

Published online: October 22, 2019

(Accepted for publication: October 15, 2019)

DOI:10.7752/jpes.2019.s5303

Abstract:

This work seeks to contribute to research on the holistic value of motor activity for three to eleven year old children, which is recognised as essential to their development. Motor activity shapes personality, helps define self-perception and self-esteem, and contributes to harmony of body and mind and to a higher quality of life. Physical activity encourages the development of all aspects of the human being, cognitive, emotional and social, throughout our entire lives, from birth into old age, with the end result of permanent and sustained growth towards “WELL-BEING”.

Keywords: self-concept, self-esteem, physical self, physical education, physical activity, motor ability, children play activity, behaviour.

Introduction

Over 2,000 years ago, Plato claimed that physical activity was a way to refine the mind. Making mind and body work together is essential to man’s wellbeing because otherwise if you neglect one aspect, the other suffers (Naccari AGA, 2003). Plato was a predictor, since modern research shows that physical activity produces health benefits, which are not limited to the purely physical, but also encourage cognitive and emotional growth essential for mental health (Gaetano, et al., 2015, Raiola, 2015).

The World Health Organization defines mental health as a state of well-being and effective functioning in which an individual realizes his abilities, is resilient to the stresses of life and is able to make a positive contribution to his community (D’Elia, 2019, D’Isanto 2016). Cognitive function, defined as the mental processes which contribute to perception, memory, intellect and action, provides a central foundation on which mental health is established, both for well-being and discomfort (Gale et al., 2012). There is a conceptual overlap between common welfare indicators, which commonly include constructs of global self-esteem, subjective well-being, quality of life, and psychological resilience (Tiziana et al., 2017).

This article reviews studies that have highlighted the interactive link, positive and functional, between physical activity - as a recreational activity and movement - and associated health benefits. Such benefits relate not only to purely physical ones, but also to cognitive skills and emotional and mental health (Raiola, 2013, 2015, 2017). In our modern society recurring problems in children and young people are a lack of physical activity, obesity, emotional and behavioural difficulties which occur in children with either limited or no physical activity. A sedentary lifestyle and social isolation are increasingly a product of the pervasive use of new technology that causes alterations in the management and direction of energy and emotions leading to an increase in aggressive behaviour (Mitrofan O. Paul M. et al, 2009) and a decrease in positive social relationships (Strauss RS, Pollack HA, 2003).

School is probably the most appropriate setting in which to promote and encourage physical activity as it seeks to promote the positive development of its students and is in a position to implement a structured programme of physical activity leading to different levels of wellbeing. Organized and structured physical activities allow children to participate and share play experiences with peers, contributing to the development of prosocial behavior, and promoting social inclusion (Bailey R., 2006) by strengthening self-esteem.

Childhood and adolescence represent a period of rapid growth and development characterized by neuroplasticity or brain plasticity (Sisk and Zeh, 2005) the formulation of the concept of self (Sebastian et al, 2008) and the establishment of behavioural models that can improve or diminish mental health (Sawyer et al, 2012). This period may be crucial for improving mental health and physical activity and an intervention at this stage could be a way to achieve such improvement (Biddle, Asare, 2011). Research has shown that exercise is an alternative or a supplement to drugs, an effective and beneficial way to help treat depression at virtually no cost and with no side effects (Blumenthal, 2007). Through physical activity, endorphins are produced to produce a more positive self-image that can also help prevent or reduce the symptoms of depression (Seguin, 2013); it can

also be an effective treatment for anxiety disorders, while exercise alone may not be as effective as anxiety medications. It can also improve symptoms through endorphin production (Jayakody, 2013).

Physical activity improves cognitive abilities, just as Plato claimed. Remaining physically active is a way to help keep our minds active throughout our lives. Depression, anxiety, inactivity and poor diet can cloud a person's mind and negatively affect their ability to reason (Johnson, 2007).

Research has shown that an increase in physical activity has a positive relationship with various types of cognition at different stages of life, for example, it positively affects verbal and mathematical performance, perceptive skills, working memory, planning, multitasking and other mental control functions in the elderly (Hillman, 2008). Furthermore, it appears that young adults who are physically active will have better cognitive abilities in middle age (Zhu, 2014).

Physical activity not only helps us achieve physical and mental health but is also a great socialising influence which encourages shy people to strike up a conversation with both friends and strangers.

The pleasure of being physically well and having a mind free of negativity stimulates optimism and self-confidence and is an indispensable input for undertaking new projects and new initiatives. This is why physical activity is a valuable help in promoting self-esteem and all those qualities that allow you to have a continuous positive attitude towards life's difficulties. There is a great deal of research which has highlighted how the sports field represents an important developmental context which promotes change: learning how to regulate emotions, refine athletic skills and build peer relationships (Larson RW, 2000). Most of this research is related to adolescence. Erikson in the theory of psychosocial development, in the fourth stage " Industriousness opposed to inferiority (from 6 years to puberty), theorizes how children during this period of development are in the process of industriousness and inferiority and the " industrial age " begins, a process of detachment to become part of the world, of knowledge and of work. During this phase skills are built up and the psychological crisis is central (Erikson, 1963).

