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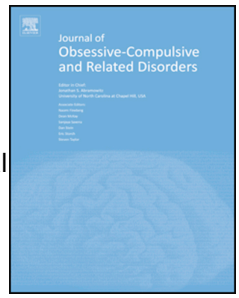

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Things that make you go Hmm: Myths and misconceptions within cognitive-behavioral treatment of obsessive-compulsive disorder

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Things that make you go Hmm: Myths and misconceptions within cognitive-behavioral treatment of obsessive-compulsive disorder

Abstract

The past four decades have yielded a robust body of evidence supporting the efficacy and effectiveness of cognitive-behavioral therapy (CBT) as a gold-standard treatment for obsessive-compulsive disorder (OCD) across the lifespan. Exposure and response prevention (E/RP) has been identified as a key component of this approach. Despite robust research support for CBT with E/RP, several myths and misconceptions continue to proliferate in both research and practice settings. Such myths and misconceptions are concerning, as they lack empirical basis, may hinder widespread dissemination and implementation of CBT for OCD, and run contrary to the practice of evidence-based psychological medicine. Focusing on the importance of promoting evidence-based practice and generative clinical science, the present review article synthesizes relevant research within the field of treatments for OCD to address the following myths / misconceptions: (a) uncertainty exists concerning the evidence base supporting CBT for OCD, (b) E/RP attrition and dropout rates are unacceptably high due to excessive risk and perceived patient intolerability, and (c) alternative treatments for OCD need to be expeditiously developed due to major limitations of E/RP. Recommendations for future research and clinical dissemination and implementation to further advance a generative clinical science of OCD treatment are discussed.

Keywords. Cognitive-behavioral therapy; exposure and response prevention; obsessive-compulsive disorder; misconceptions; myths.

Things that make you go Hmm: Myths and misconceptions within cognitive-behavioral treatment of obsessive-compulsive disorder

Obsessive-compulsive disorder (OCD) is a debilitating psychiatric disorder that– left untreated– typically runs a chronic course and is associated with marked distress and impairment along with reduced quality of life (Hollander et al., 2010; Macy et al., 2013). Fortunately, the past four decades have yielded numerous theoretical and applied advances in the treatment of OCD (Franklin & Foa, 2021). To that end, a substantial body of literature– along with numerous practice guidelines (e.g., Freeman et al., 2018; National Institute for Health and Care Excellence [NICE], 2013; Tolin, Melnyk et al., 2015)– provide robust empirical support for cognitive behavioral therapy (CBT) as an evidence-based treatment for OCD across the lifespan. Broadly speaking, CBT for OCD has historically encompassed a range of processes (Tolin, 2009), including cognitive (Rachman, 1998) and meta-cognitive (Melchior et al., 2023) techniques, behavioral learning principles (Abramowitz & Arch, 2014), and acceptance and mindfulness approaches (Twohig et al., 2015, 2018). However, theoretical and empirical findings over the years have converged in asserting that there is little doubt exposure and response (ritual) prevention (E/RP) represents an essential component of CBT for OCD (Foa & McLean, 2016; Hezel & Simpson, 2019).

Unfortunately, seeds of misplaced uncertainty concerning the status and practice of CBT generally, and E/RP specifically, as a front-line intervention for OCD continue to be sown in both research (e.g., Pagsberg et al., 2022; Reid et al., 2021; Uhre et al., 2020) and practice (e.g., Keleher et al., 2020; Shafran et al., 2013) domains. For example, a recent meta-analysis of the adult OCD treatment literature by Reid et al. concluded that their findings "cast doubt on the superiority of CBT with ERP over other forms of psychological therapy for OCD" (p. 106). Another recent meta-analysis of the pediatric OCD literature by Uhre et al. similarly concluded "high risk of bias in included trials and low certainty of the evidence

prevent firm conclusions regarding the efficacy of CBT" (p. 75). In the realm of clinical application, it is also common for proponents of alternative treatments besides standalone E/RP (e.g., Keleher et al.; Shafran et al.) to describe exposure in a negative light with an overemphasis on the aversive and distressing nature of the approach.

While we cite numerous illustrative examples from the literature of commonly proliferated misconceptions concerning CBT and E/RP in the present review article, our intent is not a specific, in-depth critique of any one particular study (see, e.g., Storch et al., 2020). Nor do we intend to personally criticize the authors involved in the aforementioned works; in fact, we applaud these researchers for their efforts in developing and examining interventions to improve the lives of those suffering from OCD. Indeed, we believe critical skepticism and intellectual humility to be essential for generative, self-correcting clinical science (O'Donohue, 2021; Washburn et al., 2022), and do not purport to unilaterally reject critiques of CBT or E/RP. However, we are keenly aware of the dangers of *unfounded* skepticism in the (inadvertent or otherwise) promotion of myths and misconceptions, which can unfortunately become deeply entrenched if left unchecked (Lilienfeld & Strother, 2020). This is especially concerning when considering intervention development for OCD, as such misguided skepticism can lead to reduced reliance on evidence-based practices, diminished trust of the public in psychological science/treatment, and ultimately result in further suffering via untreated OCD (McKay et al., 2021). The present review article synthesizes pertinent OCD treatment literature to address several common myths and misconceptions within that domain.

Importance of Identifying and Promoting Evidence-based Interventions for OCD

Originally explicated in Paul's (1969) ultimate clinical question, the process of elucidating the efficacy of specific treatments, delivered by particular clinicians, tailored to specific patients with specific problems, under a certain set of circumstances, and the

processes (i.e., active ingredients) by which salutary effects come about, represents an important guiding framework supporting the evidence-based practice movement in clinical psychology (Lilienfeld, 2019; Tolin, McKay et al., 2015). While often understudied compared to research examining salubrious effects (e.g., symptom reduction), consideration of both warranted– and illusory– potentially iatrogenic effects of such treatments (Dimidjian & Hollon, 2010) is critical for identifying and correcting myths and misconceptions surrounding these treatments. This is especially the case for CBT in general– and E/RP specifically– for OCD, an area that possesses a unique history of clinical lore and misconceptions despite its strong evidence base (McKay et al., 2021; Schneider et al., 2020).

