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Clinical Psychology

Validation of the Italian version of the Internet Behaviors Scale

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Abstract

Problematic Internet Use (PIU) is a dysfunctional behavior associated with prolonged Internet use, which results of negative impact on different aspects of life. Several studies confirmed these negative effects, unlike others that highlighted the benefits of the Internet on psychosocial well-being. The use of standard, valid and reliable tools for PIU assessment could resolve these disputes and also have relevant clinical implications. This study aims to validate the Italian version of the Internet Behaviors Scale and verify its psychometric properties on our sample. The tool is composed of 38 items grouped three factors: Social aspects, Negative impact and Competence and convenience aspect.

The study involved 397 subjects, 257 females (64.7%), 138 males (34.8%) and 2 of other gender (0.5%, not declared), aged 18 to 31 years old (mean = 20.42; SD = 2,72). Factor analyses consisting of Varimax rotation method, Kaiser normalization, Bartlett's test of sphericity and internal consistency were performed.

The results confirmed the good psychometric properties of the Internet Behaviors Scale - Italian Version. Factor analysis showed the validity of the three factors and satisfactorily explained the total variance. Cronbach's alpha coefficients indicated high internal consistency for each factor.

The use of this tool could be useful in the clinical setting, in order to understand the use of the Internet by users and its impact on psychosocial well-being.

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1. Introduction

Globalization and the advent of digital tools favored communication between different cultures, promoting an increasingly wide spreading the use of the Internet (Andrés et al., 2010; Buntin et al., 2011; Castells, 2014; Comin et al., 2006; Keller, 2004; Schön et al., 1999; Simpson, 2020). With the advancement of information technologies, the Internet was no longer just a communication instrument but also the main base for social and professional activities (Chorus et al., 2006; Fernandez et al., 2017; Frisone & Micali, 2020; Kenny, 2003; Yao & Zhong, 2014). Considering the growing relevance of its role, numerous studies analyzed the impact of the Internet on quality of life and psychosocial well-being, confirming the heterogeneity of its effects (Bisen & Deshpande, 2018; Caplan et al., 2009; Frisone et al., 2020a, 2020b; Gross et al., 2002; McDool et al., 2020; Schemer et al., 2021; Shapira et al., 2000, 2003; Tao et al., 2010; Young, 2004; Zhang et al., 2008).

Some researchers argued that Internet use had a negative impact on relationships (Billieux & Van der Linden, 2012; Kraut et al., 1998; Lam, 2014; Lin et al., 2016; Milani et al., 2009; Shaw, 2008), self-esteem (Kim & Davis, 2009; Schmuck et al., 2019), learning (Caplan, 2006; Li et al., 2021) and well-being (Booker et al., 2015; Cerutti et al., 2016; Chou et al., 2005; Kelley & Gruber, 2013). On the contrary, a large number of studies confirmed that the Internet contributed to the increase of social capital (Huang, 2010; Muusses et al., 2014; Ryhänen et al., 2010; Valkenburg & Peter, 2011), decreasing the incidence of anxious and depressive symptoms (Bessière et al., 2008; Clarke et al., 2002; Schröder et al., 2016).

One of the most controversial arguments concerned the influence of the Net on the individuals' social support system (Hlebec et al., 2006; Shaw & Gant, 2004; Swickert et al., 2002; Tichon & Shapiro, 2003). Rozzell et al. (2014) showed that the Internet was able to convey this support through social media sites such as blogs, Facebook groups and forums. Online support was greater than the one obtained in face-to-face interaction thanks to some peculiar aspects such as convenience, anonymity and non-judgmental interactions (Frisone, 2019; Hwang et al., 2010). On the other hand, according to recent studies, prolonged involvement in online relationships could undermine well-being and contribute to the development of a "Problematic Internet Use" (PIU) (Aboujaoude, 2010; Caplan, 2002; Carbonell et al., 2018; Davis, 2001; Kim et al., 2009; Kuss & Lopez-Fernandez, 2016; Liu & Potenza, 2007).

PIU is represented by a dysfunctional use of the Net, the difficulty of controlling the time spent online with an impact on social, family and economic functioning (Marino et al., 2017; Spada, 2014; Young & Rogers, 1998). PIU could generate real forms of Internet addiction (IAD)

(Griffiths et al., 1999; Zhang et al., 2008), referring to users' inability to manage their involvement on Internet in response to an uncontrollable impulse. The impossibility to connect could cause great discomfort and a sense of deprivation culminating in social withdrawal (Zardini, 2014).

According to Karderfelt-Winther (2014), the activities related to the use of the Internet represented compensatory strategies aimed at satisfying needs and addressing problems. In line with this theoretical perspective, PIU can be conceptualized as a way to escape the hardships of real life through a temporary retreat in online activities, especially among adolescents (Ceyhan, 2008; Deleuze et al., 2019; Derbyshire et al., 2013; Frisone, 2021; Kaltiala-Heino et al., 2004; Liu et al., 2011; Maroney et al., 2018; Moreno et al., 2011; Settineri et al., 2019). The absence of adequate coping strategies and low levels of resilience can constitute potential risk factors (Frisone et al., 2021; Merlo et al., 2020, 2021b; Nam et al., 2017).

