Internet Addiction:
a prevention action-research intervention

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ABSTRACT

Background: Current literature shows number of papers focusing on Internet Addiction (IA). Few authors have dealt with the prevention programme. The aim of this paper is to present an evaluation of an action-research intervention for the prevention of Internet Addiction (IA) in schools.

Methods: Applying a pre-experimental research design model, a total of 90 young subjects (45 males and 45 females) were treated using a peer education programme. The Internet Addiction Test was used as a screening tool pre- and post-treatment and analysed using a paired t-test.

Results: The results showed a significant positive difference in the post-treatment values for both males and females.

Conclusion: The difficulties of IA prevention can be explained by the social legitimacy of the use of new technologies. In addition, IA does not have the same social stigma as other addictions. The absence of shared instruments and diagnostic criteria manifests further difficulties in working in terms of prevention.

Key words: Internet Addiction, New Addictions, Prevention, peer education, IAT

INTRODUCTION

It is difficult to estimate the number of Internet Addicts (IA) since our culture encourages and legitimizes the use of new technologies. In addition, IA does not have the same social stigma as other addictions such as alcohol, drugs and gambling. In psychiatry, there is much debate as to whether IA should be considered differently from other forms of addiction because it manifests the same problems [1,2,3,4,5,6,7,8]. IA has still to be recognised as a specific disease in the Diagnostic and Statistical Manual of Mental Disorders V (DSM-V) [9]. However, it has been included in Section 3 of the DSM-V, which is reserved for medical conditions that require further investigation prior to being designated as an actual nosographic category. In addition, there are no accepted diagnostic criteria and standardised assessment tools for IA [10]. Research conducted in the US and Europe has estimated that IA has a prevalence of approximately 1.5% and 8.2% [11], respectively. In Europe, the prevalence of IA depends on the country: 1% in Greece [12], 2% in Norway (where 9% of the population is also considered at risk [13]) and 4.2% in the Netherlands [14]. This variability can also be seen in Asia, where the observed prevalence is 2.4%

in China for teenagers aged between 12-18 years [15], while the prevalence in Taiwan is believed to be between 12.2% and 26.6% [16,17]. In Italy Milani, Osualdella and Di Blasio [18], found that 36.7% of adolescents aged between 14-19 years showed signs of problematic Internet use as evaluated with the Internet Addiction Test [19]. However, according to Di Lorenzo, Lancini, Suttora and Zanella [10], the percentage of troubled teenagers is approximately 12% with an additional 0.8% falling into the category of "media abusers" or "web maniac", which is generally characterised by social failure, hyper-ritualistic involvement with the Internet, withdrawal symptoms and poor impulse control. Over the past two decades, there has been growing interest in the role of life contexts in determining the risk and protective factors related to health, including dependencies [20,21,22,23]. This perspective calls for greater consideration of the individual's life-contexts as a site of any possible form of intervention. School, as a context generating culture, represents a microcosm in which attitude, habits, ways to interpret one's own role as well as contribute to living in society all develop. In line with the Ottawa Charter [8], an IA intervention and prevention research study was carried out in the main context of young people lives: school. The intervention wanted to promote attitudes, habits and healthy living behaviours in relation to the use of Internet through a setting where: a) action and thinking work together to promote the awareness of the way students interpret and construct their relationship with technologies; b) media are used as means to promote healthy relationships (within and outside from the Internet) among peers. The current study aims to evaluate the impact of this preventing intervention on students.

METHOD

According to a field study, a pre-experimental research design model was applied [24]. It used the non-probability sampling technique of snowball sampling [25, 26] and balanced the population for gender (45 females and 45 males, all 13 years old), coming from ten different high schools of Naples's province. One volunteer for each school worked to recruit another and so on. Ten-peer group was built. The Internet Addiction Test (IAT) [19], created by Young, was used as a screening tool for IA and was administered collectively before and after the intervention. It consisted of 20 items that assessed the use of Internet in different spheres of life through a Likert scale. The Italian version shows good psychometric properties (Cronbach's α = 0.91) [27]. The scores are classified into three levels of dependency: mild (20-49), moderate (50-79), and severe (80-100) IA [7]. The IAT scores were analysed using a paired samples t-test. The intervention involved the use of active methods (e.g., brainstorming, circle time, role playing, tutoring, peer action). The students

were asked to create a video for their peers to prevent IA in their school. The research intervention was conducted for one year, with weekly three-hour sessions by a clinical psychology and medical public health team. The work on small groups and on plenary sessions were interspersed due to activities.

RESULTS

The results show a considerable reduction of the IAT scores: the percentage of the severe level decreases from 4% to 2,2%, the moderate level from 62% to 42.3%; the mild level increases from 34% to 55.5%. The statistical analysis highlights how the mean IAT scores for the males was significantly lower in the post-test compared to the pre-test (p=0.0045). Similar results were observed in the females (p=0.038) (Table 1).

In addition, no statistically significant difference was seen by comparing the mean IAT scores of the males and females in the pre-test (p=0.88) or the post-test (p=0.18). Finally, when the males and females were considered together, the mean IAT post-test score was statistically lower (for α=0.05) compared to the pre-test mean, which suggests there was an improvement that can be attributed to the intervention (Table 2).

