

## **Bisogni Educativi Speciali, Integrazione e Inclusione attraverso gli Sport di Squadra**

### **Special Educational Needs, Integration and Inclusion through Team Sports**

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#### **Abstract**

Social integration is a very undervalued phenomenon in childhood and adolescence. Socialization is the process tank to which to convey information through practices and institutions capable of transmitting to the new generations the cultural heritage built up to that moment, thanks to two particularities:

- Every society has longer life than the individuals that make it up
- Cultural heritage includes the set of basic social and specialized skills that will diversify society.

For this reason we have a "primary socialization", which ensures the first objective, and a "secondary socialization", which deals with the second one.

#### **Keywords**

Educazione, Sport, Depressione, Socialità  
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## 1. Purpose of this study

The goal that we set ourselves in this study is to achieve socialization through sport, which is becoming more and more part of our lives. We will also analyze the most suitable sports to establish social relationships, and which sports are less suitable for establishing social and long-lasting ones (such as swimming pool, for example).

## 2. Recent findings

Sport is an activity involving inclusion, participation and social aggregation, as well as an instrument for achieving psycho-physical and preventive well-being. Furthermore, it plays a fundamental social role as an instrument of education and training, allowing for the development of skills and abilities essential for the balanced growth of each individual (Wilson, Cleary, 1995; Australian Sports Commission, 2012; World Health Organisation, 2006; Vandebos, 2009).

Each sport embodies a set of performances that require time, determination, perseverance and dedication; all skills that grant the child a sense of adaptation and allow him growing up, both from the individual and experiential point of view, while increasing accordingly the perception that he/she has of himself/herself; hence we can say that one of the many benefits (psychic for life quality) is greater self-esteem, which, in this case, is not affected by illusory or super-unsuitable compensatory mechanisms (Earp, Ennett, 1991; Toftegaard-Støckel et al, 2010), but creates a more harmonic, confident and concrete environment (Wilson, Cleary, 1995).

Athletics (running, jumping, throwing, etc.) is recommended for children showing hyperactivity or high levels of energy; on the other hand, fencing enhances the perception of the other, by teaching the way to interpret the opponents' movements, understand their intentions and adapt accordingly (Kahn et al, 2002).

For example, swimming is suitable for children with socialization difficulties, because it allows them interacting with their peers for short and fragmented times, avoiding that continuous sharing which can generate stress in very vulnerable subjects; horse riding is recommended for those who love nature, for children with anxious symptomatology and for the hyperactive ones, since open space avoids sensory overload; football allows oneself feeling an active part of a team, and positively strengthen self-esteem and the perception of self-efficacy.

In any case, when choosing a sport, it is preferable to start from the child's interests (based on this assumption, the "affinity therapy" method, aimed at children with Autism Spectrum Disorders and developed in the Anglo-Saxon field, proves very suitable); children will develop emotional and relational skills more easily, and this makes them show what they love or want to do.

Sport acts as a physiological propeller for the entire evolutionary age. In particular, summer can represent the favorable season to involve, in a sports activity, as many children or young people with deficits, problems or disabilities as possible. There can be many benefits: "Sport is a fundamental element at emotional and social level; a multi-dimensional, dynamic, playful environment suitable to intensify the consciousness of oneself and one's own body. Sport is for everyone and it is a way to get out of isolation and to socialize», as summarized by Luigi Mazzone, a child neuropsychiatrist at the Bambino Gesù Pediatric Hospital in Rome.

Let us analyze the first point: intensifying the consciousness of oneself and the awareness of one's own corporeity. Through sport, the disabled person can get involved and can experiment, learn to control his/her own body, develop a sense of self-awareness and confidence in his/her own abilities (US Department of Health and Human Services, 2008; Janssen, 2007; Oja, 2010; Eime et al, 2013).

The second point is: getting out of isolation and socializing. Self-confidence and a positive personal identity are fundamental elements for the establishment of positive social relation-

ships; moreover, the activities characterized by rules contribute to improving the ability to interact with others (Zimmermann-Sloutskis et al, 2010).

An important factor to take into consideration, especially today, with the advent of new-era technology and models professed by the mass media and TV, there has been a drastic reduction in games practice and game environments, there is more and more adult control (awards, competitions, . In this case, the risk of developing anxiety and depression, in addition to a lack of self-esteem, makes children grow up in a distorted and not independent way.

Integrating sports can help (beyond biological-hereditary factors) attenuate this phenomenon (if not to zero, according to the severity of the depressive factor and the traumas suffered).

GABA is an inhibitory neurotransmitter of the central nervous system. Its main role is to reduce the excitability of neurons. In human beings, GABA is also responsible for the regulation of muscle tone. Glutamate, on the other hand, is an important, excitatory neurotransmitter, which plays a fundamental role in neural activation. The Davis researchers found an increase in the levels of these two neurotransmitters, by analyzing the participants of a research work who exercised consistently unlike those who did not practice any type of exercise (Zimmermann-Sloutskis et al, 2010; Department of Health and Ageing, 2007; Tammelin et al, 2003; Dunn et al, 2005; VicHealth, 2010).

