Original Article

Sport and physical education as prevention against technological addictions

GIUSI ANTONIA TOTO ✉ , IRENE STRAZZERI

Department of Humanistic Studies, University of Foggia, Italy

ABSTRACT

There is no question that technologies have revolutionized the way with which our world operates and consequently the individuals' life styles. On the other hand, nowadays, technological addiction is an educational problem underestimated yet given its pervasiveness and diffusion among teenagers. Learning and cognition processes are influenced by the environmental experience, as technology has created a new environmental space to experience among digital natives. The purpose of this article is to examine some positive and negative effects of technology on teenagers' life styles. From a methodological point of view, a systematic review of the existing literature will be provided following the PRISMA guidelines both on technological addictions, examining the negative effects on adolescent mental health, and on educational strategies, on the other hand, aimed at promoting positive effects through analysis of the relationships between technology and learning processes. By comparing empirical studies and international experiences, it can be suggested that education plays a key role in preventing behavioural addictions and promoting physical and mental well-being, given that technology could represent a precursor of positive and stable attitudes towards healthy habits and learning processes. **Keywords:** Healthy lifestyle, Educational prevention, Adolescent, Technology.

✉ **Corresponding author.** *Department of Humanistic Studies, University of Foggia, Italy.*
E-mail: giusy.toto@unifg.it

INTRODUCTION

The three characteristics of neoliberalism: deregulation, privatization and a reduction in social spending are the causes of exasperated individualism, isolationism and the crisis of contemporary society (Klein, 2014). According to some (Boas & Gans-Morse, 2009), one of the products of this socio-economic context is the technology now pervasive to human existence. Contemporary 'techno-logia' creates and exchanges meanings and social interaction, and it participates in the building of identity (Di Lorenzo et al., 2013). Technology is an environment in which individuals can experience, likewise writing is an extension of the human mind; technology combines experiences of a real and virtual world, and it determines cognitive, emotional and relational re-construction among digital natives. The fascination of technology is expressed through the creation of new cultural objects that leads to redesign the world, to redefine the categories of space and time and new forms of interpersonal relationship (Weber & Dixon, 2010). The digital technologies used in learning environments, in particular social media and network environments, are redefining both social relationships and the modes of knowledge exchange, offering not only the architecture for user participation, but also true methodologies performing teaching that can pose new challenges to educational systems (Pireddu, 2014).

According to literature, it is possible to identify a dual attitude towards technology: on the one hand, technology is considered an indispensable educational tool for individual; on the other hand, it could lead to the development of different forms of addictions, and it overlaps with the other already-known forms of behavioural addictions (Young, 1999). Therefore, the need arises to construct a complex epistemology of *digital culture*, which responds to the modern dynamics emerging from the virtual, that sometimes degenerates towards an unprecedented phenomenology of intolerance. For this reason it is necessary also to be able to master the mechanisms to preserve one's health considering the peculiarities of the growth phase that affects the adolescent. Physical education in schools has a practical approach, in which the most important goal is the improvement of students' physical properties only. Teaching focused on the direct impact on students with respect to their ability to interact with the environment without any damage to health. Today, instead, physical education should help to further optimize the physical activity of students, including through the activation of mental processes that require substantial training to build a conscious attitude towards the need for a healthy lifestyle (Natalia, 2016). The aim of the present study is to demonstrate how the practice of sport and physical education are precursors against technological addictions by assuming a prevention function