More recent theories of self-esteem development suggest that this period is characterized by enormous changes in children's skills, as well as the ability to evaluate them (Harter S., 2006).

The researchers Sonstroem (Sonstroem RJ, 1989, 1997) and Fox (Fox & Corbin CB KR 1989) argue that time spent in physical activity builds sports skills and, in turn, the concept of self, a belief in their own abilities; Harter maintains that this not only strengthens their self-confidence in sport but also their global concept of self (S. Harter, 1993). Studies have shown that participation in sport leads to a greater sense of self-esteem and that children have a higher level of self confidence than their peers with a lower level of participation in sport. (A. Fletcher, P. Nickerson et al, 2003). The concept of sporting self or perceived sporting ability is a component of the concept of physical self-confidence and is key to building the self-esteem of children. The theory suggests how the time spent in sport can depend on the self-esteem that develops through the concept of sporting self.

Other studies have shown that this concept of self is greater and occurs earlier if the sport is undertaken with peers, and in groups (Horn TS, 1985, Horn TS & Weiss MR, 1991; Jacobs JE et al, 2005; Pedersen S. & Seidman E., 2004).

Well being

The word "well-being" is much broader in meaning than just being physically and mentally well, rather it represents a philosophy of life that provides a complete harmony between the individual and their surroundings. Physical activity represents the instrument through which the individual can actively manage the improvement of both their body and their state of health, to achieve this wider meaning of the word "well-being". Although physical activity plays a role of primary importance in the well-being of the person, as emerges from the DOXA study relating to the habits of children and young people, the minimum levels recommended are far from being universally practiced or becoming part of a personal lifestyle.

Nowadays, a complete and balanced education is the key to the evolution of society towards a shared WELL-BEING.

There is a good deal of literature which promotes the importance of physical activity in the development and growth of the child, but sadly theory does not correspond to practice, especially in an agency dedicated to children's overall development like school. In fact, physical education is the first subject to be cut in favour of intellectual subjects which, however important, cannot ignore the former. Children need to discover their potential as well as their limits, they must learn to control their body through play and through exercise designed to develop different skills (Raiola G., 2014). Good physical education helps the child define the educational principles of looking after yourself. These principles will accompany children throughout their lives. Taking care of oneself is a moral duty that we all have towards ourselves, and what better moment than childhood to lay the foundations of this knowledge of one's own body, which grows in step with the psychological and physical development of the child. Therefore, in the first years of life, "the body in motion" occupies or should occupy an important place in the education of children, as it is recognised as a priority area of human development and evolution (Vinteanu, 2008).

International sports organizations, like the International Olympic Committee, define sport as a strong educational factor. This leads to a multilateral improvement of the human being, consciously and actively supports human ideals, is good for oneself and develops interpersonal relationships (Balan V., 2003).

Education through movement is an ideal vehicle for the well-being of the child as it targets the whole person, not only physical health but also mental health, with positive outcomes for the concept of self and therefore, together with other factors, one's self-esteem. In childhood, physical education has a basic structural function that is preparatory to sport which is both useful and necessary for personal identity.

Schools, youth organisations and the Ministry of Education must take due account of this by providing structured programmes aimed at the mental and physical well-being of the child through physical exercise.

Procedure and data

The selection process for relevant and scientific literature required a long and careful bibliographic research which led to the identification, in the first phase, of 8 potentially relevant studies, in the major search engines and speciality magazines with the objective: "Education / physical activity, recreational activity, motor functions and personality, understood as positive meaning: self-esteem, self-perception and quality of life".

The investigation of possible research has been carried out through the use of keywords on search engines such as: EBSCO, Eric, PsycInfo, PubMed, SPORTDiscus, UrbIS.

Terms used for bibliographic research

The following keywords were used for in searches, both singly and in combination: Self-concept, self-esteem, well-being, physical self, physical education, physical activity, behaviour, play activity, quality of life.

Results

After several critical evaluations, 7 studies were found: 2 United States, 1 Italy, 1 Egypt, 1 Netherlands, 1 Germany, 1 Australia and, in general, the results demonstrate how education / physical activity has positive effects and increases the child's self-esteem.

Criteria for the selection / inclusion of the literature

Tab. 1 Criteria for inclusion and exclusion in research.

Tab. 2 Flow Chart.

Tab. 3 The concept map for an overall view of the outcomes.

Tab. 4 Analysis of the outcomes of physical activity on children's well-being

Tab. 1 Inclusion and exclusion criteria (Own Propria)

INCLUSION CRITERIA	EXCLUSION CRITERIA
Study design: critical analysis of some studies. <ul style="list-style-type: none"> • Period: from 2009 to 2018 • Language: Italian- English • Study format: full text. • Population: 3-11 years with No difficulty. Intervention: analysis of the activity Physics and recreational activity on all spheres of well-being (cognitive, socio-relational, emotional). <ul style="list-style-type: none"> • Outcomes: positive effects self-esteem, concept of self and Physical activity. 	<ul style="list-style-type: none"> • Population: adults • Year: below 2008 • Language: Greek-Arabic • Conclusions: not in line with the Analysis.

