

# Learning and Relationships in the Cyberspace

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**Abstract**—The cyberspace is an instrument through which internet users could get new experiences. It could contribute to foster one's own growth, widening cognitive, creative and communicative abilities and promoting relationships. In the cyberspace, in fact, it is possible to create virtual learning communities where internet users improve their interpersonal sphere, knowledge and skills. The main element of e-learning is the establishment of online relationships, that are often collaborative.

**Keywords**—Internet addiction, learner support, virtual relationships.

## I. INTRODUCTION

**I**N the last few years, Internet addiction has become a serious mental health problem, particularly among the young between ten and twenty-six years old.

The term "Internet Addiction" has been proposed to describe problematic, excessive, or mal-adaptive use of Internet, often related to particular psychological states such as loneliness, depression and compulsiveness.

Internet addicts are worried about Internet (thoughts about previous online activities or anticipation of the next online session), they have repeated unsuccessful efforts to control, cut back or stop Internet usage, they feel restless and depressed when they try not to connect to the Internet, they stay online longer than originally intended and use the Internet as a way to escape from problems or to relieve a dysphoric mood, feelings of hopelessness, guilt, anxiety and depression [1].

Several problems, as being jobless or academic failure, marriage breakdown and financial debts, seem to be correlated with Internet Addiction.

The most dangerous age for the development of IAD is that between fifteen and forty years old: people show communicative problems correlated to psychological traits with familiar and relational difficulties.

Several studies [1] have been done to understand the reasons for the excessive use of the net; the anonymity is one of the principal elements, because the users feel the freedom to

change their own identity, in fact an internet user can take a different profile, when he/she is on-line and chooses an identity that represents an ideal self, the opposite of real identity.

Another determinant factor that besides the facility and the accessibility is the speed with which they can establish relationships in the cyberspace, and the fact that they can not be judged for their appearance present in real life [1].

The facility to create an interpersonal bond must not only be regarded as positive, because the users may interrupt a relationship with the same facility as they had formed it, making the users drop back into the abyss of loneliness.

The psychological modifications that characterize the Internet addicts are:

- lack of interpersonal relationship;
- modification of mood;
- the modification temporarily experienced;
- the cognitive structure completely directed to the compulsive use of this instrument.

The individual tends to substitute the real world with an artificial object, such as a kind of "technological fetishism". He/she tries to construct his/her own personal "virtual" world using different attitudes and behaviours compared to those present in real life.

The image of an Internet addicted has been diffused as a young and introverse person, generally male, addicted to the pc. Today this belief is not founded, in fact the facility to have a pc enables everyone (men, women, the young and the old) to use it and therefore puts them in danger.

For example, the data gathered in a study [2] show that in Korea 49,1 percent of the women and 61 percent of the men utilize Internet every day, with particular attention to the percentage of teen, while 69 percent of the young play on-line and 18 percent is addicted to Internet.

## II. THEORETICAL FRAMEWORK

Internet has become very important not only to gathered information, to control email, to do shopping, but it is also become, in the last years, very helpful for social communicative purposes.

Many people use the net to meet people and establish relationships in the cyberspace and, for this reason, they have often been viewed as abnormal and pathological individual.

The chat becomes a new space to experience feeling of friendship and love between two or more people, considering it infinite deposit of possible sentimental relationships [3].

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In the United States, men use Internet more often than women, but the use is different, in fact the women utilize the net much more to create interpersonal relationships than men; contrary to common prejudice Internet users are often sincere people in their virtual interactions, even if they don't show their own name on the web.

Data results of a pilot study [4] have shown that about 80 percent of internet users (88,3 percent men and 69,3 percent women) establishes casual or friendly relationships while only 21 percent (11,8 percent men and 30,8 percent women) creates close or love bonds, finally approximately a third of the individuals has contact out the web (of those, 40 percent listened by phone and the 33,3 percent met in real life). Individuals examined in this study considered the net not only a satisfactory and helpful tool to interact with others, but also an important instrument to grow one's own social sphere.

