Baby, OCD, and Me: Psychoeducation Intervention on Perinatal Obsessive-Compulsive Disorder

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BABY, OCD, AND ME:

PSYCHOEDUCATION INTERVENTION ON PERINATAL OBSESSIVE-COMPULSIVE DISORDER

A Dissertation
presented in partial fulfillment of requirements
for the degree of Doctor of Philosophy
in the Department of Psychology
The University of Mississippi

by
Alexandra M. Gilbert
August 2023
ABSTRACT

Awareness towards maternal mental health conditions (MMHC) has recently increased, especially during the perinatal period (pregnancy and the first postpartum year [Kucherer & Byatt, 2020]). However, perinatal Obsessive-Compulsive Disorder (OCD), continues to face unique challenges. Perinatal OCD is found to be insufficiently recognized, diagnosed, and treated compared to other MMHC (Mulcahy et al., 2020). Researchers have identified a general lack of awareness and/or stigmatization of the disorder as complicating factors (Cooke et al., 2020; McCarty et al., 2017). One promising avenue for addressing such barriers to accessing care is psychoeducation intervention (PEI) focusing on perinatal OCD (Timpano et al., 2011).

Consequently, the purpose of the present study was to assess the experience of OCS and to expand awareness and understanding surrounding perinatal MMHC, (with a focus on perinatal OCD/OCS) via a single-session, virtually-delivered psychoeducational intervention (PEI). A nonclinical sample of perinatal and non-perinatal participated in this study. Participants completed online self-report measures and were randomly assigned to either the Active Condition (perinatal OCD/OCS psychoeducation intervention) or Control Condition (alternative psychoeducation intervention). It was hypothesized that prior to the intervention, perinatal individuals would report higher symptom experience at baseline, and that specific OCS subtypes would vary in prevalence based on the perinatal period. Furthermore, it was hypothesized that Harm and Taboo-Content OCS would be more stigmatized compared to Contamination OCS at baseline. Finally, the Active PEI Condition was evaluated for effectiveness, hypothesizing that it
would lead to greater reductions in OCS and stigma compared to the Control PEI Condition and be perceived as more acceptable.

Results showed that with the exception of reducing stigma endorsed towards the Contamination Subtype of OCS, overall findings were non-significant. However, results nonetheless contribute to the literature by offering points for future consideration in an understudied area of research. The clinical implications for such research include reducing shame and stigma towards perinatal OCD/OCS, namely Contamination OCS during a global pandemic, thereby potentially improving access to evidence-based care for such symptoms. Future research is needed to generalize findings to more diverse populations, especially among those with less education, and explore various psychoeducational intervention and prevention approaches.
To the one in five mothers
LIST OF ABBREVIATIONS AND SYMBOLS

Antenatal- The period following conception and prior to birth.

Gravidity- The number of times a woman has been pregnant.

Multiparous- Women who have already given birth previously to more than one child.

Nonparous/nulliparity- Women who have never borne a child.

Parity- The number of times that a woman has given birth to a fetus with a gestational age of 20 weeks or more.

Parous- Referring to having given birth.

Perinatal- Pregnancy and the first postpartum year.

Peripartum- The period following conception to the period following birth.

Prenatal- The period following conception and prior to birth.

Primiparous- Women who have given birth to a single child.

Postnatal- The period following birth (typically up to one year).

Postpartum- The period following birth (typically up to one year).
ACKNOWLEDGEMENTS

The completion of this dissertation was a labor of love, and I am indebted to several individuals who deserve my heartfelt thanks. First and foremost, I express my sincere appreciation to the women who graciously participated in my study, as well as the perinatal patients I had the privilege to serve on a day-to-day basis this past year. Their invaluable contributions have made this research possible and have enriched its significance.

To my family, especially my parents Jayne and Todd, I owe profound gratitude for their unwavering love and support throughout the completion of this project and other significant milestones throughout my schooling. To my loving grandparents, your encouragement has been a constant source of strength. I extend thanks to my friends within and outside of graduate school. You have been an anchor, keeping me grounded and motivated throughout my studies while reminding me to find joy in the journey. Special thanks to Drs. Megan Perry, Brittany Sapp, Tracy Protti, Rachel Marsh, Marci Weber, Gina Boullion, and Anandi Ehman. Your presence and encouragement throughout graduate school has been invaluable. I am also especially grateful to my dear friends Alexis and Brianna, who have been with me since childhood. Witnessing your dedication and steadfast commitment to your children and family has truly been inspiring. To my cohort members in both graduate school and internship, your peer mentorship and cheerleading have been instrumental in helping me grow into my confidence and overall professional identity. I extend special thanks to Drs. Samantha Ingram and Stephen Docherty for your assistance and consultation in the statistical analyses of this
study. To Dr. Danielle Cooke, one of my undergraduate lab partners, thank you for your continued support and collaboration, which has helped shape and strengthen this study.