MATERIAL & METHODS

A systematic review of the existing literature was adopted to search for articles in the main international databases (Google Scholar, PsycInfo and Scopus) on the issue of technological disadvantages among adolescents and on the relationships between cognitive abilities and prevention strategies, using, in English and in Italian, just the terms "Sport", "Technology", "Prevention", "healthy lifestyle" and "Teenagers" as keywords. Following the Prisma guidelines (Moher, Liberati, Tetzlaff & Altman, 2009) a systematic literature review process has been conducted: the literature search is followed by an evaluation of the titles and abstracts based on the research idea that although the evidence scientific of relationships draw a strong relationship between technological dependence and adolescence; it is equally true that prevention and education to health and sport can reverse this trend, that is to make adolescents responsible users and not just passive users (identification). Bibliographic research and evaluation for the inclusion of publications was conducted independently by the two authors. The disagreements have been solved through a critical discussion, coming to full agreement between them. Regarding the inclusion and exclusion criteria, articles

were selected in peer reviewed journals, books or book chapters in English or Italian that aimed to describe or evaluate the dimensions and variables expressed in the above-mentioned research idea (screening). All publications that dealt with addiction only in general, and those publications whose complete format (Relevance) could not be found were excluded. The time limit for the year of publication has been set for the last 10 years, so the articles have been selected since 2008. For the inclusion of the contributions, a qualitative summary of the most relevant information was also conducted with comparisons between the various publications without carrying out a quantitative analysis in the meta-analysis format.
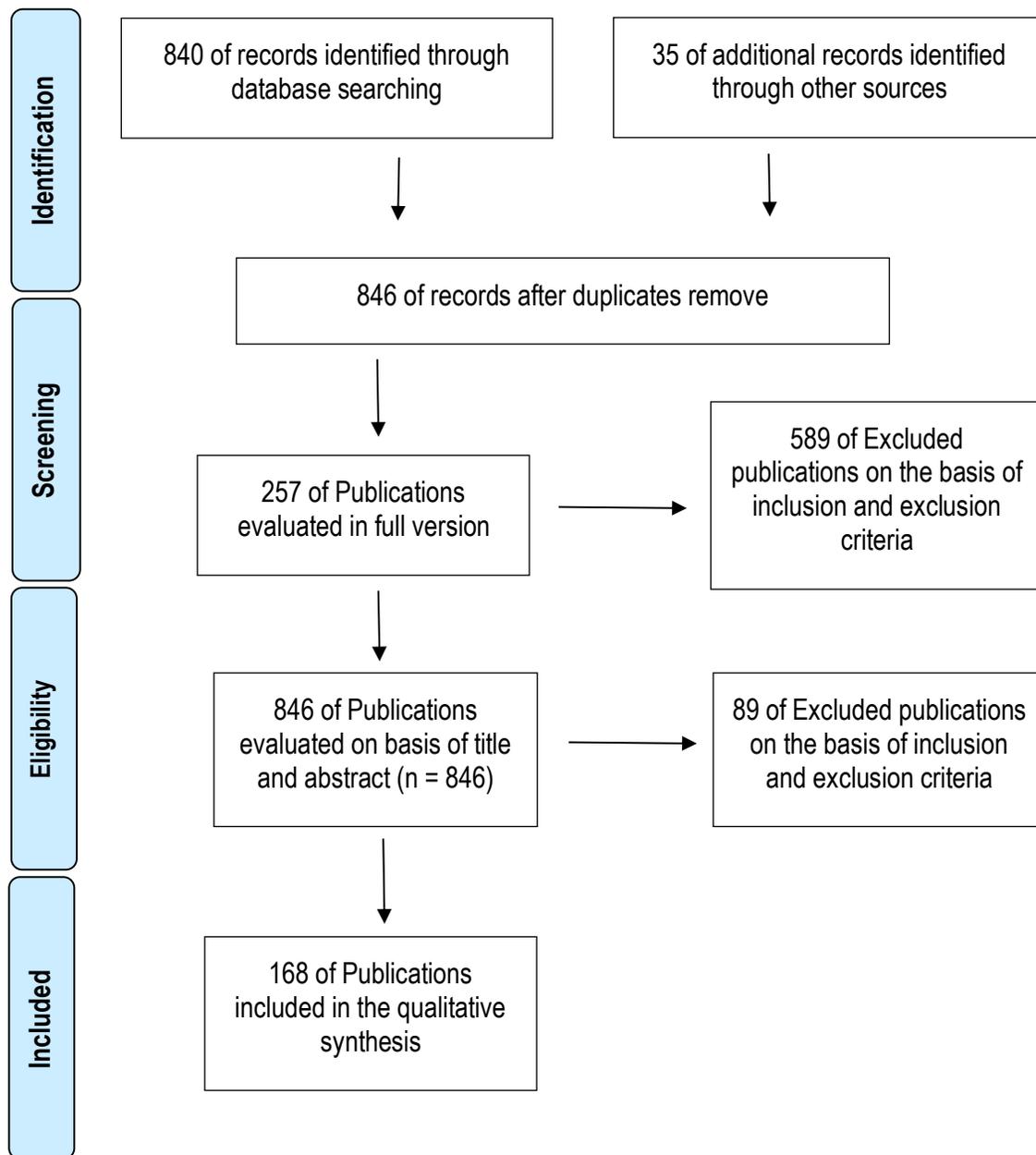