The net makes easier the expression of specific behaviours, in fact the cyber users feel more freedom to express their own personality without inhibited brakes.

Some researches [5] have shown that internet use is associated with depression, loneliness, shyness and anxiety, and low levels of self-esteem [6].

Common opinion considers online relationships shallow and impersonal; different studies [7] have also found that Internet users who use the net to establish interpersonal relationships have strong verbal skills and demonstrate empathy for others.

The attraction, who is a fundamental element in real relationships, becomes marginal component in virtual bond, because it is substituted for strong attractive not physic but communicative power; the anonymity and the absence of roles makes easy the nature and the form of the conversation the web.

The dialogue supposes "a thinking, a writing", that leads to the creation of a communicative context and of a common shared story, who it is going to enrich of thinking, of sensations, emotions, fears of both Internet users. This phenomenon is defined as "the effect of the disinhibition on line" [8]; the author, in fact, has underlined two kinds of disinhibition, a positive form and a tossic one. In the positive disinhibition, in the cyberspace people shows its own secrets, fears, emotions; in the tossic form the internet users use a caddish language, express hate, anger, see pornographic web, showing a behaviour not present in real life.

The disinhibition, the anonymity and different styles of personality seem to be the concerns who induce people to create virtual bond in the cyberspace; in fact in the virtual world internet users know only the username and mail address of new friends, favouring the possibility to remain anonymous and to separate their real actions from online ones.

The interaction between the effect of the disinhibition and the different characteristics of people personality (for example, different studies have shown that people with histrionic traits tend to be more sincere, on the contrary people with compulsive personality are more introverted) induces every cyber users to make a different use of the cyber-

relationships. There are some internet users who create online relationships to resolve interpersonal and relational problems, while other internet users create virtual bond to develop pathological relationships.

In the online communication, the patterns of communication become more freedom and interpersonal, due to the speed and absence of rules [9].

The addiction by cyber-relationships starts when the need to have relationships on-line is substituted by the need to have relationships online; the bonds of couple born in the web, are short and sometimes are assigned to be, because cyber-addicted to conserve their own virtual identity avoid to meet partner in the real life.

In the relationships on line, Internet users create an ideal image of partner, who corresponds more to the affective subjective needs than to the real partner, known on line.

Anolli, Villani, Riva [10] have been analysed the personality of Internet Users who establish relationships in chat; the results show that chat users are introvert and egoistic individuals essentially not conformist and independent, although they need to be supported and encouraged by others, while Internet users don't show the presence of pathologic personality's traits.

They find in the chat a suitable place to show themselves and to develop interpersonal relationships: chat becomes a big theatre, where every internet user in every moment may cover different roles and where the condition of anonymity assures to the participants the freedom to reveal themselves without anxiety and fear.

An Italian research [11] has analysed the relation between the use of the chat-line and relational formalities of young people, underlining and comparing the nature of interpersonal relationship between who use the net to create virtual bonds and who have relationships in real life.

The results of previous research show that cyber relational users have social relationships with their friends that are different from who establish relationships in real life. In fact the element that distinguishes relationships is the high grade of cordiality and flexibility, that are characteristics of relationships on-line.

The phenomenon of cyber-relationship has been studied in depth [3], who have analysed the nature and the quality of interpersonal bond whether in the real or virtual relationships, focusing on the characteristic elements of affective relationships they form in the cyberspace.

The results of their research have shown perceptive and behavioural differences between who establish friendship's bonds in the cyberspace and who form relationships in real life. The cyber users reveal to have more intimate and deep bond with other internet users in the cyberspace as regards who form relationships in real life. On the contrary, the internet users doesn't use the net to create relationships on-line, they have more bonds of friendships in real life because they aren't able to create virtual relationships.