Tab. 2 Flow Chart (Own source)

Phase 1: Total studies found to be potentially relevant n°88
Andexcluded from the first selection of 69 studies
Step 2: Selected studies that meet the inclusion criteria n°20
Excluded after critical evaluation n°14 studies
Final phase: Total studies included in revision 7

Tab. 3 Concepts "organized for Outcomes" (Own source)

Wellness through the moving body

Outcomes
 Concept of self
 Concept of self in sport
 Self-esteem
 Cognitive and learning skills
 Psychosocial Development
 Life quality

Tab. 4 Analysis of the outcomes of physical activity on some spheres of well-being in the child (Source of own)

Authors	Self concept	Self-concept in sport	Self-esteem	Cognitive and learning skills	Psychosocial development	Quality of life
Carly B. Slutzky, Sandra D. Simpkins	X	X	X	-	-	-
Zucchetti G., Sacconi B. et al. Aliaa Abdelmonem, Nana Eldeawy	X	-	-	-	X	-
Johannes J. Noordstar, Janjaap van der Net et al.	X	X	X	-	-	-
Xiangli Gu, Mei Chang, Melinda A. Solmon	-	-	-	-	-	X
Abdelkarim Osama, Ammar Achraf et al.	-	-	-	X	-	-
Brendon Hyndman, Amanda C. et al.	-	-	-	-	X	X

Discussion

Self-concept, Self-concept in Sport and Self-esteem

Slutzky and collaborators (2009) in the study have explored how participation in sport and self-esteem are mediated by the concept of sport self on the basis of the theories of Harter (1993; 2006), Marsh (Marsh et al., 2006), (Fox, Corbin, 1989) and (Sonstroem et al., 1994) who see self-esteem as the concept of the self-according to a multidimensional and hierarchical model which can be further subdivided into specific personal efficiencies, associated with actual physical abilities, at the lowest level of the model. In line with these theoretical perspectives, the researchers found that the more time children spend doing sports - more so in a team - the better they felt about their sports skills, which, in turn, strengthened the concept of self in sport and therefore their self-esteem. In the study conducted by Noordstar et al (2016) there were no significant associations between the change in global self-esteem, in perceived athletic competence and in moderate to vigorous physical activity (MVPA) even if the researchers identified a slight change to global self-esteem in females, linked more to the concept of "aesthetic" physical self, hypothesizing just how other perceptions of the self can explain the association between global self-esteem and MVPA (Fox and Corbin, 1989). With their research Abdelmonem et al. (2013) have shown how a play activity, structured through shadow theatre, can increase motor skills and self-esteem. Games based on dramatization, on simulation, play a key role in emotional, cultural, and social development as children organise their ideas and feelings through their bodies (Hamdi, 2002). In the study conducted by Zucchetti et al. (2013) organised and structured physical activities allow you to participate and share play activities with peers, contributing to the development of prosocial behaviour, and promoting social inclusion (Bailey, 2013) by strengthening self-esteem.

Cognitive and learning skills

The work conducted by Abdelkarim et al. (2017) was based on some theories like those of Bushnell and Boudreau (1993) which show that motor development and motor skills are important for the growth of some

parameters such as cognitive development and academic achievement. The results obtained on samples of different genres and ages, have highlighted the positive relationship between motor skills, cognitive abilities and learning. There are differences associated with age and gender: the female sex has been shown to have greater motor skills, such as flexibility, and deductive thinking compared to the male gender who instead has better skills in race speeds and, at an older age, shows greater motor skill and therefore performance that leads to a positive impact on cognitive and learning skills. In the study by Abdelmonem et al. (2013) shows how through shadow theatre, a play activity carried out through the movements of puppets and drama, the imagination is stimulated to increase motivation. Since when delivery is given by a puppet then boredom decreases, thus increasing learning and understanding of the teaching processes (Tracey, 2007).

Psychosocial development

Zucchetti et al. (2013) are worried by the increase in a sedentary lifestyle and social isolation which are increasingly a product of the pervasive use of new technology that causes alterations in the management and direction of energy and emotions leading to an increase in aggressive behaviour (Mitrofan O. Paul M. et al, 2009) and a decrease in positive social relationships (Strauss RS, Pollack HA, 2003). It evaluates the effectiveness of an innovative physical education programme on the promotion of some psychosocial dimensions in children; demonstrating how by adopting a structured physical education within the school, one arrives at a lowering of the perception of aggression and emotional instability and greater prosociality. In the study by Abdelmonem et al. (2013) according to some researchers (Arwa et al, 2006) the particular version of the puppet theatre, made with the projection of the shadows on a sheet, helps to develop the relationship with others through the movements. During this work, the children were asked to make unconventional movements in which it would be necessary to accept the teacher's help. The degree of availability, positivity, trust, care and empathy created by the teachers meant that the children trusted them by working as a pair.

Quality of life

In the study of Xiangli Gu, Mei Chang, Melinda A. Solmon (2016) the association between physical activity (PA), physical fitness and health, quality of life (HRQOL) among school-age children was positive. Similar results have also been found in the research of Hyndman B., Amanda C. et al. (2017); This latest study is a proposal and innovative the model in order to maximize and implement the physical activity time at school, through playful moments of physical activity over time by replacing passive recreation moments.