Figure 1. PRISMA Flow Chart of the selection process

The process of inclusion of studies in the systematic review is described in Figure 1. After the elimination of duplicates, the research identified 846 studies consistent with the research idea. Subsequently on the basis

of the title and the abstracts, 589 studies were excluded because they were not relevant. Of the 257 with full text 168 studies met the inclusion criteria. It is well known that a healthy lifestyle has become a decisive factor for students, as it is aimed at their professional longevity and overall health. A high standard of health is related to a low incidence of disease and the state of equilibrium of body systems. The level of health of students depends on their interactions with the environment and their social behaviour. Physical education sponsors healthy behaviours consistent with a healthy lifestyle (Alexander, & Vladislav, 2015).

RESULTS

The relationship between internet, adolescence, and evolutionary tasks is very complex, as adolescents are faced with new challenges and new environmental demands by building new relational abilities and experimenting new identities. Technology can create regressive spaces opposed to the real world, in which the adolescent can experience conflict with the adults, and it can lead to a complete process of identity differentiation (Marchetti, et al., 2017). In technology addiction subjects live in a doubling condition, that is experience of daily life and a virtual situation on which to project desires and illusions in full freedom. Literature identifies teenagers, who need to search for new experiences and sensations, perceived as out of the ordinary, and to engage in adventurous and dangerous situations (Sensation seeking), as the most vulnerable to the tempting features of technologies, which represent risk factors of the onset of the above-mentioned addictions. In adolescence impulsivity, considered as a personality trait, plays a risk factor in developing a pathological disorder (Logue, 1995; Shaw et al., 2006). On the other hand, emotional intelligence decreases vulnerability to disparities becoming, therefore, a protective factor against social anxiety, isolation and consequently of addiction (Oskenbay et al., 2015; Toto, 2017a). In this section, the main contents of the selected literature will focused on different forms of technology addictions and the possible causes that can predict the onset of these dynamics in young-adults. Indeed, the inclusion of Internet Gaming Disorder (IGD) in Section III of the Fifth Edition of the Diagnostics and the Statistical Manual of mental disorders has increased the interest of researchers in the development of new standardized psychometric tools for assessing this disorder. Moreover, although research on social networking addiction has increased considerably over the last decade, the number of validated tools that evaluate this behavioural addiction remains few. An important tool shared by the scientific community is the Bergen Social Media Addiction Scale (BSMAS), which has been recently used to provide empirical data on the relationship between social media addiction and attachment styles, thus supporting theoretical associations between them (Monacis et al., 2017).