In the sentimental relationships born in the cyberspace the intimacy is central and pulsional element that assumes a

marginal position. Fundamental components in the relationships of couple on-line are the intimacy, the passion/idealization and the decision/obligation.

The perception, frequent virtual contact and the sharing of values, attitudes and opinions are fundamental elements in the construction of a on-line relationship [12].

Researches conducted in the United States have shown that low levels of self-esteem and trust in personal abilities and shyness are elements present in the Internet users, who use the net to establish interpersonal relationships [13] [14]

Further studies found in the Internet users a strong relation between the use of Internet, (in particular for establishing interpersonal bonds in the cyberspace) and high values of depression and loneliness [15].

In the post-industrial society, where the achievement and the control of information become an important element to have power, Internet becomes a main instrument for education due to its primary characteristic: the flexibility.

Distance education is a good learning strategy to answer to the global market's requests and to the personal learning need. However, e-learning is slowly spreading due to several prejudices: distance education is considered inferior than traditional education. Often, the strengths and the efficacy of online education, such as the possibility to check continuously one's own learning and to practise depending on one's own needs, are not acknowledged. Online education, in fact, is focused on the student who has an active role in his/her learning.

Furthermore, the creation of virtual classes shows off collaborative and group learning: in these contexts, in fact, learning comes out not only from the relationship with the teacher but mainly from the relationship with other students.

The cyber relationship includes several potentialities (such as the enrichment of one's own interpersonal sphere and the development of social skills) but also some limits (for example, the exclusivity of online relationships at the expense of face to face relationships) and risks as the internet user may develop an Internet Addiction.

The aim of our study is to analyze the level of internet Addiction among young people, particularly to see how many people use the net to create interpersonal bonds in the cyberspace and to see the relation between Internet Addiction and Cyber relationship; to examine the differences and the relation with level of perceived social support between those who use the net to create interpersonal bonds online and those who create relationships off-line; to observe the differences of values that could determine interpersonal behaviours present in those who are addicted to the net and those who are not.

### III. METHOD

#### A. Participants

Participants have been directly recruited in the main University of Sicily (in particular in Palermo, Enna and Catania); the group involved has been composed of 121

students (90 women and 31 men), ranging in age from 18 to 37 years, with  $M= 23,2$  and  $SD= 3,35$ .

#### B. Measures

The questionnaire has been made up of four sections:

- the first section has been focused on the conventional socio-demographic characteristics of the participants (sex, age and social status). We have also set specific questions to evaluate the presence of those who establish virtual bond and to investigate what kind of relationship (friendly, intimate) they have;
- the second section has been constituted by the IAT (Internet Addiction Test) of Kimberly;
- the third section has been constituted by the SIV (Survey of Interpersonal Values), adapted for the Italian version by Meschieri and Stellato;
- the fourth section has been constituted by the MSPSS (Multidimensional Scale of Perceived Social Support).

The Internet Addiction Test (IAT) is made up of twenty questions, rated on a five point Likert scale, to evaluate the level of addiction to the net and its role in the life of the examined individuals. The final score reveals the grade of Internet use in the personal, social, familiar and working sphere; the lowest score is 20 and the highest is 100. Young [1] believes that users who obtain a score ranging between 20 to 39 are normal internet users with full control of the instrument, those who have a score ranging between 40 to 69 show frequent problems related to addiction and those who present a score ranging between 70 to 100, have almost developed pathologic Internet addiction.

The Multidimensional Scale of Perceived Social Support (MSPSS) is a questionnaire composed of 12 statements regarding the affinity of each participant with his/her own family and friends.

The Survey of Interpersonal Values (SIV) is a questionnaire aimed to assess the most important clusters of values. In particular six values are considered: "support" (the need to be supported and encouraged); "conformity" (the importance ascribed to compliance and agreement); "recognition" (the need for individual to be acknowledged and appreciated), "independence" (the demand to be free, autonomous, not dependent); "benevolence" (the importance ascribed to kindness and generosity towards other people); and "leadership" (the need to have control and responsibility towards other individuals). The SIV was composed of 30 items, each made up of three short statements describing three different situations; each one has to choose the alternative that he/she personally considers more and less important. This instrument is very important for our study because the combination of these four sections provides a wide survey on people who use the chat to establish new relationships.