In February 2016, the following study “Acute Modulation of Cortical Glutamate and GABA Content by Physical Activity” was published in the Journal of Neuroscience. It is a research that has allowed us improving our understanding of the metabolic mechanisms of the brain underlying physical activity. In addition, it has made us better understand how aerobic exercise highly benefits depression, neuropsychiatric disorders, neuro-rehabilitation, aging and cognitive functions.

### **3. Exercise optimizes brain structures and functional connectivity**

Just to make an example, exercising can increase the production of GABA, thus reducing stress and anxiety levels to a minimum. In particular, many studies have dealt with the analysis of the effects produced by the carrying out of physical activity, focusing on the effects produced in the brain at structural, chemical and electrical level.

From the electrical point of view, several studies have shown that physical activity leads to a generalized increase in the electroencephalogram (EEG). Structurally, however, aerobic exercise is known to favor the increase in the volume of gray matter, and optimize the connectivity of the white matter.

The neurochemicals released during exercise are so powerful that one might consider himself/herself pharmacists, and might get to self-medicating. There is a strong correlation between the amount of some neurotransmitters in the brain and one’s own mood. In fact, as repeatedly demonstrated, exercise improves the brain chemical environment, both in the long and short run. For people who are not clinically depressed, recent studies have shown that exercise is one of the most reliable mood boosters.

Research studies on chemical processes and on the long-term effects of exercise on mental health, learning and memory, is still ongoing. Chemical studies such as antidepressants help reveal the chemical properties of depression and mood. The psychopharmacological power of physical exercise should not be underestimated, but it is not a panacea for all mental illnesses. In this latest study carried out by UC Davis, researchers performed various MRIs on volunteers, both before and after intense exercise, in order to measure GABA and glutamate levels.

### **4. The best Sport against Depression**

Exercise increases the production of GABA and Glutamate. This experiment aimed at measuring the production of glutamate and GABA in two different parts of the brain, immediately

before and after three exercise sessions lasting between eight and twenty minutes each. At the same time, similar measurements were also carried out through a control group.

In particular, significant increases were noted in both GABA and glutamate in the visual cortex, responsible for processing visual information. These results confirmed the exercise-induced increase in cortical production of glutamate and GABA, and increased our understanding of the different brain states triggered by physical activity (Dunn et al, 2005; Casey et al, 2009).

The study also identified an increase in glutamate, as a result of physical activity, in the anterior cingulate cortex, implicated in the regulation of heart rate, as well as in some cognitive functions and in emotional processing. Although the beneficial effects that exercise has on our brain are dissipated, once one stops practicing a sport the effects seem to not fade away.

New insights into the link between brain metabolism and exercise contribute to a better understanding of why aerobic exercise helps millions of people around the world fight against depression. In fact, researchers believe that these results fully demonstrate how exercise can be an effective therapy for many people who suffer from depression. In particular, they argue that exercise could be particularly useful for patients under 25, often more sensitive to the side effects of antidepressants, such as serotonin reuptake inhibitors (SSRIs).

In a press release, author Richard Maddock, professor of UC Davis at the Department of Psychiatry and Behavioral Sciences, stated that: “Major depressive disorder is often characterized by depleted glutamate and GABA, which return to normal when mental health is restored. Our study shows that exercise activates the metabolic pathway that replenishes these neurotransmitters. From a metabolic standpoint, vigorous exercise is the most demanding activity the brain encounters, much more intense than calculus or chess, but nobody knows what happens with all that energy. Apparently, one of the things it’s doing is making more neurotransmitters”.

The new results achieved by Maddock and his colleagues are an important step towards a better understanding of the complexity of brain metabolism. Furthermore, this research also suggests the negative impact that sedentary lifestyles could have on brain function and on the production of neurotransmitters.

After assessing the positive effects that intense exercise can have on depression, Maddock and his colleagues wanted to step up their research, by analyzing if further intense aerobic activities are able to produce the same benefits for our brain.

“We are offering another view on why regular physical activity may be important to prevent or treat depression” concluded Maddock. “Not every depressed person who exercises will improve, but many will. It’s possible that we can help identify the patients who would most benefit from an exercise prescription (Eime et al, 2010; Cleland et al, 2010; McLeroy et al, 1988; Australian Bureau of Statistics, 2008; Kahn et al, 2002).

## **Conclusions**

Sport is the most effective anti-depressive ever. In this research field, there is substantive evidence of many different psychological and social health benefits of participation in sport by children and adolescents. Furthermore, there is a general consensus about the fact that participation in sport for children and adolescence is associated with improved psychological and social health. More specifically, reports show that participation in team sports rather than individual activities is associated with better health status. It is believed that this is due to the social nature of team sports, and that the health benefits are enhanced through positive involvement of peers and adults. However, research activity is predominantly based on cross-sectional studies, which is exactly so: sports activity, if practiced from a young age, manages to have a fundamental role for the individual development of one’s own abilities.

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