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Prevalence and characteristics of compulsive buying in college students

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ABSTRACT

Compulsive buying (CB) is a potentially devastating problem involving repetitive urges to shop and uncontrolled spending behaviors. Prevalence of CB in the general population has been estimated at 5.8%. This epidemiological study aims to better understand the prevalence and characteristics of college students who meet criteria for CB. During the spring of 2011, an online survey examining CB (using a clinically validated screening instrument, the Minnesota Impulse Disorders Interview), stress and mood states, psychiatric comorbidity, and psychosocial functioning was emailed to 2108 University students. Overall survey response rate was 35.1% ($n=2108$). Our data indicated that 3.6% ($n=67$) of college students surveyed met criteria for CB with significantly more women affected (4.4%, $n=48$) than men (2.5%, $n=19$). Relative to students not meeting criteria for CB, college students who met criteria for CB endorsed significantly greater psychiatric comorbidity, lower grade point averages, increased stress, and poorer physical health. Presence of CB is likely associated with a variety of problems in college students. These data may warrant increased screening of CB in college students to establish early interventions.

1. Introduction

Initially termed "Oniomania" (an uncontrollable desire to buy things), compulsive buying (CB) was first documented clinically in the early 20th century (Kraepelin, 1915; Bleuler, 1930). Despite its recognition as a psychiatric problem nearly 100 years ago, little attention was paid to CB until the late 1980s. In their paper *Compulsive Buying: A Phenomological Exploration*, O'Guinn and Faber (1989) suggested CB was simply one expression of a category of behaviors termed "compulsive consumption". O'Guinn and Faber (1989) described those engaging in CB as individuals who "buy not so much to obtain utility or service from a purchased commodity as to achieve gratification through the buying process itself."

Although never officially recognized as a mental disorder by the DSM, clinical reports in the 1990s further defined CB as a unique psychiatric disorder. In one sample, Christenson et al. (1994) described a group of 24 compulsive buyers for whom buying "led to negative social, occupational, financial, or legal consequences and/or stated that compulsive shopping caused them significant personal distress." All of the subjects with CB described uncontrollable buying urges and feelings of mounting tension, which could only be relieved by shopping. During the act of buying, individuals reported a mixture of positive and negative emotions. Immediately after buying, individuals with CB generally reported a sense of relief or gratification. After these initial positive feelings, however, negative feelings typically developed.

Criteria for CB 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). Consequences from CB can include guilt, remorse, financial debt, family problems, and legal problems (resulting from illegal attempts to attain money for buying) (Christenson et al., 1994; O'Guinn and Faber, 1989; Faber, 2004; Black, 2007). Individuals who meet criteria for CB have been found to have significantly higher rates of mood, anxiety, and impulse control disorders (ICD) compared to the general population (Black et al., 1998).

Prevalence and demographic makeup of individuals with CB remain unclear. In 2001, prevalence of CB was estimated at between 1.8–8.1%, with potentially 80–95% of those meeting

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criteria being women (Black, 2001). A national study in the United States in 2004 estimated prevalence of CB at 5.8% with a similar prevalence in men (5.5%) and women (6.0%) (Koran et al., 2006). A national study in Germany estimated prevalence of CB at 6.9% with no significant difference between men (6.8%) and women (6.9%) (Müller et al., 2010b). In college students at two Midwestern universities lifetime prevalence of CB was estimated at 1.9% with significantly more women (2.6%) than men (0.4%) meeting criteria for CB (Odlaug and Grant, 2010). In two European universities prevalence of CB was estimated at 5.2% in women (Claes et al., 2011).

Due to the variance and overall paucity of current prevalence estimates of CB, more data is needed to provide a consistent understanding of the prevalence of CB in college students and the impact of CB on individuals. More data on the characteristics of individuals meeting criteria for CB may also help clarify uncertainties (Black et al., 2010; Lejoyeux and Weinstein, 2010) regarding the classification and definition of CB. To address the lack of consensus in prevalence estimates in CB, and expand the data on associated problems and characteristics of individuals meeting criteria for CB, we conducted a large Internet based survey using a validated screening instrument for CB embedded in a structured survey.

2. Methods

2.1. Overview of the 2011 College Student Computer Use Survey

In a joint effort between the Department of Psychiatry and Boynton Health Service at the University of Minnesota, the College Student Computer Use Survey (CSCUS) was created to collect information regarding physical and mental health of college students. The CSCUS used questions from clinically validated screening instruments on mental health, stress, and quality of life. In addition, participants were asked questions about physical health and demographic information. All study procedures were carried out in accordance with the Declaration of Helsinki and were approved by the Institutional Review Board of the University Of Minnesota, Human Subject Code number 1005M81734.

2.2. Subjects

In April and May 2011, 6000 students at a large Midwestern University were randomly selected via email to participate in the CSCUS. Respondents to the email were first required to view the IRB-approved online informed consent page, at which point students could choose to continue with the survey or opt out. Individuals who partially or fully completed the survey were considered respondents. Compensation was offered by randomly selecting participants to receive gift certificates in the amounts of $250, $500, and $1000, redeemable at local retailers, and three portable music players. Of the 6000 students invited to participate, 2108 (35.1%) completed the survey. This response rate is commensurate with other national health surveys (Baruch, 1999; Baruch and Holtom, 2008; Cook et al., 2000; Van Horn et al., 2009).