Such a critical analysis is essential for the field of clinical psychology, as a lack of access to adequate treatment (along with proliferation of inert or potentially iatrogenic treatments) for debilitating psychiatric disorders such as OCD represents a pressing public health concern in the form of opportunity costs and untreated OCD (Dimidjian & Hollon, 2010). This is particularly important within OCD, a disorder unique in the sense that certain interventions lacking empirical support– or misapplication of evidence-based ones– have been identified as presenting more explicit potential for iatrogenic harm compared to other psychiatric disorders (McKay et al., 2021).

Purpose of the Present Review Article

Comprehensive examination of the status of a given intervention (i.e., CBT) for a given disorder (i.e., OCD) is best implemented via rigorous: (a) empirical synthesis of past treatment outcome studies (e.g., meta-analyses, systematic reviews), (b) formulation of up-to-date practice guidelines/recommendations, and (c) correction of myths and misconceptions that may serve as barriers to dissemination and implementation of best practices. Importantly, these three tenets are often intertwined and dynamically related (National Institute for Health and Care Excellence, 2005, 2013; Reid et al., 2021). Such comprehensive empirical reviews

are beyond the scope of the present narrative review article (see, e.g., Ong et al., 2016 and Öst et al., 2022). Instead, we focus on identifying and correcting several commonly held myths and misconceptions surrounding CBT for OCD. We also offer specific recommendations and future directions for improving research and clinical efforts in light of these concerns.

This article is especially timely and important, as continued proliferation of the myths and misconceptions reviewed here is likely to produce an unintended effect of misrepresenting and undermining the large body of evidence over the past four decades supporting the efficacy of CBT for OCD (Storch et al., 2020). Such proliferation may also indirectly contribute to larger problems in our field resulting from questionable research practices (Flake & Fried, 2020; Lilienfeld & Strother, 2020; O'Donohue et al., 2022). Lastly, misrepresentation of the evidence base may also substantially hinder important dissemination and implementation of CBT for OCD– an intervention that has consistently demonstrated efficacy for improving quality of life in patients afflicted with this debilitating disorder.

Myth / Misconception # 1: Uncertainty Exists Concerning the Evidence Base Supporting CBT for OCD

Efficacy Research. Over the past 4 decades of conceptual and applied advances in CBT for OCD, methodological strategies and tactics have continued to evolve and become more sophisticated. This means that research design, measurement, analyses, and publication / funding contingencies of the past will necessarily look different when viewed with the advantage of hindsight. Furthermore, in light of the recent replication crisis facing psychological science writ large (Clark et al., 2022; Stanley et al., 2018), reflecting back and prognosticating forward has become increasingly important and essential for scientific growth (see, e.g., McKay et al., 2017). However, we find retrospective evaluation (including systematic reviews and meta-analyses) that critically invalidates a given body of research supporting gold-standard clinical interventions through mischaracterization or inappropriate

application of analytic/conceptual approaches to be particularly concerning (see, e.g., Reid et al., 2021; Uhre et al., 2020). In the case of CBT for OCD in particular, such mischaracterizations of the evidence base may be especially problematic in terms of promoting unwarranted decreased confidence in a robust evidence-based intervention. Additionally, such critiques are likely to obfuscate the standard of research rigor necessary for an intervention to qualify as evidence-based, potentially contributing to a problematic lack of consensus regarding practice guidelines and dissemination efforts (Storch et al., 2020; Tolin, Melnyk et al., 2015).

To further elucidate the certainty of the evidence base supporting E/RP for OCD, it is worth highlighting a few key studies across both the adult and pediatric literature. Dating back to the 1990s and 2000s, a long line of meta-analyses and systematic reviews of randomized controlled trials (RCTs) have consistently provided support for the efficacy of CBT for OCD in adults (e.g., Abramowitz, 1996; Olatunji, Davis et al., 2013; Öst et al., 2015; Rosa-Alcazar et al., 2008). Generally speaking, effect sizes in favor of CBT are largest in comparison to waitlist control, and slightly smaller, but still significant, when compared to other active interventions, including serotonin reuptake inhibitors (SRIs), such as clomipramine (Foa et al., 2005; Öst et al., 2015; Skapinakis et al., 2016).

Parenthetically, it is worth noting that while delineations between behavioral (i.e., E/RP) and cognitive approaches (i.e., CT) for treating OCD are often obfuscated by the use of the umbrella term CBT in the literature (and also by the substantial overlap between the approaches in clinical practice), research findings have been mixed concerning the differential efficacy of these two approaches. Specifically, some studies have found them to be equivalent (e.g., Rosa-Alcazar et al., 2008), while others have demonstrated superiority of E/RP (e.g., Olatunji, Rosenfield et al., 2013; Ponniah et al., 2013). Yet, comparisons of active treatments routinely have far lower statistical power (de Vries et al., 2022), and in particular for

evaluations of components of CBT, exposure is central not only in E/RP but also in CT via behavioral experiments (see Abramowitz, Taylor et al., 2005). Thus, there is considerable intervention overlap between E/RP and CT.

There also exists robust evidence supporting both the efficacy and effectiveness of CBT for children and adolescents with OCD. The first RCT in this domain consisted of 22 youth with OCD who were randomized to 12 weeks of either CBT or clomipramine (de Haan et al., 1998). The CBT protocol was predominantly based on E/RP and outcomes were measured using the child version of the Yale-Brown Obsessive Compulsive Scale (CY-BOCS; Scahill et al., 1997). Importantly, the CY-BOCS (and Y-BOCS for adults), with higher scores indicating more severe OCD and scores ≥14 points indicating clinical severity (Cervin et al., 2022), has been used as the primary outcome measure in nearly all evaluations of treatments for pediatric (and adult) OCD, facilitating comparisons across trials.[1] In de Haan et al., both CBT and clomipramine showed beneficial effects on symptom reduction, with the CBT group demonstrating superior outcomes.