Appendix A. Summary of the studies examined (Own source)

Authors	Year	Place	Title	Database	Magazine	Target	Inclusion criteria	Participant characteristics	Background	Data collection method	Data analysis method	Main results
Carly B. Slutzky , Sandra D. Simpkins	2009	Midwestern (USA)	Sporting and self-esteem: the link between children's sport and self-concept	ScienceDirect	Psychology of Sport and Exercise Volume 10, Issue 3 , May 2009, Pages 381-389	Target: Check whether the self-perception of those who practice sports can influence self-esteem and whether this variation may depend on a group sport or on an individual level.	Inclusion criteria and participating characteristics: TOT N ° 987	from 3-10 years: -502 females - 485 males	Context : School	Data collection method: - collection of teacher data; - information given by parents for participation in sports; -questionari.	Data anal method: Longitudinal study done in 4 waves in the nursery and	The results indicate that children who have spent more time in team sports have a higher self-perception concept and greater self-esteem than those who practice individual sports.

<p>Zucchetti G. et al. 2013 Turin Italy Promote psychosocial well-being and practice of motor and sports activity at school and in extra school during the average childhood: School project in movement The Italian Journal of Sports Psychology # 18 September December 2013</p>	<p>primary school. Target: Study of the effect of a physical education intervention on a series of dimensions of the psychosocial adaptation of the children with respect to their participation in the physical and sport activity conducted extra-school level. Inclusion criteria and participating characteristics: Third classes of primary school (5 schools chosen in Turin by drawing) # 187 - 83 females (36 control group, 47 experimental group) - 84 males (36 control group, 48 experimental group). Average age 8 years. Context : School and extra school Data collection method: In two groups, experimental and control; pre test T1, post test T2; physical education intervention. ANOVA for the extra school Data anal method : Experimental research on two groups.</p>	<p>The results show that children participating in the intervention improve their psychosocial adaptation and increase participation in out-of-school motor and sports activities over time.</p>
<p>Aliaa Abdelmonem, Nana Eldeawy 2013 Egypt The effects of shadow play on motor abilities and self-esteem for children SPORTDiscus Science, Movement and Health, Vol. XIII, ISSUE 2 supplement, 2013 September 2013, 13 (2), 685-690</p>	<p>Target: As a game, that of shadows, it can develop motor skills and self-esteem in the children of the Infant School. Inclusion criteria and participating characteristics:N ° 20 from 5-7 years. Context: Primary school Data collection method: Scale self-esteem, shadow play program, pilot study with survey from 2011-2012 on 10 children outside the research base to be sampled. Program game shadows Data anal method: Statistical</p>	<p>The data revealed a significant improvement in motor skills and self-esteem for children.</p>
<p>Johannes J. Noordstar, Janjaap van der Net, Suzanne Jak, Paul JM Helders, Marian J. Jongmans 2016 Utrecht (Netherlands) Global self-esteem, perceived athletic competence, and physical activity in children:</p>	<p>Target: Examine change and associations between global self-esteem, perceived athletic competence and moderate-vigorous physical activity (MVPA) in children from preschool and primary school and if this change and these associations are different for boys and girls .</p>	<p>Global self-esteem, perceived athletic competence and MVPA remained stable. Global self-esteem was the same in boys and girls, while boys reported higher levels of perceived athletic competence and were physically more active</p>

<p>A longitudinal cohort study</p> <p>Science Direct</p> <p>Psychology of Sport and Exercise Volume 22 , January 2016, Pages 83-90</p>	<p>Inclusion criteria and participant characteristics: TOT N ° 292 children (148 males) divided into two groups: - I: kindergarten N ° 146 (80 Males) age 4-7 years; 121 Caucasian children and 25 non-Western children ethnic minorities (mainly North African children). - II: primary school No. 146 (68) age 7-9 years; 119 Caucasian children and 27 children from non-Western ethnic minorities (mainly North African children). Context: School Method of data collection: global self-esteem and perceived athletic competence were measured with the self-perception profile for children (SPPC), while MVPA (moderate-to-vigorous physically active) was measured with reports for physical activity completed from parents. Data anal method: Longitudinal study divided into two groups.</p>	<p>than girls. The change in global self-esteem was significant when associated with perceived athletic competence and MVPA in girls, but not in boys. Conclusion: there are few evolutionary changes in global self-esteem, perceived athletic competence, and MVPA from preschool to primary. The change in global self-esteem was associated with the perception of athletic competence and MVPA in girls, but not in boys.</p>
<p>Xiangli Gu, Mei Chang, Melinda A. Solmon .</p> <p>2016 United States</p> <p>Physical Activity , Physical Fitness, and Health-Related Quality of Life in School-Aged Children .</p> <p>SPORTDiscus</p> <p>Journal of Teaching in Physical Education Apr2016, Vol. 35 Issue 2, p117 10p.</p>	<p>Objective: the association between physical activity (PA), physical fitness and health-related quality of life (HRQOL) among school-aged children is examined. Inclusion criteria and participating characteristics: 201 children of 9 years: -91 boys, - 110 girls, Context: School Data collection method: PA of students (self-reported PA, pedometer-based PA) and physical fitness (cardio-respiratory fitness, muscle fitness, flexibility and body composition). - PedsQL4.0 used to evaluate the HRQOL of the participants (physical and mental function).</p>	<p>Physical activity and four components of physical fitness were found to be positively associated with physical and mental function. Improving children's fitness facilitates quality of life related to health.</p>
<p>Abdelkarim Achraf , Chtourou Matthias Knisel Elke , Hökelmann Anita Bös Klaus</p> <p>Osama , Ammar Hamdi , Wagner</p>	<p>Target : The aim of this study is to examine the motor and cognitive skills and their independent and combined skills among the children of the</p>	<p>Promoting the physical fitness of children during primary school age could improve both motor and cognitive-related learning</p>