2.3. Assessments

Fifty-four questions regarding demographics, mental health (including stress), depression, body mass index, exercise habits, and academic performance variables (such as grade point average) comprised the survey. Participants were also asked to review a list of mental health disorders and indicate whether they had ever received a formal diagnosis for any of the listed disorders. Additionally, participants were asked to indicate whether they were currently taking medication for a particular mental health disorder.

The Minnesota Impulsive Disorders Interview (*MIDI*) (Christenson et al., 1994; Grant, 2008). The MIDI screens for trichotillomania, pathological gambling, intermittent explosive disorder, and kleptomania using criteria set forth in the DSM-IV-TR (American Psychiatric Association, 2004), as well as screens for compulsive sexual behavior and compulsive buying using proposed criteria (Black et al., 1997; McElroy et al., 1994). Diagnostic questions for CB included: (1) do you or others think that you have a problem with buying things too often or with spending too much money; (2a) do you ever experience an irresistible urge or uncontrollable need to buy things or mounting tension that can only be relieved by buying; (2b) do these urges or thoughts about buying seem to be forced into your thinking or intrusive; (2c) do you attempt to resist these urges or thoughts; (3) is buying followed by release of tension or a sense of gratification even if only for the moment; (4a) has problem buying led to social, marital, family, financial, or work problems or caused you to experience significant distress; (4b) in which of these areas has there been a problem (i.e., social, marital, family, financial, work, personal distress, or other)? Subjects were considered a positive screen for CB if they answered "yes" to questions 1, 2a, 3, and 4a. The MIDI has demonstrated excellent classification accuracy in adult and adolescent populations as compared to other diagnostic instruments (Grant et al., 2005; Müller et al., 2011). In addition to the MIDI, the CSCUS also included diagnostic questions for pathological skin picking (another ICD) based on previous research (Arnold et al., 2001).

Patient Health Questionnaire (*PHQ-9*) (Kroenke and Spitzer, 2002; Kroenke et al., 2001). The PHQ-9 is a self-report questionnaire that asks each of the nine DSM-IV-TR (American Psychiatric Association, 2004) criteria for major depressive disorder. The PHQ-9 is used as a diagnostic tool for major depressive disorder as well as an indicator of depression severity.

Perceived Stress Scale (*PSS*) (Cohen et al., 1983). The PSS is a 10 question self-report scale designed to measure how stressful individuals find their lives to be. Individuals are given scores ranging from 0 to 40, with higher scores indicating greater life stress. Past research has shown that higher scores on the PSS correlate with indications of poor physical and mental health (Cohen et al., 1995)

Internet Addiction Test (*IAT*) (Young, 1998; Widyanto and McMurran, 2004). The IAT is a valid and reliable measure of addictive use of the Internet. This 20-item questionnaire asks individuals to rate their frequency of Internet associated behaviors on a 5-point scale ranging from "Does not apply" through "Always". The IAT uses the total score to categorize Internet users as having complete control (0–19 points), mild problems (20–49 points), moderate problems (50–79 points), and significant Internet problems (80–100 points). In addition to the IAT, the CSCUS included questions about specific Internet use behaviors, such as time spent online shopping.

2.4. Data analysis

Distribution characteristics of all variables were examined. Only participants with complete data on the dependent variables used in this study were included in analyses ($n=1857$; 88.1%). Participants were divided into two groups: CB and no CB. The analyses included, (1) descriptive and comparison statistics for the sample's demographics, (2) prevalence of CB, and (3) cross-tabulation and *t*-test comparisons of those classified as having CB versus the remaining respondents in terms of demographics, health behaviors, functioning and psychiatric diagnosis. As an exploratory study, significance was set to $P \leq 0.05$.

3. Results

Of the 6000 students who received the invitation to participate in the survey, 2108 completed the survey (35.1% response rate). Statistical analysis is based on only those respondents who indicated their gender, responded to the questions pertaining to ICD's, and indicated whether or not they had been diagnosed with a psychiatric disorder within their lifetime. Of the 2108 participants who completed the survey, 1857 students provided responses to the aforementioned questions, 1085 (58.4%) of which were women and 772 (41.6%) of which were male. The mean age of the overall sample was 22.7 ± 5.2 years [range 18–58]. Gender distribution in this study was consistent with the overall prevalence of males (47.4%) and females (51.6%) attending the university in the spring of 2011. Of the aforementioned 1857 students, 1849 indicated their current year of college as: 1st—339(18.3%), 2nd—303(16.3%), 3rd—324(17.4%), 4th—324(17.4%), 5th or greater—123(6.6%), and graduate or professional student—422 (22.7%).

A total of 67 (3.6%) individuals met criteria for CB out of the final sample of 1857. Prevalence of CB was significantly higher in women (4.4%, $n=48$) than men (2.5%, $n=19$) ($P=0.03$).. Individuals who met criteria for CB were significantly less likely to be Caucasian, married, have a partner, be engaged, or in a committed relationship (Table 1). The presence of CB did not have a significant relationship with college year. Approximately half of the individuals who met criteria for CB experienced intrusive urges or thoughts related to buying, and financial problems were the most common type of problems reported by individuals with CB. Those with CB spent significantly more time buying items online (Table 2), with 84.4% of those with CB reporting shopping online