Considering the role of the Internet and its current relevance, understanding how PIU could affect psychosocial well-being is clinically relevant.

1.1 Aims

The aim of this study was to validate the Italian version of the Internet Behaviors Scale (Ranaiey et al., 2016) by exploring the internal consistency, validity and trifactorial structure of the scale. The Italian validation could be useful for investigating the use of the Internet in the Italian population and assessing its association with well-being.

2. Methods

2.1 Procedure and participants

The observation group consisted of 397 subjects, 257 females (64.7%), 138 males (34.8%) and 2 of other not-given gender (0.5%). The average age was 20.42 years old (SD = 2.72, range 18 to 31). In compliance with the government provisions relating to the Covid-19 pandemic (Decree-law of 25 March 2020, no. 19), the questionnaire was administered through an online form. Italian professionals in clinical psychology provided a conceptual translation of the questionnaire items. Every participant fully completed the protocol, including information regarding education, gender, and age. Each participant, before adhering to informed consent, was informed about the anonymous nature of the methods of data processing as required by the procedures and finally signed the informed consent. The study was conducted according to the 1964 Declaration of Helsinki.

2.2. Measure

Internet Behaviors Scale (Ranaiey et al., 2016) is a self-report scale consisting of 38 items exploring social aspects of Internet use, negative impact and feelings of competency online. A four-point Likert scale was provided in the original version, ranging from 1=strongly disagree to 4=strongly agree. In the original version, the reliability indexes were reported as follows: 0.89 for Social aspect; 0.94 for Negative impact; 0.66 for Competency and convenience aspect. The weights of the items referred to the three factors provided for the following assignment: Factor 1, items 1,2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19; Factor 2, items 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34; Factor 3, items 35, 36, 37, 38.

2.2 Statistical analysis

Numerical data was expressed as mean and standard deviation and the categorical variables and number and percentage for categorial variables. The factorialization process were achieved through a factorial analysis including Varimax Rotation Method, Kaiser Normalization and Bartlett's test of sphericity.

Internal consistency was assessed using Cronbach's alpha coefficients.

Statistical analyses were performed using SPSS 26 for Windows package.

3. Results

Descriptive statistics (mean and standard deviation) are reported in Table 1.

Table 1. Descriptive statistics for the sample

	Mean	Standard deviation
Age	20.42	2.72
Social Aspect	31.23	6.7
Negative impact	27.97	6.75
Competency and Convenience Aspect	11.13	2.03

The KMO index, .839, and Bartlett's test of sphericity ($\chi^2 = 5139.883$; $p < 0.001$) indicated that the data were suitable for factor analysis. The explorative analysis highlighted three main factors, explaining the 56,17% of the total variance, respectively Factor 1= 39,28%, Factor 2= 10,63% and Factor 3= 6,26%. Items weight and factors are presented in Table 2.

Internal consistency, assessed by Cronbach's alpha, was as follows: $\alpha = .785$ for the Social aspect, $\alpha = .780$ for the Negative impact and $\alpha = .627$ for Convenience and competence.

Table 2. Items weight and factors

	FACTOR 1	FACTOR 2	FACTOR 3
1	.711	-.011	.053
2	.741	.088	.000
3	.769	.030	.131
4	.631	.055	.049
5	.598	.021	-0.32
6	.615	.121	.064
7	.445	.184	.148
8	.403	.038	.050
9	.155	.262	.235
10	.633	.184	.157
11	.690	.057	.090
12	.597	.099	.084
13	.414	.185	.025
14	.085	.174	.544
15	-.189	-.005	.158
16	.172	.150	.536
17	.324	.156	-.058
18	.122	.079	.555
19	.052	.093	.251
20	-.138	.566	.276
21	.097	.666	.085
22	.135	.615	.004
23	.364	.417	.288
24	.390	.301	.362
25	.090	.429	-.112
26	.112	.513	-.135
27	.034	.728	.101
28	.204	.702	.173
29	.167	.629	.027
30	.274	.598	-.046
31	.014	.493	-.163
32	.399	.432	.270
33	.179	-.135	.246

34	4	-.123	.369
35	-.029	.035	.007
36	-.001	-.216	.669
37	-.040	-.121	.692
38	-.089	.081	.724

4. Discussion

Exploratory factor analysis was applied on the 38 translated items of the Internet Behaviors Scale – Italian Version. The results confirmed the adoption of a three-factor model and explained the variance satisfactorily. The tool proved to be valid and reliable.

The availability of sensitive scale to evaluate the Problematic Use of Internet is relevant for both research and clinical assessment. The use of this tool could also clarify the impact of the Internet on psychophysical well-being and resolve existing disputes over its effects, particularly among adolescents.