In 2004, the Pediatric OCD Treatment Study (POTS, 2004) randomized 112 youth with OCD to either CBT, sertraline (a selective serotonin reuptake inhibitor), combination treatment (CBT + sertraline), or pill placebo. Results showed that all active treatments were more efficacious than pill placebo, and that combination treatment was significantly more efficacious than monotherapy. Notably, a site effect was found in which CBT monotherapy was not significantly different from combined treatment at the one site that performed *robust* E/RP (both superior to sertraline) but was similar in efficacy to sertraline at the site that performed E/RP of *limited* fidelity. This parallels Storch et al. (2013), which found that placebo + CBT demonstrated similar efficacy to sertraline + CBT in youth with OCD.

[1] This is a unique strength of the OCD literature relative to other diagnoses which often have a plethora of outcome measures to characterize treatment response, which presents challenges in empirically aggregating and conceptually unifying treatment outcomes.

Several systematic reviews have synthesized the CBT literature for pediatric OCD, indicating superiority of CBT over control conditions, primarily waitlist and relaxation treatment (McGuire et al., 2015; Öst et al., 2016; Skapinakis et al., 2016; Skarphedinsson, Hanssen-Bauer et al., 2015; Uhre et al., 2020). The relative efficacy of CBT and medication is still uncertain, but most evidence indicates superiority of CBT (Öst et al., 2015), including findings from a recent network meta-analysis which synthesized all available RCTs evaluating CBT and/or medication (Cervin et al., under review). Of note, very similar effects emerge in other RCTs of pediatric OCD where the effect of CBT is not the main research question. For example, when D-cycloserine augmented CBT is examined (reductions of 9-11 points irrespective of being randomized to D-cycloserine or not; Melchior et al., 2023; Storch et al., 2016), when an initial course of CBT is used to parse out non-responders (a CY-BOCS reduction of 13 points in 269 youth with OCD; Torp et al., 2015), and when parent-enhanced CBT is compared to standard CBT (reductions of 10 points; Reynolds et al., 2013). Taken together, these findings provide further empirical support for CBT for OCD in youth across settings, especially in terms of improvement in CY-BOCS scores and concomitant beneficial effects in daily functioning and quality of life (Mataix-Cols et al., 2022).

Considering both adult and pediatric literature concerning CBT for OCD, the fact that such rigorous RCT and meta-analytic methods continued to provide consistent support for CBT throughout the 1980s into the 2020s (e.g., Ferrando & Selai, 2020; Hezel & Simpson, 2019; McKay et al., 2015; Skapinakis et al., 2016; Skarphedinsson, Hanssen-Bauer et al., 2015) lends further credence to the status of CBT as an evidence-based treatment for individuals across the lifespan with OCD. *Impressively, virtually every methodologically rigorous study that evaluated CBT with E/RP by different research groups throughout the world has consistently demonstrated superiority of CBT with E/RP over the respective comparison arm*. Such longstanding consistency in findings also suggests that rote replication

of RCTs examining CBT approaches for OCD– which are quite time-consuming and costly– may not be the best use of finite valuable scientific resources. Rather, future research efforts may be better served in extending the evidence base supporting CBT for OCD in areas that have received relatively less attention. Echoing Lilienfeld (2019) and Reid et al. (2021), some areas for consideration include investigating outcomes such as quality of life, disorder remission, and prosperity/thriving, rather than a sole focus on symptom reduction.

Effectiveness Research. A longstanding recognition of challenges in dissemination and implementation of evidence-based treatments in naturalistic clinical settings (Hunsley, 2007; Westen et al., 2004) has led to questions regarding how well CBT (i.e., E/RP) for OCD can be implemented outside specialist, RCT-based contexts. To that end, multiple meta-analyses comparing the effectiveness of CBT in nonrandomized effectiveness vs. RCT studies have been conducted to address whether the efficacy of CBT extends outside highly controlled randomized trial contexts with extensive patient monitoring, thorough assessment, and expert oversight (Hans & Hiller, 2013; Öst et al., 2022; Stewart & Chambless, 2009). Indeed, such studies generally demonstrate comparably strong effects in nonrandomized and randomized trials. For example, a recent meta-analysis (Öst et al., 2022) specifically examined studies with participants referred through usual clinical pathways and treatment carried out in routine clinical settings (e.g., community mental health), and with full-time practicing therapists. Öst et al. found nearly identical effect sizes in effectiveness and efficacy studies at post-treatment ($g = 2.12$ vs. 2.13) and similar at follow-up ($g = 2.30$ vs. 2.11); effectiveness studies actually had significantly higher remission rates at post-treatment (59% vs. 44%) and follow-up (57% vs. 44%).

In another illuminating example, as part of the NORDLots study (Torp et al., 2015), CBT was provided to 269 youth with OCD across 44 therapists at 20 (non-specialist) community mental health clinics in Norway, Sweden, and Denmark, finding an average CY-

BOCS reduction of 53%, with a treatment response rate of 73% and a remission rate of 49% after 14 sessions of CBT. Non-responders were subsequently randomized to either continued CBT or sertraline, with 75% of those who continued CBT and 69% of those who switched to sertraline experiencing treatment response (Skarphedinsson, Weidle et al., 2015). Treatment gains were maintained at 1- and 3-year follow-up among these youth treated in community, non-specialist settings (Højgaard et al., 2017; Melin et al., 2020). Notably, almost none of these clinicians were OCD specialists at study onset.

Another area of effectiveness research involves transporting E/RP to community mental health settings. For example, Mancebo et al. (2021) conducted an RCT of E/RP vs. treatment-as-usual in community mental health centers in a low socioeconomic status, clinically complex (e.g., frequent comorbid psychotic or bipolar disorders) sample of 47 adults, finding a significant advantage for E/RP at post-treatment that was no longer different from treatment-as-usual at 3- and 6-month follow-up. This underscores the need for more research on the efficacy of E/RP for patients with comorbid psychotic or bipolar disorders treated in public community mental health centers (though it is worth noting high attrition in follow-up assessments in this study).