### C. Results

Results show that Internet addiction is not a such important phenomenon in our group: only 83 participants (69%) are Internet Users, 34 (28%) are low Internet addicted and only 4 (3%) are high Internet addicted. As shown by participants' IAT scores (Internet Addiction Test), we have found the men have a higher score ( $M = 35,56$ ,  $SD = 11,27$ ) than women ( $M = 35,17$ ,  $SD = 11,25$ ) (see table 1). Data about those who use the net to establish interpersonal relationships are very important: 51 (42%) participants have established interpersonal relationships online, of those 35 (29%) have known their virtual partner in real life.

Among Cyber Relational Users (42%), 27 are internet users, 21 have shown low Internet Addiction and only 3 are high Internet addicted. Scores obtained by men and women on the SIV are presented in the table below.

The values from the ANOVA output have shown that people who use the net to establish interpersonal relationships have lower levels in MSPSS (Multidimensional Scale of Perceived Social Support) than who have not bonds online, in particular in the value of perceived familiar support (see table 3).

The Cyber Relational Users have shown the same data about the relation with the construct of perceived social familiar support.

From the analysis about the values ("support", "conformity", "recognition", "independence", "benevolence" and "leadership"), we have found that there is a negative correlation between internet addiction and benevolence: in fact, the higher is the level of Internet Addiction, in particular Cyber Relationship, the lower is the level of benevolence.

## IV. DISCUSSION

Although there are not high scores of Internet addiction, is not opportune to underestimate the phenomenon, because 28 percent of the group examined has shown some problematic behaviours related to the use of Internet. It's important to promote interventions of prevention with young people on the correct use of the net.

Some studies have shown as the abuse may reduce the development of social skills and the level of self-esteem while it increases the level of social anxiety and of aggression [7].

The use of the net in particular to establish interpersonal relationships is not to be considered only pathologically, in fact a lot of Internet users find this medium an effective and simple way to interact with others and to expand one's social system.

It is very important to show the strengths of the net in promoting the well-being, in fact it is well-known that having a net of interpersonal relationships improves people's psychophysic well-being [15].

It's not important to consider internet only in a negative way as substitute of the real interaction, but also as an instrument to widen one's own relational sphere. We can see the cyberspace through a metaphor with a double worthiness:

TABLE I  
MEANS AND STANDARD DEVIATIONS OF IAT (INTERNET ADDICTION TEST) SCORES

	Men (N = 31)	Women (N = 90)
<i>M</i>	35,56	35,17
<i>SD</i>	11,27	11,25

TABLE II  
MEANS AND STANDARD DEVIATIONS OF SIV (SURVEY OF INTERPERSONAL VALUES) SCORES

	Men (N = 31)		Women (N = 90)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
	11,27	11,25	<b>11,25</b>	
Support	17,36	4,78	17,41	4,78
Conformity	14,49	4,99	14,41	4,91
Recognition	9,88	3,17	9,87	3,18
Independence	19,60	5,79	19,66	5,78
Benevolence	17,54	4,94	17,54	4,96
Leadership	9,88	4,07	9,91	4,08

TABLE III  
MEANS AND STANDARD DEVIATIONS OF MSPSS (MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT) BETWEEN WHO ESTABLISH INTERPERSONAL RELATIONSHIPS ONLINE AND WHO NOT

	Cyber Relational Not Users (N = 51)		Cyber Relational Users (N = 70)		<i>F</i> ( <sub>(1,120)</sub> )
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
MSPSS O	6,18	0,91	5,83	1,18	3,40 n.s
MSPSS F	6,03	0,94	5,21	1,60	12,54 ***
MSPSS A	5,70	1,26	5,47	1,33	0,862 n.s
MSPSS (tot)	5,99	0,77	5,51	1,07	8,27 **

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

virtual world may be a support, because it enriches and widens one's own interpersonal sphere through informative, communicative and cultural capabilities of people, but it may also represent a bond and a limit, where the Internet users may remain entrapped.

