
LETTER TO THE EDITOR

Neurocognitive findings in compulsive sexual behavior: A preliminary study

Background and aims: Compulsive sexual behavior (CSB) is a common behavior affecting 3–6% of the population, characterized by repetitive and intrusive sexual urges or behaviors that typically cause negative social and emotional consequences. *Methods:* For this small pilot study on neurological data, we compared 13 individuals with CSB and gender-matched healthy controls on diagnostic assessments and computerized neurocognitive testing. *Results:* No significant differences were found between the groups. *Conclusions:* These data contradict a common hypothesis that CSB is cognitively different from those without psychiatric comorbidities as well as previous research on impulse control disorders and alcohol dependence. Further research is needed to better understand and classify CSB based on these findings.

Keywords: sex, neurocognition, impulsivity

Compulsive sexual behavior (CSB) is a fairly common disorder, characterized by sexual urges, thoughts or behaviors that are experienced as repetitive and intrusive and which result in negative consequences such as occupational or personal difficulties. CSB has been estimated to affect approximately 3–6% of the population, though data are still lacking in terms of its clinical, neurobiological and treatment characteristics (Coleman, 1992). Because the data regarding cognitive functioning in CSB are sparse, we conducted a small preliminary study of non-treatment seeking individuals who met criteria for CSB compared with healthy controls. The aim of this pilot study was to investigate cognitive functioning using computerized cognitive paradigms to examine various domains of impulsivity. The study hypothesized that those with CSB would show greater dysfunction in measures of impulse control and decision making.

To qualify for this study, subjects were required to be between 18 and 29 years old and meet criteria for CSB based on the Minnesota Impulsive Disorders Interview (MIDI) (Grant, 2008). There were no exclusion criteria. Control subjects were age- and gender-matched and had no psychiatric comorbidities. The study procedures were carried out in accordance with the ethical standards laid out in the Declaration of Helsinki. The Institutional Review Board approved the study and the consent statement. After complete description of the study to the subjects, written informed consent was obtained.

A total of 13 individuals with CSB were compared to 13 healthy control subjects. All subjects completed the Barratt Impulsiveness Scale (BIS), a 30-question self-reported impulsivity scale divided into three subsections of impulsiveness: Attentional (ability or inability to concentrate), Motor (acting on impulses without thinking), Non-planning (non-planning for the future) (Patton & Stanford, 1995). Subjects also completed neurocognitive testing using the Intradimensional/Extradimensional Set-Shift Task (IDED) (Owen, Roberts, Polkey, Sahakian & Robbins, 1991) (testing ability

to learn rules and adjust behavior (flexibility); Stop Signal Task (SST) (Aron, 2007) (testing ability to stop from performing a task (response inhibition); Cambridge Gambling Task (CGT) (Rogers et al., 1999) (testing decision making abilities and risk-taking actions); and Spatial Working Memory (SWM) (Owen, Downes, Sahakian, Polkey & Robbins, 1990) (testing spatial working memory addressing errors incurred, strategy used and latency of decisions). The data for this pilot study were analyzed using one-way analysis of variance (ANOVA) tests with a *p*-value of less than .05. SPSS version 22 was used in analysis.

No significant differences were found in terms of demographic variables, neurocognitive measures, or measures of impulsivity.

Although much of the phenomenological data would suggest that CSB is a disorder of impulsivity or an addiction, data from our small pilot study suggests that individuals with CSB do not exhibit dysfunction in impulsivity or decision-making as typically seen in other impulse control or addictive disorders. Prior studies on impulse control disorders including pathological gambling (Odlaug, Chamberlain, Kim, Schreiber & Grant, 2011) and compulsive buying disorder (Derbyshire, Chamberlain, Odlaug, Schreiber & Grant, 2014) have found higher levels of impulsivity using these same paradigms. In addition, studies have found higher levels of impulsivity on the BIS and other cognitive differences on the stop signal task in addictive disorders such as alcohol dependence (Lawrence, Luty, Bogdan, Sahakian & Clark, 2009; Rubio et al., 2007). Although these data are limited by the small sample size, they raise the question as to how best to conceptualize CSB. Perhaps CSB is more heterogeneous than other behavioral problems. The disorder itself is defined by urges, thoughts or behaviors and perhaps these reflect distinct neural networks that the diagnosis unintentionally conflates. Another explanation might be that the impulsive behavior demonstrated by individuals with CSB is simply not captured by the measures used in this or previous studies.

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Conflict of interest: Dr. Grant has received research grant support from Forest and Roche Pharmaceuticals. He has also received royalties from American Psychiatric Publishing Inc., Oxford University Press, Norton, and McGraw Hill Publishers. Ms. Derbyshire reports no conflicts of interest.

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Katherine L. Derbyshire

Department of Psychiatry & Behavioral Neuroscience
University of Chicago, Chicago, IL, USA
Phone: +1-773-702-9066; Fax: +1-773-834-6761
E-mail: kderbyshire@uchicago.edu

Jon E. Grant

Department of Psychiatry & Behavioral Neuroscience
University of Chicago, Chicago, IL, USA