An additional future direction involves diversity within both OCD treatment providers and patients included in clinical trials. For example, Öst and colleagues' (2022) encouraging meta-analysis found that 71% of nonrandomized effectiveness studies included doctoral psychologist therapists. As such, more work is needed to understand how outcomes can be maintained across providers of different educational backgrounds, while still maintaining treatment fidelity. Additionally, reflecting pervasive trends of racial inequality in psychological science research writ large (Roberts et al., 2020), the CBT for OCD literature appears to suffer from a lack of racial diversity among participants typically included in trials. However, the small– but growing– line of work that has been done to examine differences in

outcomes across racial and ethnic groups generally suggests White and non-White participants respond similarly to CBT (Fernández de la Cruz et al., 2015; Friedman et al., 2003). That said, more work is needed to further understand how CBT and E/RP can be best adapted to meet the needs of patients across myriad diversity variables (Williams et al., 2020).

One final area of effectiveness research involves a focus on telehealth-delivered interventions. In the wake of the digital revolution and COVID-19 pandemic, novel ways to deliver CBT for OCD continue to be developed and examined (Dèttore et al., 2015; Townsend et al., 2022). For example, technology-delivered CBT, broadly considered, has demonstrated efficacy for treating OCD in both youth and adults (Comer et al., 2017; Hollmann et al., 2022). Moreover, research since the beginning of the COVID-19 pandemic has demonstrated the feasibility and efficacy of E/RP delivered via synchronous telehealth modalities (Candelari et al., 2021).

Myth / Misconception #2: E/RP Attrition and Drop-out Rates are Unacceptably High due to Excessive Risk and Perceived Patient Intolerability

Attrition and drop-out research. An additional E/RP-related misconception is that attrition rates in clinical trials and dropout rates in clinical practice are unacceptably high–especially compared to pharmacological and cognitive therapy-based treatments (see, e.g., Pagsberg et al., 2022; Shafran et al., 2013). Furthermore, RCTs examining alternative treatments for OCD beyond standalone E/RP, such as ACT or metacognitive therapy, often rely on the argument that other approaches for OCD treatment are needed because of unacceptably high E/RP attrition rates (see, e.g., Glombiewski et al., 2021; Soondrum et al., 2022). Several historical citations are frequently proffered in support of such arguments. For instance, Schruers et al. (2005) stated that about 25% of patients refuse E/RP treatment and 20% drop out of treatment. Parenthetically, it is worth noting that this statistic was based on a previous non-empirical conceptual article (i.e., Greist, 1992), further exemplifying the

perpetuation of misconceptions regarding E/RP attrition and drop-out rates. Additionally, Franklin and Foa (2007) suggested that approximately 25% of participants refuse E/RP treatment, while Abramowitz et al. (2009) similarly indicated a 25% dropout rate. That said, attrition rate estimates from these historical references do not represent the most up-to-date authoritative source due to a lack of inclusion of more recent research (e.g., studies conducted since 2010) and an overemphasis on anecdotal clinical experience over systematic and more thorough meta-analytic findings (Garb & Boyle, 2014).

Fortunately, more recent rigorous meta-analyses have investigated attrition rates of E/RP compared to other treatments for OCD, with no marked concerns of excessive attrition for patients receiving E/RP, and in fact suggesting *low* attrition (Johnco et al., 2020; Ong et al., 2016). Ong et al. conducted a meta-analysis on E/RP attrition rates in RCTs examining treatment for adults with OCD and found 21 studies with at least one E/RP stand-alone treatment condition that reported dropout rates. Unfortunately, only two of the 21 studies reported refusal rates for each individual treatment condition, which limited the ability to determine overall refusal rates for E/RP. Results revealed a weighted mean E/RP dropout rate of 14.7%. When E/RP alone was compared to other active conditions (e.g., cognitive therapy alone, medication), there were no significant differences in dropout rates. Additionally, for the two studies that reported individual treatment condition refusal rate, Ong et al. found that the weighted mean refusal rate for E/RP was 4.0%. Given the limited number of studies that reported individual treatment refusal rates, they did not analyze comparisons across conditions.

Although past studies often cite a 25% dropout rate in E/RP treatment as a rule of thumb heuristic (e.g., Abramowitz et al., 2009; Schruers et al., 2005), the 14.7% mean dropout rate from Ong et al. (2016) is more precise and generalizable because it systematically aggregated data across 21 RCTs. Ong et al. also noted that E/RP dropout rates

are similar to or lower than the dropout rates for patients receiving treatment for other major psychological disorders. Since the meta-analysis by Ong et al., RCTs of treatment for adults with OCD have continued to show no differences in attrition rates between E/RP and other approaches, such as metacognitive therapy (Glombiewski et al., 2021), eye movement desensitization and reprocessing (EMDR; Marsden et al., 2017), and ACT+E/RP (Twohig et al., 2018).

To examine E/RP attrition rates in youth with OCD, Johnco et al. (2020) conducted a meta-analysis and found 21 RCTs that reported dropout rates in treatment of children with OCD, which included 11 trials with stand-alone E/RP conditions, 9 trials with medication only conditions, and 3 trials that compared E/RP plus medication conditions. Johnco et al. found attritions rates of 10.24% for E/RP, 17.29% for medication, 20.63% for active comparison conditions (e.g., relaxation training, meta-cognitive therapy), and 23.95% for placebo comparison conditions. Results showed that E/RP attrition rates were significantly lower than placebo comparison and active treatment conditions. Further, when comparing E/RP to medication, there were no significant differences in dropout during treatment. In addition, qualitative data on reasons for attrition were examined. For E/RP, logistical reasons, such as family health problems and travel burden, were the most common, followed by perceived lack of effectiveness and loss of contact. Importantly, intolerability of E/RP as a reason for attrition was not reported in any of the studies.

In sum, although past studies (in addition to clinical lore) have suggested that E/RP attrition and drop-out rates are unacceptably high, recent meta-analytic findings do not reveal any notable concerns with excessive attrition or drop-out risk associated with E/RP (Johnco et al., 2020; Ong et al., 2016). E/RP attrition rates were similar to those for other approaches, such as standalone cognitive therapy or pharmacological treatment. Based on aggregated data across RCTs, attrition rates of 14.7% and 10.24% in adult and youth samples, respectively,

suggest that attrition is likely not a significant concern for E/RP compared to other treatment modalities.

