Short Communication

Characteristics of online compulsive buying in Parisian students

David Duroy *, Pauline Gorse, Michel Lejoyeux

Department of Psychiatry and Addictive Medicine, Bichat-Claude Bernard Hospital, AP-HP, Paris, France

A B S T R A C T

Background: Online compulsive buying is a little-studied behavioral disorder.
Aims: To better understand its clinical aspects by focusing on (i) prevalence rate, (ii) correlation with other addictions, (iii) influence of means of access, (iv) motivations to shop to the internet and (v) financial and time-consuming consequences.
Design: Cross-sectional study.
Setting and participants: 200 students in two different centers of Paris Diderot University — Paris VII.
Measurements: Brief self-questionnaires, to screen online compulsive buying, internet addiction, alcohol and tobacco use disorders, to rate frequency of online purchase by private-sale websites, by advertising banners, by mobile phone or to avoid stores, to rate motivations like "more discreet", "lonelier", "larger variety of products", "more immediate positive feelings", and "cheaper" and to assess the largest amount of online purchasing and the average proportion of monthly earnings, and time spent, both day and night.
Findings: Prevalence of online compulsive buying was 16.0%, while prevalence of internet addiction was 26.0%. We found no significant relationship with cyberdependence, alcohol or tobacco use disorders. Online compulsive buyers accessed more often shopping online by private-sale websites (56.2% vs 30.5%, $p < 0.0001$) or by mobile phone (22.5% vs 7.9%, $p = 0.005$) and preferred online shopping because of exhaustive offer ($p < 0.0001$) and immediate positive feelings ($p < 0.0001$). Online compulsive buyers spent significantly more money and more time in online shopping.
Conclusion: Online compulsive buying seems to be a distinctive behavioral disorder with specific factors of loss of control and motivations, and overall financial and time-consuming impacts. More research is needed to better characterize it.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

Compulsive buying corresponds to repetitive, uncontrolled urges to buy items that are not needed (McElroy, Keck, Pope, Smith, & Strakowski, 1994). Mc Elroy et al. proposed diagnostic criteria for compulsive buying, which typically includes: buying behaviors that are uncontrollable, buying behaviors that lead to distress, excessive consumption of time, and social, work, or financial difficulties, and buying behaviors not accounted for by other psychiatric disorders (McElroy et al., 1994). High prevalence of substance use disorders in compulsive buying was found at rates ranging from 21% to 53% (Mueller et al., 2010) (Christensen et al., 1994) (Black, Repertinger, Gaffney, & Gabel, 1998) (Mitchell et al., 2002) (Mueller et al., 2009).

Internet is often described as "a booster" of several behavioral addictions (Rossé & Codina, 2009), because it permits resurgence of them like

pathological gambling, online gaming disorder and online compulsive buying. Moreover, a relationship between compulsive buying and excessive internet use was found (Mueller et al., 2011) and compulsive buyers connect to online shopping sites longer and more frequently (Lejoyeux, Mathieu, Embouazza, Huet, & Lequen, 2007).

Online compulsive buying is a little-studied internet behavioral disorder, and literature offers very few data about epidemiologic and clinical aspects. However, the actual sociological background is particularly favorable to his development. Internet trade reaches a large audience, is a really prosperous market and is well established on the web, especially in social networks (2012–2013 annual activity report of FEVAD, French Federation of E-commerce and Distance Selling). One of the few studies (Kukar-Kinney, Ridgway, & Monroe, 2009), carried out among 314 customers of an internet women's clothing retailer in USA, found a prevalence of 17.7% and proposed that there was a positive relationship between the motivations to shop and buy on the internet and consumers' compulsive buying tendencies. Three hypotheses of motivation were significantly supported by results: buy unobserved, avoiding social interaction and quickly obtain positive feelings.

* Corresponding author at: Department of Psychiatry and Addictive Medicine, Bichat-Claude Bernard Hospital, Paris, France.
   E-mail address: davidduroy@hotmail.com (D. Duroy).

The objective of the present study is to better understand clinical aspects of online compulsive buying, through a brief self-questionnaire distributed to 200 Paris VII students. We focused on prevalence rate of online compulsive buying, eventual correlation with internet addiction, alcohol or tobacco use disorders, eventual influence of means of access, specific motivations to shop to the internet, eventual financial consequences and, daily and night time-consuming aspects.

2. Methods

2.1. Design overview

The study was observational, descriptive and analytical, cross-sectional, and carried out at Paris Diderot University — Paris VII.