I offer sincere thanks to my committee members for their ongoing dedication to my professional growth, both within this dissertation and throughout my graduate school training. You have played a unique role in refining my clinical skillset, fostering my appreciation for multiculturalism and diversity, and impacting my professional pursuits. To my dissertation chair, Dr. Danielle Maack, and the entire ADEPT Lab, thank you for your guidance, support, and expertise throughout this study and other research projects. Dr. Maack, being the final student to graduate under your mentorship is truly an honor, albeit bittersweet. Thank you for everything.

To all my supervisors and mentors, your commitment to my training and professional development has propelled me forward. Special thanks to Drs. Katherine Meyers and Kathleen Colangelo for their provision of in-depth training and supervision in women’s health and women’s reproductive mental health during internship, as it has solidified my clinical and research interests in this area. As I embark on the next phase of my career, I vow to continue using this research and others to inform my clinical practice in serving women Veterans. To everyone who has been a part of this incredible journey, thank you from the bottom of my heart. Your unconditional support has made this final graduate school achievement possible.
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INTRODUCTION

Maternal Mental Health Conditions

Pregnancy is a unique and special time for many individuals. While aspects of the experience might be associated with celebration and blissful anticipation, it can also pose great challenges. Pregnant women are considered a vulnerable population in part due to an increased proclivity to experience psychological distress (Goodman et al., 2014; Reck et al., 2012; Szpunar & Parry, 2018). The perinatal period, which ranges from pregnancy into the first postpartum year (Timpano et al., 2011), is an especially sensitive period for women as it is associated with the onset or exacerbation of many maternal mental health conditions (MMHC; Abramowitz et al., 2003b; Fawcett et al., 2019; Shorey et al., 2015). For example, a rare MMHC is postpartum psychosis (Kucherer & Byatt, 2020), which occurs most frequently in women previously diagnosed with bipolar disorder (Lewis et al., 2018). However, more common MMHC, that impacts an estimated 20% of perinatal women, is the experience of depression and/or anxiety (Fawcett et al., 2019; Shorey et al., 2015). Additionally, one in 20 perinatal women meet diagnostic criteria for at least two anxiety disorders (Fawcett et al., 2019) suggesting attention to this area of MMHC is needed.

Prevalence of Perinatal Anxiety

While research on postpartum depression is imperative to maternal mental health and well-being, it is not the only manifestation of maternal distress. According to studies examining
incidence rates of MMHC, anxiety concerns are found to be more common than depression symptoms during the perinatal period (Lee et al., 2007; Reck et al., 2008; Wenzel et al., 2005) yet are understudied compared to postpartum depression (Fairbrother et al., 2016). This is not particularly surprising as anxiety is a common and universal affliction (Kessler et al., 2005). Anxiety disorders are one of the most prevalent conditions affecting the general population (Kessler et al., 2005), including pregnant women (Borri et al., 2008; Giardinelli et al., 2012; Mota et al., 2008; Reck et al., 2008; Uguz et al., 2010; Wenzel et al., 2005; Wynter et al., 2013). More specifically, lifetime prevalence of anxiety disorders in the general population are upwards of 30% (Kessler et al., 2005) and females have been shown to be at increased risk (1.2 to 6.8 times more likely) for experiencing an anxiety disorder than males (Kessler et al., 2005; Somers et al., 2006) at some point during their lifetime.

Current estimates of perinatal anxiety disorders suggest a prenatal prevalence of 9-22% and a postpartum prevalence of 11-21% (Borri et al., 2008; Giardinelli et al., 2012; Mota et al., 2008; Reck et al., 2008; Uguz et al., 2010; Wenzel et al., 2005; Wynter et al., 2013), whereas the prevalence of perinatal depression is estimated to be 6.5-12.9% (Gavin et al., 2005). To examine the prevalence of anxiety and depression more directly, Lee et al. (2007) assessed pregnant and postpartum (i.e., six weeks postpartum) women through in-depth MMHC perinatal assessments. Antenatal anxiety and depression symptoms were measured using the Hospital Anxiety and Depression Scale (Abiodun, 1994) and postpartum depression symptoms were assessed using the Edinburgh Postnatal Depression Scale (EPDS; Cox et al., 1987). According to scores on these measures, results demonstrated that women endorsed higher symptom levels of anxiety compared to depression (54% and 37%, respectively) at all stages of the perinatal period assessed (Lee et al., 2007).
In another prevalence study, Reck et al. (2008) examined over 1,000 postpartum women across a three-month period using a variety of self-report instruments. Screening for anxiety disorders was performed using the Anxiety-SCID-Screening (Wittchen et al., 1997) and the Anxiety Screening Questionnaire (Wittchen & Boyer, 1998). Of note, the Anxiety-SCID-Screening is taken from the Structured Clinical Interview for DSM-IV, Axis I Disorders (SCID-I; Wittchen et al., 1997). Screening for depression was conducted using the Patient Health Questionnaire-Depression (Gräfe et al., 2004) and the EPDS (Cox et al., 1987). Assessments demonstrated that the experience of anxiety disorders, as measured by screening instruments consistent with the Diagnostic and Statistical Manual, fourth edition (4th ed.; DSM-IV; American Psychiatric Association, 2000) criteria, were deemed more ubiquitous than depressive disorders overall (11.1% and 6.1%, respectively; Reck et al., 2008).