Negative clinician perceptions of E/RP. Despite the extensive body of research demonstrating the efficacy of E/RP for both youth (Öst et al., 2016; Skarphedinsson, Hanssen-Bauer et al., 2015) and adults (Skapinakis et al., 2016; Ferrando & Selai, 2021) with OCD, many patients seeking care unfortunately do not end up receiving this evidence-based intervention (Schwartz et al., 2013). Much of the research investigating this discrepancy has surveyed practicing clinicians to gain greater understanding of reasons for underutilization of E/RP (Deacon et al., 2013; Keleher et al., 2020; Moritz et al., 2019; A. M. Reid et al., 2018). Across multiple studies, some of the most common reasons for clinician hesitancy in administering E/RP in earnest include: (a) negative beliefs about the safety of the approach, (b) perceived patient inability to tolerate exposures, and (c) misconceptions of E/RP as non-essential for efficacious treatment of OCD.

Consistent with the NIH stage model of treatment development (Onken, 2019), the hindrance of widespread uptake of E/RP can be understood in terms of misconceptions arising during intervention development efforts (i.e., efficacy research) as well as perpetuation of misguided clinician attitudes and beliefs (i.e., dissemination efforts). Regarding the former, we argue that the differential emphasis placed by treatment developers on the role and nature of exposure in cognitive and behavioral conceptualizations of OCD (i.e., behavioral experiments in cognitive approaches and standalone E/RP in behavioral ones; Franklin & Foa, 2021) has inadvertently contributed to misconceptions surrounding E/RP.

More specifically, the literature is replete with studies that mischaracterize E/RP as intolerable and potentially dangerous in an attempt to build a case for alternative treatments for OCD. For example, in their advocacy for a cognitive approach, Shafran and colleagues (2013) stated “the prevailing treatment (exposure and response prevention) is so demanding

that many people find it hard to tolerate" (p. 270). More recently, Pagsberg and colleagues (2022), in building support for family-based relaxation therapy (FPRT) for pediatric OCD, hypothesized that "…CBT will be associated with more adverse events than FPRT due to the E/RP component of CBT" (p. 3) based on the argument that "drop-out rates from CBT of up to 26% implies some degree of unacceptability of the treatment" (p. 2). While it is commendable that Pagsberg et al. are taking the initiative to address the important yet under-researched topic of adverse events in psychotherapy research, the specious claims of the unacceptability of E/RP and the increased likelihood of adverse events insert needless doubt concerning an empirically supported treatment for OCD (Hezel & Simpson, 2019). Openness to new ideas and innovation in treatment development is essential for a generative clinical science (Washburn et al., 2022). However, we believe that this forward progress can be achieved with equipoise in mind– that is, without resorting to basing such efforts on mischaracterization of established interventions and their evidence base.

Pertaining to dissemination, negative clinician beliefs have been widely investigated across anxiety disorders in general (Deacon et al., 2013; Whiteside et al., 2016) and OCD specifically (Moritz et al., 2019) in terms of their relation to clinician hesitancy in utilizing exposure for conditions in which it is indicated. As described in more detail elsewhere (i.e., Veale et al., 2009; Lewis et al., 2020), perceived patient intolerability of, and excessive risk associated with, E/RP represent two of the most salient of these negative clinician beliefs.

Beliefs regarding a patient's inability to tolerate E/RP are often founded in clinicians' (well-intentioned but misguided) fear of the patient decompensating or losing control during exposure exercises (Deacon et al., 2013; Pittig et al., 2019). It is an unfortunately ironic paradox that such beliefs are likely to lead to negatively reinforced avoidance of conducting E/RP in earnest and may in fact also perpetuate the patient's OCD symptoms. Indeed, past

research has found that increased negative beliefs about exposure are associated with decreased utilization of such approaches (Deacon et al.; A. M. Reid et al., 2017).

Another common misconception identified in the OCD treatment literature (i.e., Bruce et al., 2018; Veale et al., 2009) involves the perceived danger of E/RP exercises for specific sub-types of OCD related to harm or sexuality. In these cases, the perceived danger is that patients will inevitably act on their obsessional content during the process of exposure (e.g., engaging in pedophilic behavior at a playground or stabbing one's infant with a knife). However, such risk is only *apparent* (i.e., illusory), rather than warranted, as patients with OCD are genuinely distressed by such intrusive thoughts and go to great lengths to *not* act on them via engagement in rituals and avoidance (Lewis et al., 2020).

To directly address the question of possible adverse events associated with E/RP for OCD, Schneider and colleagues (2020) surveyed practicing clinicians regarding serious negative consequences experienced during E/RP. Results across approximately 300 clinicians revealed that serious negative consequences were rare (less than 0.01% per patient), and the few instances reported involved secondary consequences (e.g., interaction with security guard as therapist assisted opposite-gender patient in public restroom exposure) or misunderstandings of others (e.g., inaccurate patient or family perceptions) regarding the rationale for, and practice of, E/RP. Importantly, no adverse events regarding a patient acting on their intrusive thoughts were noted. These findings, along with related research indicating that clinician negative attitudes toward exposure can be improved based on the provision of accurate information and training about the procedure (e.g., Deacon et al., 2013; Farrell et al., 2016), suggest that increasing access to E/RP will undoubtedly be aided by clear communication of the rationale for, and safety of, E/RP to key stakeholders (e.g., patients, families, other mental health professionals).

