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The relevance of analogue studies for understanding obsessions and compulsions

Jonathan S. Abramowitz [a,*], Laura E. Fabricant [a], Steven Taylor [b], Brett J. Deacon [c], Dean McKay [d], Eric A. Storch [e]

[a] University of North Carolina at Chapel Hill, United States
[b] University of British Columbia, Canada
[c] University of Wyoming, United States
[d] Fordham University, United States
[e] University of South Florida, United States

HIGHLIGHTS

- We reviewed evidence for utility of analogue samples in understanding OC symptoms.
- OC symptoms are sufficiently prevalent in non-clinical samples.
- OC symptoms are dimensional rather than categorical in frequency and severity.
- Qualitative aspects of OC symptoms are similar in clinical and nonclinical samples.
- Similar causal and maintenance factors occur in clinical and nonclinical samples.

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ABSTRACT

Analogue samples are often used to study obsessive–compulsive (OC) symptoms and related phenomena. This approach is based on the hypothesis that results derived from such samples are relevant to understanding OC symptoms in individuals with a diagnosis of obsessive–compulsive disorder (OCD). Two decades ago, Gibbs (1996) reviewed the available literature and found initial support for this hypothesis. Since then there have been many important advances addressing this issue. The purpose of the present review was to synthesize various lines of research examining the assumptions of using analogue samples to draw inferences about people with OCD. We reviewed research on the prevalence of OC symptoms in non-clinical populations, the dimensional (vs. categorical) nature of these symptoms, phenomenology, etiology, and studies on developmental and maintenance factors in clinical and analogue samples. We also considered the relevance of analogue samples in OCD treatment research. The available evidence suggests research with analogue samples is highly relevant for understanding OC symptoms. Guidelines for the appropriate use of analogue designs and samples are suggested.

Contents

* Corresponding author at: Department of Psychology, University of North Carolina at Chapel Hill, Campus Box #3270 (Davie Hall), Chapel Hill, NC 27599, United States. Tel.: +1 919 843 8170; fax: +1 919 962 2537.
E-mail address: jabramowitz@unc.edu (J.S. Abramowitz).

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1. Introduction

Obsessive compulsive disorder (OCD) is a complex clinical condition affecting 2–3% of the population (Kessler et al., 2005). It is characterized by (a) intrusive and unwanted thoughts or images or urges (obsessions) and/or (b) repetitive, intentional rituals to neutralize obsessional distress (compulsions) (American Psychiatric Association [APA], 2013). The disorder is associated with considerable suffering, functional impairment, and economic burden to both the individual and the health-care system (Markarian et al., 2010). Obsessive–compulsive (OC) symptoms are phenomenologically heterogeneous (i.e., they take many different forms) and etiologically complex (Taylor, 2011).

Investigators have used many different types of research designs to study OC phenomena. A common method is to study clinical samples of convenience, namely individuals with OCD who are attending a clinic in which research is being conducted. This type of design can be useful, especially for treatment studies, but has limitations. For example, studies of clinic patients are based on the untested assumption that the results generalize to OCD in the population at large. Those seeking treatment for OCD represent a minority of the OCD population (Grabe et al., 2000), and likely differ from non-help seekers on social, economic, attitudinal, and personality factors. Confounding factors such as treatment types and treatment effects, duration of prior treatment, and comorbidity also pose challenges for studies of OC phenomena in clinical populations. This is one reason researchers have pursued various forms of analogue research in order to study OC phenomena. The two most commonly used analogue designs include (a) studies of animals, typically rodents, in which particular behaviors (e.g., excessive grooming or the burying of objects) are used as analogues of compulsions, and (b) studies of human non-clinical samples, such as college students, in which subclinical OC phenomena are regarded as analogues of OC symptoms observed in people diagnosed with OCD.

Both animal and human analogue designs have their strengths and limitations. In recent years, however, it has become increasingly difficult to publish human analogue research, particularly studies based on correlational, factor analytic, or structural equation designs. Indeed, an increasing number of journals indicate in their aims and scope that studies using analogue and non-clinical samples will be given low priority (or in some instances not considered for publication). Perhaps this is because of the often unquestioned assumption that such studies are less relevant than studies of clinical patients to understanding the psychopathology or treatment of OCD (indeed, reviewers of journal submissions often ask authors to provide a justification for using analogue samples, as well as to cite their use as a limitation of the study). In comparison, animal analogue research (often involving rodents) has been rarely criticized in the literature despite the significant limitations of this type of design. We have discussed the limitations of such animal studies of OC phenomena elsewhere (Abramowitz, Taylor, McKay, & Deacon, 2011). To summarize, the major problems are: (a) it is difficult to determine whether a repetitive behavior in animals such as rodents is a bona fide compulsion (as defined in DSM) or some other form of repetitive behavior[1]; (b) compulsions in humans often arise as a consequence of obsessions—it is unclear whether rodents experience intrusive obsessional thoughts of any kind; and (c) there is no evidence that rodents possess the cognitive capacity (or the frontal lobe development, which is an integral part of neuroanatomical models of OCD) to experience common obsessions, such as those pertaining to taboo acts concerning aggression, sex, or morality.

The motivation for the present article arose from our interest in clarifying the utility of human analogue research in OCD. Since OCD occurs in only 2–3% of the population, it can be time intensive and costly to recruit clinical samples of an adequate size. OC symptoms, however, occur in the general population (Adam, Meinlschmidt, Gloster, & Lieb, 2012; de Bruijn, Beun, de Graaf, ten Have, & Denys, 2010; Grabe et al., 2000; Rachman & de Silva, 1978), allowing researchers to recruit larger samples with relative convenience. It is likely that using human analogue samples thus allows for more research to be conducted and may make some projects feasible that would otherwise be impractical. For example, analogue samples provide an opportunity to examine subgroups of obsessions and compulsions (e.g., scrupulosity, checking)—which has become an emphasis in recent years with the conceptualization of OCD as a dimensional condition (e.g., Abramowitz, McKay, & Taylor, 2008). Two decades ago, Gibbs (1996) argued for the relevance of human analogue research for understanding OC phenomena. Since that time there have been many important research developments that further support the value of human analogue research. The purpose of this article is to review the evidence regarding the value of human analogue samples. We also consider the use of non-clinical samples in research on the treatment of OCD. As a shorthand, in the following text we will refer to studies of students or community samples as "analogue samples," maintaining a focus on human rather than animal analogues.

[1] We have highlighted elsewhere the corollary problem of animal research, namely theories of OCD that emphasize or exclusively conceptualize the disorder based on compulsions are insufficiently relevant to the clinical manifestation in humans, and fail to predict the efficacy of current efficacious interventions (Taylor, McKay, & Abramowitz, 2005). Despite these critiques, research reliant on a primarily compulsion-based conceptualization of the disorder persists in the literature.