Questionnaires were strictly anonymous and all subjects participated voluntarily. A short explanation about this work of clinical research was at the top of self-questionnaires. The study protocol was approved by the international review board of our hospital.

2.2. Setting and participants

The study was carried out among 200 students, in two different centers of Paris Diderot University — Paris VII, located in Paris: Bichat's Faculty of Medicine and Clinical Human Sciences Campus.

All students who accepted to reply to a questionnaire were included. The survey was conducted by a psychologist.

2.3. Self-questionnaires

Answer to the 41 brief or multiple-choice questions last approximately 2 min. If students did not clearly understand questions, they could ask an elaboration from the psychologist.

2.3.1. Socio-demographic data
Each student stated his gender, his age and his familial status.

2.3.2. Assessment of online compulsive buying
To screen compulsive buyers on the internet, we used Echeburùa's clinical screener, which was adapted to the internet, by themselves. Echeburùa's screener explores loss of control, post-purchase guilt and negative consequences like financial problems or in personal relationships (Romo, Aubry, Djordjian, Legauffre, & Adès, 2007). A person shows a disorder of compulsive buying with at least 2 affirmative answers on 5 items of screening.

2.3.3. Assessment of internet addiction disorder
Young's internet addiction diagnostic questionnaire was used (Young, 1998). Among 8 items, if students got at least 5 affirmative answers, they were diagnosed internet addicts.

2.3.4. Means of access shopping online
Using sociologic data from e-commerce sites, we proposed to evaluate the frequency of use of their different means of access. Students had to rate the frequency of online purchase by private-sale websites, by advertising banners, by mobile phone or to avoid stores, each with a numerical scale from never "0" to always "10".

2.3.5. Motivations to shop on the internet
Inspiring from the above-mentioned study (Kukar-Kinney et al., 2009), five motivations to shop on the internet were proposed, rating with a numerical scale of preference from "not concerned" "0" to "absolute agreement" "10". Motivations to rate were "more discreet", "lonelier", "larger variety of products", "more immediate positive feelings" and "cheaper".

2.3.6. Financial and time-consuming aspects
Students estimated the largest amount (euros) of online purchasing and the average proportion of monthly earnings (%) in online shopping. To study time consuming aspects, participants had to estimate time spent on online shopping, both day and night.

2.3.7. Alcohol and tobacco use disorders
CAGE and Fagerström tests were used. If a student got at least 2 affirmative answers at 4-item CAGE, he showed an alcohol use disorder and if he got at least 3 affirmative answers at 6-item Fagerström, he was addicted to tobacco.

2.4. Statistical methods

For each variable, we compared students presenting to those presenting without online compulsive buying. We made comparisons for continuous variables using Student's t tests. For categorical data, differences in proportions were compared with the Chi^2 test. Statistical significance was determined at the 0.01 level of confidence.

3. Results

Two hundred Paris VII students were included from December 2013 to February 2014. The prevalence of online compulsive buying was 16%. We compared for each parameter student presenting with (OCB+) or without (OCB−) online compulsive buying.

3.1. Socio-demographic data

Data are summarized in Table 1. Globally, 67.0% of students were women and the mean age was 20.2 ($\pm$3.1) years. There was no statistical difference between the two groups in regard to sex, age or family life.

3.2. Online compulsive buying and other addictions: internet, alcohol use and tobacco addictions

The prevalence of internet addicts was 26.0% among all students (Table 2). Online compulsive buyers were more cyber-dependent than controls (31.3% vs 25%), but not significantly (p = 0.46).

Globally, 14.5% of students presented an alcohol use disorder and 20.0% were tobacco-dependent. There was no significant relationship between online compulsive shopping and alcohol or tobacco use disorders.

3.3. Means of access shopping online

Online compulsive buyers accessed shopping online by private-sale websites (56.2% vs 30.5%, p < 0.0001), or by their mobile phones

Table 1
Socio-demographic data of students presenting with (OCB+) or without (OCB−) online compulsive buying.

Variable	OCB+ (n = 32, 16%)	OCB− (n = 168, 84%)	All students (n = 200)	Statistic	P-value
Women, % (n)	78.1% (25)	64.9% (109)	67.0% (134)	Chi^2 = 2.13, d.f. = 1	0.14
Means age ($\pm$S.D.), years	21.5 ($\pm$5.6)	19.9 ($\pm$2.3)	20.2 ($\pm$3.1)	t = 1.57, d.f. = 33	0.13
Family life, % (n)	75.0% (24)	71.4% (120)	72.0% (144)	Chi^2 = 0.17, d.f. = 1	0.68