2017	German primary schools.	to school performance.
Germany	Inclusion criteria and participating characteristics: N° 197 Primary school children, average age 7.01:	
Relationship between motor and cognitive learning abilities among primary school-aged children	- 101 males - 96 females	
ScienceDirect	Context: School	
Alexandria Journal of Medicine, dicembre 2017 53 (4): 325-331	Data collection method: Data collection from 2012 to 2013 in 5 German schools through a German description test that includes motor skills, intelligence test	
Hyndman Brendon, Benson Amanda, Lester Leann, Telford Amanda	Data analysis method: software	
There is a relationship between the enjoyment by children of primary schools of business physical withdrawal and the quality of life health-related ? A transversal exploratory study.	Objective: to explore the relationship between the fun of Australian primary schools and physical recreational activities and quality of life related to children's health (HRQOL)	Primary school children who have performed physical activity have an improved HRQOL, quality of life related to health.
2017	Inclusion criteria and participating characteristics: 105 children of the Primary School between 8 and 12 years; 60% females and 40% males.	
Australia	Context: School	
SPORTDiscuss	Data collection method:	
Australia Health Promotion Journal Apr2017, vol. 28 Issue 1, p37 7p.	- Entertainment at lunchtime and activities (LEAP) - scale of enjoyment of children of physical activity (PACES) - The Pediatric QOL Inventory 4.0 useful for measuring quality of life related to health.	

Conclusion

This review analysed 7 researches which highlighted the effects of the body in motion on the child; research that was based on scientific evidence of other research that however had as a subject of investigation adolescents or adults. Finding direct research on preadolescent children has been very complex but supporting the thesis of how physical activity is essential for the overall development of the whole person, physical, emotional, cognitive and social and, throughout life, many can be taken into consideration as a basis for study. The selected research has clearly highlighted the different effects that physical activity has on the child and a recurring theme of all this research is the positive increase of self-esteem through increased participation in sport. In addition the research by Zucchetti et al. (Zucchetti G. et al., 2013) has shown how a programme of physical education at school reduces levels of aggression in favour of a newfound stability, purposefulness and sociability.

The Egyptian study by Abdelmonem (Abdelmonem A., 2013), the effects of shadow play on motor skills and self-esteem, despite the difficult English translation, was very interesting to analyse, where he confirmed that structured activity, in this case in a playful way, encourages learning, sociability and self-esteem.

Thanks to the researchers who have done such valuable research, and despite the lack of available literature, we should focus in increasing numbers on the positive effect of the role of physical activity on children in aged between three and eleven years old.

These numbers, data, and results should sensitise, empower and definitively prompt the Ministry of Education to recognise that physical exercise must enter the school curriculum without further ado, without cuts, and without rhetoric, for the benefit of our children - the future adults and citizens of tomorrow.

Even though this study is the outcome of a shared collaboration, it can be attributed to: Manuela Valentini: scientific coordinator, Lucia Virgili: bibliographic research, Gaetano Raiola: bibliographic research coordinator, Ario Federici: project coordinator.