Sceptical people have always doubted about the possibility to find united groups in a virtual world, where there isn't face to face relationship but only communicative contact. Although the fragile and ephemeral nature of a lot of forum, it seems to be that in the cyberspace there is a sense of strong and steadfast membership.

The net may represent for every Internet user a source of alternative virtual support as regards to sources present in real life. From this point of view, internet may become a real and effective resource, as it doesn't become a substitutive medium of face to face interaction. In this sense, e-learning becomes for individuals an evolving instrument as well as an instrument that promotes one's own competences. It increases

the mutual trust, the social capital and the development of support networks.

## REFERENCES

- [1] Beard, K. W., & Wolf, E. M. (2001). Modification in The Proposed Diagnostic Criteria for Internet Addiction. *Cyber Psychology & Behavior*, 3, 4, 377-383.
- [2] Whang, L., Lee, S., & Chang, G. (2003). Internet Over-Users' Psychological Profiles: A Behavior Sampling Analysis on Internet Addiction. *Cyber Psychology & Behavior*, 2, 6, 143-150.
- [3] Cantelmi, T., & Cannizzaro, S. (2003). Sentimenti in rete: chat line e dintorni. *Psicotech*, 1, 25-41.
- [4] Mc Cown, J. A., Fischer, D., Page, R., & Hamant, M. (2001). Internet Relationships: People Who Meet People. *Cyber Psychology & Behavior*, 5, 4, 593-596.
- [5] Bonebrake, K. (2002). College Students' Internet Use, Relationship Formation, and Personality Correlates. *Cyber Psychology & Behavior*, 6, 5, 551-556.
- [6] Harman, J. P., Hansen, C. E., Cochran, M. E., & Lindsey, C. (2005). Liar, Liar: Internet Faking but Not Frequency of Use Affects Social Skills, Self-Esteem, Social Anxiety, and Aggression. *Cyber Psychology & Behavior*, 1, 8, 1-6.
- [7] Mc Cown, J. A., Fischer, D., Page, R., & Hamant, M. (2001). Internet Relationships: People Who Meet People. *Cyber Psychology & Behavior*, 5, 4, 593-596.
- [8] Suler, J. (2004). The Online Disinhibition Effect. *Cyber Psychology & Behavior*, 4, 7, 321-326.
- [9] Anolli, L., Villani, D., & Riva, G. (2005). Personality of People Using Chat: An On-Line Research. *Cyber Psychology & Behavior*, 1, 8, 89-95.
- [10] Cantelmi, T., & Cannizzaro, S. (2003). Sentimenti in rete: chat line e dintorni. *Psicotech*, 1, 25-41.
- [11] Bonebrake, K. (2002). College Students' Internet Use, Relationship Formation, and Personality Correlates. *Cyber Psychology & Behavior*, 6, 5, 551-556.
- [12] Morgan, C., & Cotton, S. R. (2003). The relationship between Internet activities and depressive symptoms in a sample of college freshmen. *Cyber Psychology & Behavior*, 2, 6, 133-143.
- [13] Chak, K., & Leung, L. (2004). Shyness and Locus of Control as Predictors of Internet Addiction and Internet Use. 7, 5, 559-570.
- [14] Young, K. S. (1998). *Caught in the net*. New York: John Wiley & Sons.
- [15] Anderson, T. L. (2005). Relationships among Internet Attitudes, Internet Use, Romantic Beliefs, and Perceptions of Online Romantic Relationships. *Cyber Psychology & Behaviour*, 6, 8, 521-531.