A more comprehensive analysis of perinatal anxiety indicates that there is a tendency for pregnant women to be more susceptible to anxiety than postpartum women (Dennis et al., 2017; Fawcett et al., 2019). One study by Dennis et al. (2017) demonstrated this finding in a systematic review and meta-analysis of the prevalence of antenatal and postnatal anxiety. Results demonstrated that the prevalence of trait anxiety ranged from 29-33% prenatally and decreased to 23% postnatally. Further, the prevalence of a clinical diagnosis of any anxiety disorder in the prenatal period was 15.2% and decreased to 9.9% in the postnatal period. One potential explanation for this occurrence is that a higher prevalence of anxiety disorder predictors (e.g., high perceived stress; Biaggi et al., 2016; Furtado et al., 2018; Leach et al., 2017; Robinson et al., 2016) are found to exist prenatally compared to postnatally (Fawcett et al., 2019). Therefore, pregnant women are at increased risk for experiencing anxiety or developing an anxiety-related disorder during this time (Fawcett et al., 2019). Overall, perinatal research suggests that anxiety
appears to be more prevalent than depression and that anxiety is more likely to coincide with pregnancy. While a significant need for research on postpartum depression and the postpartum period exists, coalescing evidence suggests that increased focus on perinatal anxiety is also justified (Dennis et al., 2017; Fawcett et al., 2019; Reck et al., 2008).

Consequences of Perinatal Anxiety

The occurrence of anxiety has been linked to extreme maternal distress and overactivation of the mother’s endocrine system (Müller et al., 2020). Overactivation of the endocrine system generally occurs during times of acute stress and can lead to dysregulated hypothalamic-pituitary-adrenal (HPA) axis activity (Kinlein et al., 2015). Notably, increased HPA axis responsiveness has been observed following ovulation (Altemus, 2006) and during pregnancy (Rees, 2014). Consequences of disrupted HPA-axis functioning include compromised immune and metabolic processes (Kinlein et al., 2015). It is proposed that alterations in the HPA-axis also correspond to maladaptive neurobehavioral responses, which may contribute to the development of many neuropsychiatric disorders, including depression and anxiety (Kinlein et al., 2015).

Moreover, an overactive maternal stress response can become harmful to the fetus’ environment as fetal blood concentrations are linearly related to the mothers’ (Field et al., 2006). This phenomenon of shared blood concentrations between the fetus and mother is consistent with the “fetal-programming hypothesis,” which states that the environment in utero can alter the development of the fetus and pose long-lasting consequences (Van den Bergh et al., 2005). Thus, it is unsurprising that maternal stress is associated with increased risk for adverse pregnancy outcomes (Amiel-Tison et al., 2004; Van den Bergh et al., 2005) including pre-eclampsia (Qiu et
al., 2007), preterm delivery (Ding et al., 2014), low birth weight (Ding et al., 2014; Mulder et al., 2002), and even miscarriage (Huizink et al., 2004).

Anxiety experienced throughout pregnancy can also have long-term repercussions for the mother and newborn infant (Fawcett et al., 2019; Reck et al., 2012). For example, women experiencing prenatal anxiety tend to exhibit maternal behavioral inhibition (Coplan et al., 2005; Manassis et al., 1995), which is characterized by withdrawn behavioral and emotional responses to novel stimuli and situations (e.g., avoiding contact with the infant). These inhibited patterns of maternal behavior are thought to contribute to compromised mother-infant communication (Field et al., 2005; Glasheen et al., 2010). When anxious mothers do engage with their infant, they tend to respond from a relatively restricted set of behavioral repertoires (Field et al., 2005). This rigidity impairs their ability to respond to novelty and negative mood, leading to ineffective infant soothing (Coplan et al., 2005; Davis et al., 2004). Women with postpartum anxiety disorders also endorse lower maternal self-confidence, perpetuating an ineffective cycle of interactions with the infant (Zietlow et al., 2014). Together, these factors can interfere with healthy mother-infant bonding and can lead to insecure attachment (Coplan et al., 2005).