DISCUSSION

Parental control, self-regulation, family therapy, cognitive therapy, reality therapy represent possible solutions for the treatment of IA [28,29,30].

Despite all these suggestions, few studies deal with IA prevention and very few have been carried out on a sufficiently controlled experimental level [30,31,32,33]. This could be due to the fact that dependency issues associated with IA differ from classical dependencies and are often confused, legitimated and hidden as normal social behaviour. The current body of research on IA points to a strong correlation between age and IA, with several studies having clearly demonstrated that teenagers, (e.g., "digital natives") show a higher vulnerability to IA [34,35,36,37,38], due to a greater propensity towards Internet use. Evidence for this upward trend has been seen over time through different studies carried out in Italy: 12.1% for the study by the Psychology Centre of Latina (2004), 17.7% for the Study by the Psychology Centre Clinic of Pescara (2006), 22% for the study by the University of Palermo in 2007, 13.5% for studies in Europe and 49% [34] for the study by Di Lorenzo, Lancini, Suttora and Zanella [10]. All these refer to moderate and severe IA level. Although this trend could be seen as an epidemic growth of IA from a health point of view, it could also be considered the formation of a new cultural model that defines a post-modern concept of "normality",

TABLE 1. The mean Internet Addiction Test scores for the male and female participants in the pre- and post-test for a confidence interval (CI) of 95%.

	Obs	MALE		FEMALE	
		Mean (SD)	CI 95%	Mean (SD)	CI 95%
Pre Test	45	46,27 (13,23)	[42,29; 50,24]	46,67 (13,83)	[42,51; 50,82]
Post Test	45	38,98 (11,91)	[35,39; 42,56]	41,33 (12,20)	[35,67; 44,99]
Diff	45	7,29 (16.36)	[2,38; 12,2]	5,33 (16,76)	[0,29; 10.37]
p.value		0,0045		0,038	

Note: Obs = observations; SD = standard deviation; significance <0.05

TABLE 2. The group means for the Internet Addiction Test between males and females in the pre-test and post-test for a confidence interval (CI) of 95%.

	Obs	PRE TEST		POST TEST	
		Mean (SD)	CI 95%	Mean (SD)	CI 95%
Male	45	46,27 (13,23)	[42,29; 50,24]	38,98 (11,91)	[35,39; 42,56]
Female	45	46,67 (13,83)	[42,51; 50,82]	41,33 (12,20)	[35,67; 44,99]
Diff	45	-0,4 (17,60)	[-5,69; 4,89]	-2,36 (11,60)	[-5,84; 1,13]
p.value		0,88		0,18	

Note: Obs = observations; SD = standard deviation; significance <0.05

where pathological behaviours are somehow supported by lifestyle-related contexts. The adoption of Preventing IA through a peer education programme anchored in life-contexts allowed to defuse this vicious circle. In our opinion, this aspect explains how at the end of the intervention the students score lower on IAT. We are inclined to interpret these findings as strictly related to the intersubjective experience the students have taken part in: the setting proposed new discourses which were able to allow a critical thinking on one's own relationship with the Internet and a stronger commitment to understand the meanings of one's own involvement as well as that of our peers. In our opinion, the creative dimension between peers has helped to build a solid commitment by the teenagers, free to use their skills on technologies and make them protagonists of their change. On the other hand, in so doing, technologies have been placed into a virtuous circle. In fact, mobile phones, computers and software were the means to think about the way students relate to these tools and the potential harm to their overuse. The demonstrated vulnerability of males to substance addiction [39,40,41], which has also been noted for IA [42], was not noted in the study. Furthermore, other studies have shown no differences between the sexes in IA. This inconsistency may not purely reflect differences in the types of studies but may be attributed to the variability in cultural dynamics of this new form of addiction, which makes IA difficult to diagnose and prevent. On the one hand, we have different "generations", while on the other, variations among the same generation due to the different contexts that organise the lives of these teenagers.

In addition, this variability is not only seen in different reference populations but it is also directly attributable to the fact that adolescence is a period characterised by extreme variability. For example, in the DSM-V [9], the distinction between abuse and addiction remains limited to adult disorders rather than to adolescents, despite the increase in addiction of this population. Although there are likely pathological forms of IA, discrepancies between sufficient diagnostic criteria and cultural dynamics have delayed the recognition of these pathological forms of the disorder, which has caused problems in terms of primary prevention. In fact, the existing diagnostic tools the Internet Addiction Test, the UADI-2 [43], PIUS (Problematic Internet Usage Scale) [44], Internet Related Psychopathology assessment (IRP -AS) [45] and the ICSU (Compulsive Internet Use Scale) [46] appear to be adequate for diagnosis but are ineffective in identifying possible risk conditions. In other words, they are only able to identify confirmed cases of IA.

Unquestionably, it is not possible to exclude that the results could be an expression of other latent or unexplored factors. For example, they could reflect how social desirability has played a role in the answers provided by the students at the end of the intervention.

The lack of a control group and a follow-up limits the understanding of the effects of the work carried out so far.

Future research could investigate the relationship between normal and pathological Internet use in the context of cultural dynamics to better understand the interactions between risk and protective factors for IA.

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