Despite transnational variations in the prevalence of PIU (Durkee et al., 2012), several studies showed that subjects belonging to this age group are more vulnerable to this condition (Anderson et al., 2017; Casale et al., 2014; Huang et al., 2009; Kim et al., 2018; Li et al., 2010; Machimbarrena et al., 2019; Mei et al., 2016; Morahan-Martin, 2007; Wartberg & Kammerl, 2020). Most problematic users were males, who spend most of their time online engaging in interactive activities such as games and chats. They are competent, technologically sophisticated and feel more comfortable on the Internet than others (Gómez Salgado et al., 2014; Min, 2010; Morahan-Martin & Schumacher, 2000; Padilla-Walker et al., 2010). This would contribute to the adoption of prosocial behaviors on the Net, to a greater dependence on online friends and to difficulties in emotional expression in real life. This problem can lead to an alexithymic condition and consequent deficits in self-regulatory processes (Mahapatra & Sharma, 2018; Merlo et al., 2021a; Myles & Merlo, 2021; Speranza et al., 2004). According to a survey by Kraut et al. (1998), the massive use of the Internet contributed to the isolation and abandonment of important relationships in favor of occasional interactions with online users. Caplan (2003), on the other hand, declared that the perception of low support in real life induced adolescents to seek social support online, exposing them to potentially problematic uses of the network.

The Internet is an infinite store of information and a means of interpersonal communication but on the other hand it hides potentially "additive" factors (Chou et al., 2005; Greenfield, 2011) such as speed, accessibility, information intensity and potential stimulating of its contents. To these factors, Suler (2004) added the "online disinhibition effect", whereby the invisibility, anonymity and asynchronicity of communication would be at the basis of aggressive online

behaviors such as cyber-bullying (Kokkinos et al., 2016; Williams & Guerra, 2007). This disinhibiting effect could reinforce social withdrawal.

Considering the conflicting studies and a lack of unambiguous empirical results, further research is needed to clarify the impact of the Internet on individual well-being. It would also be useful to compare traditional interactions with cybernetic interactions to assess the social value of this new form of communication.

The Internet Behaviors Scale - Italian Version could represent a useful starting point for to recognize Problematic Internet Use, to prevent the risks associated and to improve the positive outcomes.

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Appendix

Internet Behaviors Scale - Italian Version

Seguendo le istruzioni sotto elencate, indichi quanto è d'accordo o no con ciascuna delle seguenti affermazioni:

1 (Per niente d'accordo); 2 (Poco d'accordo); 3 (D'accordo); 4 (Molto d'accordo)

Internet Behaviors Scale (Social Aspect)

1. I miei amici online mi capiscono meglio di altre persone.
2. Sono più me stesso online che nella vita reale.
3. Mi apro di più alle persone online rispetto ad altre modalità di comunicazione.
4. Molti dei miei amici li ho conosciuti online
5. Preferisco la comunicazione online a quella faccia a faccia
6. Sono più amichevole online che nella vita reale
7. L'anonimato su Internet è liberatorio
8. Ho condiviso segreti intimi online
9. Mi sono nascosto su Internet ma mai inserito in una conversazione online.
10. Andare su Internet mi ha reso più facile farmi degli amici
11. Mi diverto di più con le persone che conosco online rispetto ad altri
12. Ho una rete di amici conosciuti online
13. A volte online fingo di essere qualcuno che non sono
14. Mi piace la velocità della comunicazione online
15. Preferisco telefonare piuttosto che comunicare online
16. La comunicazione online mi permette di controllare quando voglio comunicare
17. Ho finto di essere qualcuno del sesso opposto mentre ero online
18. Essere online ha reso più facile comunicare con le persone che conosco
19. Mi sento meno connesso a livello interpersonale quando comunico online

Internet Behaviors Scale (Negative impact)

1. Mi sento in colpa per il tempo trascorso online piuttosto che in altri lavori richiesti
2. Mi è stato detto che passo troppo tempo online
3. Ho regolarmente ridotto il sonno per trascorrere più tempo online.
4. Sono andato su Internet per sentirmi meglio quando ero giù o ansioso
5. Ho usato internet per parlare con gli altri quando mi sentivo isolato
6. Ho perso degli appuntamenti a causa delle attività online
7. Ho saltato le lezioni o il lavoro a causa delle attività online
8. Ho cercato di trascorrere meno tempo online ma non ne sono stato in grado
9. Quando sono online, mi sento totalmente assorbito.
10. Se è passato molto tempo dall'ultima volta che ho effettuato l'accesso, trovo difficile smettere di pensare a cosa mi aspetterà quando lo farò
11. Ho cercato di nascondere agli altri quanto tempo sto effettivamente online.
12. Ho avuto problemi con il mio datore di lavoro o con la scuola perché ero online
13. A volte vado su internet per sfuggire alla pressione
14. Non ho mai litigato con una persona significativa perché ero online
15. Il mio rendimento lavorativo e / o scolastico non è peggiorato da quando ho iniziato ad andare su Internet

Internet Behaviors Scale (Competency and Convenience Aspect)

1. Evito di andare su Internet per cercare informazioni perché ce ne sono troppe
2. Sento di essere competente e di avere la capacità di utilizzare i servizi online
3. Mi sento a mio agio nell'utilizzare i servizi online
4. L'accesso a Internet mi ha reso più facile fare delle ricerche