Myth / Misconception #3: Alternative Treatments for OCD Need to be Expeditiously Developed Due to Major Limitations of E/RP

Ample evidence exists indicating that E/RP *is* in fact an efficacious and acceptable treatment for both adults and children with OCD (Ferrando & Selai, 2021; McGuire et al., 2015). While some of the emerging interventions for OCD beyond E/RP fall within the general umbrella of the CBT tradition of theoretical coherence and empiricism, and have demonstrated preliminary evidence of efficacy (e.g., ACT; Twohig et al., 2015, 2018), more research will be needed before these approaches can be resoundingly labeled as evidence based. It is also of interest to note that a recent narrative review of third-wave CBT approaches for OCD– most notably, ACT– found that exposure principles are likely responsible for much of the efficacy of such interventions (Trent et al., 2021). Therefore, caution should be taken (and qualifiers added) when interpreting the results of such studies evaluating emerging interventions and generating practice recommendations. Additionally, highlighting the common unifying thread of E/RP as an empirically supported component in the treatment of OCD across diverse intervention approaches that utilize it– rather than needlessly promoting incoherence through downplaying such core components– is also strongly encouraged.

As described earlier, recent meta-analytic research (i.e., Reid et al., 2021) questions the effectiveness of CBT compared to other treatments, suggesting the relative effectiveness of CBT is contingent upon comparison treatment group, with larger observed effect sizes relative to non-active interventions (e.g., waitlist control, relaxation) compared to other active interventions. While to an extent this may be true (and indeed even expected; de Vries et al., 2022), we assert that Reid et al. drew inappropriate conclusions regarding: (a) equivalence between CBT and Eye Movement Desensitization and Reprocessing (EMDR)– a comparison

based on a single EMDR study (Marsden et al., 2018), and (b) their overall critique of existing treatment recommendations of CBT as a first-line treatment for OCD over other interventions.

Indeed, dismantling research does suggest certain elements of EMDR (i.e., exposure) may be effective in addressing certain psychopathologies and/or symptoms (Landin-Ramomero, 2018). Additionally, existing literature has documented exposure as the key element making CBT an effective intervention regardless of the theoretical model applied in conceptualizing OCD (Abramowitz, 2013; Craske et al., 2015; Foa & Kozak, 1986). However, the broad scope of exposure and the specific overlap between the two interventions does not automatically necessitate a need to explore EMDR– or other experimental approaches for that matter– as a treatment option for OCD. This is especially the case, since CBT– including E/RP– has repeatedly been documented as an effective first-line psychotherapeutic (Ferrando & Selai, 2021; McGuire et al., 2015), and, to date, no clearly articulated conceptual or mechanistic rationale for examining EMDR has been identified.

Similar concerns regarding shared mechanisms can be raised with E/RP and other interventions, namely ACT (Hayes et al., 2012). An important element of ACT includes *values-based committed action*, or the active engagement in valued activities the individual previously avoided due to symptoms, while actively acknowledging the presence of obsessional thoughts and resisting compulsive behaviors (Twohig et al., 2010). This is conceptually similar to E/RP in the context of traditional CBT, where patients and providers systematically and progressively engage with feared stimuli that elicit intrusive concerns while actively resisting compulsive behaviors (Foa et al., 2012; McGuire et al., 2014). Further, comparison trials exploring traditional E/RP versus E/RP plus ACT demonstrate general equivalence between the interventions, suggesting the shared exposure element in both interventions (Twohig et al., 2018; although, see Ong et al., 2020 for an interesting

discussion on differential moderators and processes of change in E/RP and ACT-informed E/RP).

Finally, iatrogenic effects of treatments must be considered in the context of OCD (McKay et al., 2021). Specific to E/RP, Schneider et al. (2020) documented near-zero chance of exposure in the context of E/RP resulting in patient harm, suggesting not only is the intervention effective, but also safe for both patients and providers. In contrast, use of cognitive skills in the context of traditional CT (e.g., Beck et al., 1979) has been identified as potentially iatrogenic, as cognitive disputation may function to attain reassurance that functions to provide short-lived relief followed by reemergence of obsessive thoughts (Neal et al., 2017). This in turn may prolong the time an individual experiences the effects of OCD symptoms. Further, as noted by McKay et al., the application of a psychodynamic framework to OCD may result in an inaccurate and harmful conceptualization of some obsessive thoughts, specifically those of a sexual nature, as unconscious impulses rather than ego dystonic thoughts.

While robust evidence does suggest CBT as a first-line psychotherapeutic approach for OCD, it is possible, and indeed likely, that other treatment modalities will develop sufficient evidence in time to become viable options. Until then, appropriate caution and skepticism should be applied when considering other treatment modalities, and parsimonious treatment options should be prioritized over those with treatment elements lacking empirical support (e.g., eye movements in EMDR). Additionally, more rigorous clinical trial research is needed by diverse research groups before providers working with OCD recommend alternative psychotherapeutics over CBT. Until this evidence presents, CBT, with an emphasis on E/RP, will remain the gold standard psychotherapeutic for OCD.

Recommendations for Addressing Pervasive Myths / Misconceptions

Myths and Misconceptions in CBT for OCD

It is clear from the foregoing literature review that the past four decades have yielded an impressive body of evidence consistently supporting the efficacy and effectiveness of CBT as a gold-standard treatment for OCD across the lifespan. Furthermore, extensive research has identified E/RP as an essential component of CBT for OCD. Despite this overwhelming research support, several myths and misconceptions continue to proliferate in both research and practice settings and serve to distort available data and ultimately may lead to harm. Such misinformation is especially concerning, both in terms of obfuscating important dissemination and implementation of CBT and hindering a generative clinical science of CBT for OCD. Through a synthesis of the OCD treatment literature in the present review article, we have addressed what we believe to be several of the most pervasive and insidious of such myths / misconceptions.

In the spirit of equipoise from which we base our argument against the overly critical stance against E/RP in favor of novel interventions for OCD taken by some, we believe that a balance of healthy skepticism and open mindedness is warranted (Washburn et al., 2022). This is especially important when considering diverse– and likely well-intentioned– viewpoints in regard to both research and practice of evidence-based treatments for OCD. To that end, we believe several of the critiques and areas of limitation concerning CBT for OCD described in this article (e.g., Reid et al., 2021; Uhre et al., 2020) possess a degree of truth. However, we believe that such critiques and concerns are most likely to lead to a generative clinical science of OCD if they are constructive, balanced, and put forth without misrepresenting the extant evidence base or unnecessarily disparaging a given intervention in service of promoting a different one. In that spirit, we present several specific recommendations directly linked to each of the specific myths / misconceptions, followed by a broader commentary on future directions in CBT for OCD clinical science.