References

- Abdelkarim O., Ammar A., et al., (2017), Relationship between motor and cognitive learning abilities among primary school- aged children, *Alexandria Journal of Medicine* December.
- Abdelmonem A., Eldawy N., (2013), The effects of shadow play on motor abilities and self-esteem for children, *Science, Movement and Health*, Vol. XIII, ISSUE 2 supplement, 2013, September 2013, 13 (2).
- Arwa A., (2006), Theatre of the deaf children of Gulf platforms, studies and research, Riyadh in Abdelmonem A., Eldawy N., The effects of shadow play on motor abilities and self- esteem for children, *Science, Movement and Health*, Vol. XIII, ISSUE 2 supplement, 2013, September 2013, 13 (2)
- Abdelmonem A., Eldawy N., The effects of shadow play on motor abilities and self- esteem for children, *Science, Movement and Health*, Vol. XIII, ISSUE 2 supplement, 2013, September 2013, 13 (2).
- Bailey R., (2006), Physical Education and sport in school: A review of benefits and outcomes, *Journal of school Health*, 76 in Zucchetti G. et altri, Promuovere il benessere psicosociale e la pratica dell'attività motoria e sportiva a scuola e nell'extra scuola durante la media fanciullezza: Progetto scuola in movimento, *Il giornale Italiano di psicologia dello sport* N°18 Settembre/Dicembre 2013, p. 37.
- Balan V., Pantea M., (2003), More educated through Sport, Annual session or Scientific Communication of Olympic Academy, Newsletter no. 31- 32, Romanian Olympic Committee, Romanian Olympic Academy.
- Biddle S. J. H., & Asare M., (2011), Physical activity and mental health in children and adolescents: a review of reviews, *British Journal of Sports Medicine*, 45, in Lubans D., Richards J. et al., Physical Activity for Cognitive and Mental Health in Youth: A Systematic Review of Mechanisms, *Pediatrics*, September 2016, vol 138 / ISSUE 3 in Noordstar J. J., Van der Net J., Jak S., Helder P. J. M., Jongmans M. J., (2016), Global self- esteem, perceived athletic competence, and physical activity in children: A longitudinal cohort study, *Psychology of Sport and Exercise* 22, p. 83e90.
- Blumenthal J. A., (2007), Exercise and pharmacotherapy in the treatment of major depressive disorder. *Psychosomatic Medicine* 69 (7), 587–596, in Gallaway, P. J., & Hongu, N. (2016). Physical Activity: A Tool for Improving Health. *Journal of Extension*, v54 n1, 1- 4.
- Bushnell EW, Boudreau JP., (1993), Motor development and the mind: the potential role of motor abilities as a determinant of aspects of perceptual development, *Child Development* in Abdelkarim O., Ammar A., et al., (2017), Relationship between motor and cognitive learning abilities among primary school- aged children, *Alexandria Journal of Medicine* December.
- D'elia, F. (2019) The training of physical education teacher in primary school, *Journal of Human Sport and Exercise*, 14, pp. S100-S104.
- D'isanto, T. (2016) Pedagogical value of the body and physical activity in childhood *Sport Science*, 9, pp. 13-18.
- Erikson E.H. (1963), *Childhood and society* (2nd ed.), New York, in Slutzky C.B., Simpkins S.D., (2009) The link between children's sport participation and self- esteem: Exploring the mediating role of sport self- concept, *Psychology of Sport Exercise*, 10, p. 381.
- Fletcher A., Nickerson P., Wright K. (2003), Structured leisure activities in middle childhood: Links to well-being, *Journal of Community Psychology*, 31 in Slutzky C.B., Simpkins S.D., (2009) The link between children's sport participation and self- esteem: Exploring the mediating role of sport self- concept, *Psychology of Sport Exercise*, 10, p. 381.
- Fox K. R., & Corbin C. B., (1989), The physical self- perception profile: Development and preliminary validation. *Journal of Sport and Exercise Psychology*, 11, in Slutzky C.B., Simpkins S.D., (2009) The link between children's sport participation and self- esteem: Exploring the mediating role of sport self- concept, *Psychology of Sport Exercise*, 10, p. 381 in Noordstar J. J., Van der Net J., JAK S., Helder P. J. M., Jongmans M. J., (2016), Global self- esteem, perceived athletic competence, and physical activity in children: A longitudinal cohort study, *Psychology of Sport and Exercise* 22, p. 83e90.
- Gaetano, R., Domenico, T., Gaetano, A. (2015) Physical activity and its relation to body and ludic expression in childhood. *Mediterranean Journal of Social Sciences*, 6 (3), pp. 293-296.
- Gale C. R., Cooper R., et al. (2012), Cognitive function in childhood and lifetime cognitive change in relation to mental wellbeing in four cohorts of older people, *PLoS One*, 2012, 7 (9), in Lubans D., Richards J. et al., Physical Activity for Cognitive and Mental Health in Youth: A Systematic Review of Mechanisms, *Pediatrics*, September 2016, VOLUME 138 / ISSUE 3.
- Hamdi, S., (2002), An indicative programme based on social support of developing self- esteem in children, the blind, PhD thesis, Institute for studies in education, University of Cairo, in Abdelmonem A., Eldawy N., The effects of shadow play on motor abilities and self- esteem for children, *Science, Movement and Health*, Vol. XIII, ISSUE supplement, 2013, September 2013, 13 (2).
- Harter S., (1993), Visions of self: Beyond me in the mirror, in J. E. Jacobs (Ed.), Nebraska symposium on motivation, Lincoln, NE: University of Nebraska Press in in Slutzky C.B., Simpkins S.D., (2009) The