Recent studies have shown the predictive role of the attachment style in the " Excessive use of social network sites (Rom and Alfasi, 2014; Yaakobi & Goldenberg, 2014). Specifically, affiliated individuals have large social networks and more social ties (Jenkins-Guarnieri et al. 2012), affiliated people use Facebook more frequently and are constantly worried about how they are perceived on Facebook (Lin 2016), while the individuals characterized by the avoidance attachment style show little interest in Facebook (Oldmeadow et al., 2013). Internal operating models also classified as different types of attachment represent the vision of the world that the child has built, his cognition of affections and his strategies of action (Bolbwy, 1969/1982). Addictive behaviours appear to be a dysfunctional attempt to counter the in-controlled emergence of infant traumatic experiences (Caretti et al., 2005).

DICUSSION

The second part of the current overview will analyse the value of technology in educational context and how same educational strategies could promote a positive human-computer interaction.

The children of the present generation interact with a computer or more generally with technological tools before being able to swim, ride a bicycle or tie their shoes (Geist, 2014). New media, including social media, have increased the chances of reconsidering dependencies and tracing common coping styles by increasing the number of addicted subjects to be reached. Literature indicates that the use of preventive measures is effective in treating addictions; in fact, a healthy lifestyle-based approach is strongly advocated, since it is aimed at affecting personality and personal choice components that have an impact on health and social responsibility. The various strategies have been very successful in promoting sports and physical education as a flyer of physical and mental well-being and precursor to a negative and stable attitude toward bad habits. Even though we are aware of the seriousness of the problem among people, and although the need for systematic preventive interventions is needed, educators show low self-esteem to carry out such interventions and help students (Karpov et al., 2015; Toto, 2017b). The same problem is denounced by the family, committed to having educated subjects in a complex phase of the growth, in a neoliberal context that has produced a strong labour market crisis. The goal is to achieve a dialogue and collaboration between these two systems: the educational and parental system should share knowledge and communication through functional meetings (Strazzeri & Toto 2017).

CONCLUSIONS

Technologies have intrinsically an inactive and sedentary component in their usage, although there are "active video games" known as Exergames that allow you to practice motor activity at the same time (Manuela, 2013). In addition to the fun, technological tools can lead to unproductive psychological consequences for children and teenagers such as sleep problems, mental health, emotional rushes, aggressivity, intolerance, and selfish behaviour towards parents or friends (Sivertsen, 2015). From a quantitative point of view, the child cannot easily disengage from the game and distinguish the real from the virtual until it produces uncontrolled behaviours. Time spent playing leads to isolation and individualism, reduces social relationships but above all sports and physical activity. This obsession for gambling can also lead to pathologies such as epilepsy and the increasing of sedentary could increases the risk of physical problems, such as overweight and obesity (Cerizza et al., 2008). However, there are researches in favour of technology that state that it favours a brain stimulation of the players, causing them to act differently than normal conditions due to the upcoming of the visual messages provided by the images. Particularly, video games, as sensory motor, play and enhance some manual and precision skills, can lead to greater concentration, facilitate self-control, and manage emotions related to carry out a task. They can develop different aspects of personality, such as take initiatives and decisions in a short time and address the difficulties (Scala et al., 2017).

Many of these studies suggest that internet abuse would be related to loneliness, sense of vacuum, feelings of depression, difficulty in perceiving reality (Santovecchi & Furnò, 2014). The daily use of the Internet is linked to people's social contexts, that is, the result of the lack of social support from their family members can facilitate the onset of technological addictions, since social contacts and reinforcement gained on the Internet can lead to an increase in the desire to maintain a 'virtual' social life. As a result, when adolescents develop social media addiction, they have little time and energy to keep active social contacts in their daily lives. This phenomenon increases the risk of the onset of feelings of loneliness, depressive moods and low self-esteem (Lin et al., 2017).

A possible solution to the problem may derive from prevention campaigns or educational activities that dissolve from solitude and isolation moments. Therefore, health education is important, in a broader sense: a healthy lifestyle-based approach is strongly advocated. The promotion of an interactive use of technology

for example in physical sports and physical education could represent a flywheel of physical and mental wellbeing and precursor to a negative and stable attitude toward bad habits, as well as all digital creativity-focused activities implying a mental and social openness of adolescents.

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