Recommendation #1: Future research on CBT for OCD would be well-served to build upon, rather than dismantle, the extant evidence base, in an effort to improve intervention reach and scope. Although there is undoubtedly a strong evidence base supporting CBT for OCD, generative clinical science is predicated on perpetually identifying and addressing gaps or blind spots in our accumulation of knowledge (Lilienfeld, 2019; Washburn et al., 2022). As such, research should continue to examine processes of change underlying both OCD psychopathology and CBT intervention principles that target those psychopathological processes (Hayes & Hofmann, 2017).

Consistent with recommendations from Reid et al. (2021) and Freeman et al. (2018), researchers should also further examine investigator allegiance, effect moderators, boundary conditions, and clinician, patient, and setting factors that may influence (i.e., bolster or attenuate) the effects of CBT for OCD. Further research on moderators of OCD treatment outcome across various CBT-based modalities (i.e., CT, E/RP) may be especially fruitful. Aligned with extant findings (Ong et al., 2020; Steketee et al., 2019), some candidate moderator variables that warrant further investigation include both patient (e.g., baseline OCD severity, depressive symptoms, education level, beliefs about excessive responsibility/threat) and clinician (e.g., experience, degree, perceptions of E/RP) factors. Such findings could address questions related to which patients benefit most from E/RP and help guide clinical decision making to improve outcomes for patients (Steketee et al.). Finally, consistent with Reid et al., an increased emphasis on outcomes associated with overall health and well-being, such as quality of life and prosperity/thriving, instead of simply absence of OCD symptoms, is another important avenue for future research.

Additionally, future research should continue to examine the effectiveness of E/RP across diverse settings and patient populations, especially in regard to how diversity variables may impact OCD symptomology and adaptations to treatment (Williams et al., 2020).

Similarly, continuing to cultivate a workforce of mental health service providers representative of a range of diversity variables (e.g., gender identity, ethnicity, sexual orientation, training background) is imperative for improving dissemination efforts and reach of CBT. Further, although preliminary evidence is encouraging (Mancebo et al., 2021), additional research on the use of E/RP in community mental health centers with low-income patients with severe comorbid conditions is an important future direction. Finally, to improve access and efficiency of treatment, it is also recommended that researchers continue to examine factors that may attenuate or bolster the effects of telehealth E/RP, and study the efficacy of internet-based, self-help CBT treatment programs.

Recommendation #2: E/RP drop out, attrition, and clinician and patient perceptions continue to merit further research and dissemination efforts. Despite recent meta-analytic findings that do not suggest excessive concerns with E/RP attrition (Johnco et al., 2020; Ong et al., 2016), continuing to better understand reasons for *any* patient refusing or dropping out of E/RP treatment is imperative to improve the reach and scope of this approach. Indeed, a better understanding of factors (i.e., moderators) associated with poor treatment acceptability and treatment drop out may assist in increasing uptake of E/RP (Ong et al., 2020). Based on previous moderation studies (e.g., Ong et al.; Steketee et al., 2019), some examples of candidate moderators of drop-out risk may include baseline level of symptomology, clinician attitudes toward exposure, or therapy process variables (e.g., working alliance, patient expectations of treatment). Further, reporting specific reasons for treatment refusal and dropout in each treatment condition should be an emphasis of future clinical trials.

Additionally, due to the vigorous and powerful nature of E/RP, it is understandable how such myths and misconceptions regarding the perceived dangerousness and intolerability of E/RP are perpetuated (Moritz et al., 2019). As such, it is imperative to continue to find ways to better disseminate and train clinicians in E/RP, especially providers across diverse

disciplines and settings. These efforts are needed to increase the availability of providers who are adequately trained in E/RP, and to decrease negative clinician attitudes toward exposure (Whiteside et al., 2016). This is especially pertinent, as inadequately trained, or misinformed, providers may inadvertently perpetuate the message that E/RP is intolerable and dangerous to patients with OCD. Didactic trainings on the procedures of and rationale for E/RP have demonstrated promise for improving clinician negative beliefs toward exposures and reduce clinician hesitancy to provide E/RP (Deacon et al., 2013). Such education and training efforts concerning E/RP may be especially critical at early formative stages of clinical graduate training (Klepac et al., 2012).

Recommendation #3: Further intervention development efforts for OCD will benefit from an equipoise-focused balance of amiable skepticism of extant approaches and striving for innovation. Although some emerging interventions (e.g., third-wave CBTs, such as ACT) have demonstrated preliminary efficacy, more research is needed before these interventions can be definitively considered evidence-based. Additionally, an emphasis on the continued refinement of clear guidelines for the level of research rigor needed to support evidence-based practice guidelines for the treatment of OCD is warranted (Freeman et al., 2018; Tolin, Melnyk et al., 2015). Given the evolving state of the empirical evidence of interventions for OCD, evidence-based practice guidelines should be continually updated and revised to provide guidance to clinicians, patients, and key stakeholders (e.g., funding organizations and third-party payers). This is especially relevant for the APA Division 12 Empirically Supported Treatment (EST) list, which appears to have last been updated in 2015 (Tolin, Melnyk et al.). Updating practice guidelines will also serve to encourage clinicians to further develop the skills necessary to provide patients with recommended, evidence-based treatment.

Future directions in CBT for OCD Clinical Science and Practice

Implementation science holds great promise in overcoming the myths / misconceptions about CBT for OCD described in this article. One thoroughgoing misconception that has persisted regarding E/RP is that clinicians are hesitant to conduct the procedure, often out of concerns that they may cause harm or be the object of litigation (Richard & Gloster, 2006). Training can overcome these hesitancies (i.e., Deacon et al., 2013; Farrell, et al., 2016). However, this is based on the original theoretical model of exposure that emphasizes habituation. Thus, the in-session experience of E/RP demands elicitation of anxiety, and over time anxiety reduction, through a well-worn classical conditioning principle (Foa & Kozak, 1986).