- link between children's sport participation and self- esteem: Exploring the mediating role of sport self- concept, *Psychology of Sport Exercise*, 10, p. 381.
- Harter S., (2006), Developmental and individual perspectives on self- esteem, in Mroczek D. K. & Little T. D. (Eds.), *Handbook of personality* Mahwah, NJ: Lawrence Erlbaum Associates, 2006 in Slutzky C.B., Simpkins S.D.,(2009) The link between children's sport participation and self- esteem: Exploring the mediating role of sport self- concept, *Psychology of Sport Exercise*, 10, p. 381.
- Hillman C. H. (2008), Be smart, exercise your heart: Exercise, *Nature Reviews Neuroscience*, 9(1), 58- 6 in Gallaway, P. J., & Hongu, N. (2016). *Physical Activity: A Tool for Improving Health*. *Journal of Extension*, v54 n1, 1- 4.
- Hyndman B., Amanda C. Benson et al., (2017), Is there a relationship between primary school children's enjoyment of recess physical activities and health- related quality of life? A cross- sectional exploratory study, *Health Promotion Journal of Australia* Apr2017, Vol. 28 Issue 1, pp. 37- 43.
- Horn T. S. (1985), Coaches' feedback and changes in children's perceptions of their physical competence, *Journal of Educational Psychology*, 77, in Slutzky C.B., Simpkins S.D., (2009) The link between children's sport participation and self- esteem: Exploring the mediating role of sport self- concept, *Psychology of Sport Exercise*, 10, p. 381.
- Horn T. S., & Weiss M. R. (1991), A developmental analysis of children's self- ability judgments in the physical domain, *Pediatric Exercise Science*, 3, in Slutzky C.B., Simpkins S.D.,(2009) The link between children's sport participation and self- esteem: Exploring the mediating role of sport self- concept, *Psychology of Sport Exercise*, 10, p. 381.
- Jacobs J. E., Vernon M. K., & Eccles J., (2005), Activity choices in middle childhood: The roles of gender, self- beliefs, and parents' influence, In J. Mahoney R. W. Larson & J. S. Eccles (Eds.), *Organized activities as contexts of development: Extracurricular activities, after- school, and community programs*, Mahwah, NJ: Lawrence Erlbaum Associates, 2005 in in Slutzky C.B., Simpkins S.D.,(2009) The link between children's sport participation and self- esteem: Exploring the mediating role of sport self- concept, *Psychology of Sport Exercise*, 10, p. 381.
- Jayakodi K. G. (2013). Exercise for anxiety disorders: Systematic review. *British Journal of Sports Medicine*, 48(3), 187-196. Gallaway, P. J., & Hongu, N. (2016). *Physical Activity: A Tool for Improving Health*. *Journal of Extension*, v54 n1, 1- 4.
- Johnson S. D., (2007), Johnson, S. D. *Journal of Extension* 45 (2), Article 2IAW7. Gallaway, P. J., & Hongu, N. (2016). *Physical Activity: A Tool for Improving Health*. *Journal of Extension*, v54 n1, 1- 4.
- Larson R.W. (2000), Toward a psychology of positive youth development. *American Psychologist*, 55, in Slutzky C.B., Simpkins S.D., (2009), The link between children's sport participation and self- esteem: Exploring the mediating role of sport self- concept, *Psychology of Sport Exercise*, 10, p. 381.
- Marsh H. W., Craven R. G., & Martin A. J. (2006). What is the nature of self- esteem? Unidimensional and multidimensional perspectives, in M. H. Kernis (Ed.), *Self-esteem issues and answers: A sourcebook of current perspectives*. New York: Psychology Press, 2006.
- Mchale J. P., Videnden P. G., Bush L., Richer D., Shaw D., & Smith B., (2005), Patterns of personal and social adjustment among sport- involved and non- involved urban middle- school children, *Sociology of Sport Journal*, 22 in in Slutzky C.B., Simpkins S.D.,(2009) The link between children's sport participation and self- esteem: Exploring the mediating role of sport self- concept, *Psychology of Sport Exercise*, 10, p. 381.
- Mitrofan O., Paul M., Spencer N., (2009), Is aggression in children whit behavioral and emotional difficulties associated with television viewing and video game playing? A system review, *Child Care Health Deviance*, 35 in Zucchetti G. et altri, *Promuovere il benessere psicosociale e la pratica dell'attività motoria e sportiva a scuola e nell'extra scuola durante la media fanciullezza: Progetto scuola in movimento*, *Il giornale Italiano di psicologia dello sport* N°18 Settembre/Dicembre 2013, p. 37.
- Naccari A.G.A., (2003) *Pedagogia della corporeità, Educazione, attività motoria e sport nel tempo*, Marlocchi Editore, Perugia.
- Noordstar J. J., Van der Net J., Jak S., Helders P. J. M., Jongmans M. J., (2016), Global self- esteem, perceived athletic competence, and physical activity in children: A longitudinal cohort study, *Psychology of Sport and Exercise* 22, p. 83e90.
- Pedersen S., & Seidman E., (2004) Team sports achievement and self- esteem development among urban adolescents girls, *Psychology of Women Quarterly*, 28,in Slutzky C.B., Simpkins S.D.,(2009) The link between children's sport participation and self- esteem: Exploring the mediating role of sport self- concept, *Psychology of Sport Exercise*, 10, p. 381.
- Raiola, G.(2015)Sport skills and mental health, *Journal of Human Sport and Exercise*, 10 (Specialissue), pp. S369-S376
- Raiola, G.(2014)Motor control and learning skills according to cognitive and ecological dynamic approach in a vision on behaviorism, cognitive, Gestalt and phenomenology theories, *Mediterranean Journal of Social Sciences*, 5 (15), pp. 504-506.
- Raiola, G.(2013)Body knowledge and motor skills, *Knowledge Cultures*, 1 (6), pp. 64-72

- Raiola, G.(2015)Sport skills and mental health, *Journal of Human Sport and Exercise*, 10 (Specialissue), pp. S369-S376.
- Raiola, G.(2017)Motor learning and teaching method, *Journal of Physical Education and Sport*, 17, art. no. 236, pp. 2239-2243.
- Saweyer SM., AFIF RA. et al., Adolescence: a foundation for future health, *Lancet*, 2012, 379 (9826): 1630 – 1640 in Lubans D., Richards J. et al., *Physical Activity for Cognitive and Mental Health in Youth: A Systematic Review of Mechanisms*, *Pediatrics*, September 2016, volume 138 / ISSUE 3.
- Sebastian C., Burnett S., et al., Development of the self- concept during adolescence, *Trends Cognitive Science*, 2008; 12 (11): 441 – 446, in Lubans D., Richards J. et al., *Physical Activity for Cognitive and Mental Health in Youth: A Systematic Review of Mechanisms*, *Pediatrics*, September 2016, volume 138 / ISSUE 3.
- Seguin R. A., (2013). Strength training improves body image. *Journal of Extension*, Article 4FEA2, in Gallaway, P. J., & Hongu, N. (2016). *Physical Activity: A Tool for Improving Health*. *Journal of Extension*, v54 n1, 1- 4. Sibilio M., D'elia F., (2015), *Didattica in Movimento*, Editrice la Scuola.
- Simpkins S. D., Fredricks J., Davis- Kean P., & Eccles J. S., (2006), Healthy minds, healthy habits: The influence of activity involvement in middle childhood, in A. Huston, &M. Ripke (Eds.), *Developmental contexts in middle childhood: Bridges to adolescence and adulthood*, pp. 283–302, New York: Cambridge University Press, in Slutzky C.B., Simpkins S.D.,(2009) The link between children's sport participation and self- esteem: Exploring the mediating role of sport self- concept, *Psychology of Sport Exercise*, 10, p. 381.
- Sisk CL., Zeher JL., (2005), Pubertal hormones organize the adolescent brain and behavior.,*Front Neuroendocrinol*; 26 (3–4): 163 – 174, in Lubans D., Richards J. et al., *Physical Activity for Cognitive and Mental Health in Youth: A Systematic Review of Mechanisms*, *Pediatrics*, September 2016, volume 138 / ISSUE 3.
- Slutzky C.B., Simpkins S.D., (2009), The link between children's sport participation and self- esteem: Exploring the mediating role of sport self- concept, *Psychology of Sport Exercise*, 10.
- Sonstroem R. J., Harlow L. L., & Joseph L., (1994) Exercise and self- esteem: Validity of model expansion and exercise associations, *Journal of Sport and Exercise Psychology*, 16 in Noordstar J. J., Van der Net J., Jak S., Helder P. J. M., Jongmans M. J., (2016), Global self- esteem, perceived athletic competence, and physical activity in children: A longitudinal cohort study, *Psychology of Sport and Exercise* 22, p. 83e90.
- Sonstroem R. J., (1997), The physical self- system: A mediator of exercise and self- esteem, in Fox K. R. (Ed.), *The physical self: From motivation to well- being*.
- Strauss R. S., Pollak H. A., (2003), Social marginalization of overweight Children, *Archives of Pediatrics & Adolescent Medicine*, 157, in Zucchetti G. et altri, *Promuovere il benessere psicosociale e la pratica dell'attività motoria e sportiva a scuola e nell'extra scuola durante la media fanciullezza: Progetto scuola in movimento*, *Il giornale Italiano di psicologia dello sport* N°18 Settembre/Dicembre 2013, p. 37.
- Tiziana, D., Antonetta, M., Gaetano, A. (2017)Health and physical activity. *Sport Science*, 10 (1), pp. 100-105.
- Tracey D., (2007), *Animating adult audiences: the puppet theatre of Ronnie Burkett*, ProQuest dissertations and theses, Section 0351, (M.A. dissertation), University of Alberta, Canada in Abdelmonem A., Eldawy N., The effects of shadow play on motor abilities and self- esteem for children, *Science, Movement and Health*, Vol. XIII, ISSUE 2 supplement, 2013, September 2013, 13 (2).
- Vinteanu N., (2008), *Education*, Zerana Flores Publisher, Bucharest.
- Xiangli GU, Mei Chang, Melida A. Solomon, Physical Activity, Physical Fitness, and Health- Related Quality of Life in School- Aged Children, *Journal of Teaching in Physical Education* Apr2016, Vol. 35 Issue 2, pp. 117 10.
- Zhu N. J. (2014). Cardiorespiratory fitness and cognitive function in middle age The Cardia Study. *Neurology*, 82 (15), 1339–1346. Gallaway, P. J., & Hongu, N. (2016). *Physical Activity: A Tool for Improving Health*. *Journal of Extension*, v54 n1, 1- 4.
- Zucchetti G., (2013), *Promuovere il benessere psicosociale e la pratica dell'attività motoria e sportiva a scuola e nell'extra scuola durante la media fanciullezza: Progetto scuola in movimento*, *Il giornale Italiano di psicologia dello sport* N°18 Settembre/Dicembre.