That said, the past ten years have ushered in a new model of exposure, one that de-emphasizes habituation in favor of and in conjunction with the experience of the feared stimuli under a variety of circumstances. This revised model of exposure, the inhibitory learning model (ILM), focuses on new learning associated with the feared and avoided stimuli, rather than an exclusive focus on habituation (see Craske et al., 2014). Inspection of facets of this model suggest that, in actuality, clinicians who have long relied on traditional models of E/RP implicitly relied on some of the central tenets of ILM. More specifically, one method of conducting exposure using the ILM approach involves violating client expectancies. Thus, conditions where exposure provokes emotional reactions other than anxiety would constitute a change in the a priori prediction the client would make regarding their response. As an illustrative example, consider a patient with contamination fear involving medical waste. The prediction is that when faced with a setting where medical waste might be present (such as a disposal can outside a lab), anxiety around 70 (out of a maximum 100) would be elicited. When the therapist then accompanies the client to the doorway of a medical lab and stand within inches of a medical waste can (but without opening it nor encountering any actual waste), the patient continues to rate anxiety levels

around 60-70, but laughs at the situation. This would constitute a shift in expectancies, *with no habituation to the stimuli necessary* because instead laughter competes directly and successfully with anxiety.

In light of the comparably more flexible and adaptive nature of the ILM approach to exposure, it is likely that further dissemination of this strategy will make E/RP more appealing to clinicians and could go a long way to dispelling the various myths and misconceptions discussed at length in this article. This is especially the case, since an overemphasis on habituation during exposure may inadvertently lead to excessive pressure or frustration in both clinicians and patients in OCD presentations less amenable to habituation (e.g., disgust- or symmetry-based). After all, the surest way to eliminate mistaken assumptions among practitioners is the wider *successful* adoption of E/RP. Formally integrating the ILM into CBT protocols for OCD, a set of approaches that has been referred to as "the clinician's model," would be a particularly promising future direction in this area of research. Considering the numerous, creative, and flexible ways of crafting exposure in the ILM, a robust program of research could be pursued to identify treatment decision frameworks that could better guide clinicians in how to best conceptualize E/RP within a CBT for OCD paradigm.

Other areas of future research include treatment dissemination globally. Indeed, members of this team have embarked on a large-scale collaboration – *Latin American Trans-ancestry Initiative in OCD Genomics (LATINO)* – that aims to recruit and collect saliva derived DNA from 5000 Latin American individuals with OCD (see latinostudy.org). Importantly, a major goal of this project is to also build infrastructure for treatment (i.e., CBT) and research among the 14 participating countries in order to reduce existing mental health disparities.

Another key outstanding question is how to discontinue effective treatments versus remaining on them without clear empirical support for the optimal duration or method of discontinuation. The past several decades have been spent on learning what works and for whom. As this article indicates, we believe we have successfully achieved that goal, and highlight the need for rigorous (but not premature dissemination) research of potential emerging interventions. One pressing question that has received recent empirical support is can we discontinue SRIs after achieving remission (Foa et al., 2022) and if so, for whom is this an option and why might this work mechanistically? Our group has embarked on a replication of the adult trial in youth with OCD with recruitment underway. As this and the LATINO project indicate, instead of answering the same old questions, we suggest that attention should be directed to addressing new questions and gaps in access such as those indicated.

Lastly, we believe that further research into the phenomenology of OCD itself is warranted, especially in light of the rampant misconceptions that exist concerning the very nature of this notably heterogenous condition (Abramowitz et al., 2005). While beyond the scope of the present article, layperson and non-specialist provider perceptions of OCD are another area that deserves attention. Such perceptions of OCD often involve narrow caricatures of the disorder centered on contamination or orderliness, and flippant phrases such as “that’s so OCD” are sometimes used in layperson vernacular to describe non-pathological idiosyncrasies or preferences. These inaccurate cultural messages surrounding OCD likely contribute to under- and over-pathologizing, under- or misdiagnosis, potentially iatrogenic treatment recommendations by non-specialist providers, and increased isolation/confusion in patients with OCD. As such, more research, outreach, and advocacy efforts are sorely needed to improve societal and clinical awareness to dispel confusion, reduce stigmatization and

mischaracterization, and improve access to gold-standard interventions for those suffering from OCD.

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Highlights

- Cognitive-behavior therapy is a gold-standard treatment for obsessive-compulsive disorder.
- Exposure and response prevention is a key component of this approach.
- Several myths and misconceptions related to CBT for OCD continue to proliferate.
- Such myths/misconceptions lack empiricism and slow dissemination and implementation.
- The present review addresses these myths/misconceptions and provides recommendations for research and practice.

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Conflicts of Interest

Dr. Storch reports receiving research funding to his institution from the Ream Foundation, International OCD Foundation, and NIH. He is a consultant for Brainsway and Biohaven Pharmaceuticals. He owns stock less than $5000 in NView. He receives book royalties from Elsevier, Wiley, Oxford, American Psychological Association, Guildford, Springer, Routledge, and Jessica Kingsley. All other authors declare no conflicts of interest. Drs. Eric Storch and Dean McKay serve on the editorial board of the Journal of Obsessive Compulsive and Related Disorders. Given Drs. Storch and McKay's roles as editorial board members, they had no involvement in the peer-review of this article and had no access to information regarding its peer-review.

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Ethical Statements

Since no data were collected for the present review article, no IRB approval was sought.

Informed Consent

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Data Availability

Since no data were collected from participants for the present review article, no data are available.

Contributors

The first author led the literature review/manuscript preparation process, discussed research questions with the seventh author (senior author), and wrote and revised the manuscript. The second, third, fourth, fifth, and sixth authors contributed to the literature review, and assisted with drafting, revising, and editing the manuscript. Finally, the seventh (senior) author supervised the first author in conducting the literature review/manuscript preparation, conceptualized the overall idea, and wrote and revised the manuscript. The final manuscript was approved by all authors.