Other far-reaching consequences of perinatal anxiety include childhood regulatory dysfunction and impaired cognitive and psychomotor development (Goodman et al., 2011; Mennes et al., 2006). Longitudinal, prospective studies of mothers’ and families have been conducted (i.e., The Avon Longitudinal Study of Parents and Children, ALSPAC; Golding et al., 2001) to assess environmental influences (e.g., maternal health and mental health) on child health and development. Women were asked to complete outcome measures assessing obstetric and psychosocial factors throughout pregnancy and the postpartum period (i.e., through the child’s 4th and 7th year; O’Connor et al., 2002, 2003, respectively). Child health and mental
health outcomes were subsequently examined, which included an assessment of several behavioral (e.g., bullying tendencies) and emotional (e.g., self-esteem) difficulties (Golding et al., 2001). Cognitive disturbances (e.g., IQ, attention span, short-term memory) were also assessed (Golding et al., 2001).

Overarching results from ALSPAC follow-up studies indicate that children of mothers with elevated prenatal anxiety were found to be at increased risk for behavioral and emotional problems (e.g., attention-deficit/hyperactivity disorder; O’Connor et al., 2002, 2003). Relatedly, adolescents of mothers with high levels of prenatal anxiety have been shown to exhibit reduced executive functioning, evidenced by deficits in completing tasks with a greater load on cognitive control including those requiring integration and control of different task parameters (i.e., Sky Search Dual task, Elevator Counting with Distraction task; Mennes et al., 2006). Overall, the experience of clinical anxiety appears to limit mothers’ ability to rear children flexibly and adaptively, thus precipitating difficulties for offspring throughout childhood (O’Connor et al., 2002, 2003) and adolescence (Golding et al., 2001; Mennes et al., 2006; Van den Bergh et al., 2006).

**Perinatal Anxiety Research**

As perinatal anxiety has begun to attract more attention, differentiating specific features of perinatal anxiety from anxiety experienced in the general population has been explored (Blackmore et al., 2016). Outcomes of this line of research have demonstrated perinatal anxiety to be a unique clinical phenomenon, such that worries distinctly correspond to pregnancy, childbirth, and the maternal role (Blackmore et al., 2016; Dunkel Schetter & Glynn, 2011; Guardino & Dunkel Schetter, 2014). In particular, Blackmore et al. (2016) assessed prenatal women (n=345) for anxiety and depression at 20 and 32 gestational weeks, and again at two and
six months postpartum. Data obtained from clinical interviews, medical exams, and chart reviews were used to assess factors relevant to psychosocial and obstetric risks (Blackmore et al., 2016). Perinatal-related anxiety was measured via seven Likert-style questions assessing women’s level of worry or fear about themselves during gestation and childbirth as well as concern for their baby’s health and development. Conventional measures of maternal anxiety symptoms were based on several instruments including the SCID-I (Wittchen et al., 1997), the Penn State Worry Questionnaire (Meyer et al., 1990), and the state subscale of the State-Trait Anxiety Inventory (Spielberger et al., 1983). A factor analysis was conducted with results suggesting two predominant factors: concerns about the birth and delivery, and concerns about the newborn child’s health (Blackmore et al., 2016). Authors concluded that these factors constitute the two major components of perinatal anxiety, and that these anxieties can be distinguished from conventional anxiety in terms of longitudinal course (e.g., reductions in perinatal anxiety but not conventional anxiety over the course of pregnancy), associated features (e.g., parity, age at first pregnancy, maternal age, number of miscarriages), and prediction of postnatal mood disturbance (Blackmore et al., 2016). Results indicated that perinatal anxiety related to child health significantly decreased over the longitudinal course of gestation, whereas no reductions occurred for conventional anxiety symptom measures. Reductions in child-related worries throughout pregnancy have also been evidenced in prior research (i.e., Lobel et al., 2008) suggesting that this is a common trend among pregnant women. Overall, authors deemed the most important finding to be perinatal anxiety’s unique impact on obstetric outcomes (i.e., perinatal anxiety distinctly predicted infant birth weight and gestational age compared to conventional anxiety symptom measures; Blackmore et al., 2016).
Additionally, estimates from Fawcett et al. (2019) suggest that women diagnosed with an anxiety disorder during the perinatal period have up to a 50% chance of developing a second anxiety disorder. Authors employed a modern Bayesian multivariate approach to estimate the probability of having one or more anxiety disorders by combining individual disorder prevalences from prior perinatal anxiety prevalence studies and simulating data from a large, typical sample of perinatal women. This analysis allowed authors to estimate the probability of women receiving one or more anxiety disorder diagnoses during the perinatal period (Fawcett et al., 2019). Taken together, considering the distinctiveness and prevalence of perinatal anxiety along with its associated consequences, increased research on perinatal anxiety-related disorders is warranted.

**Obsessive-Compulsive Disorder**

One MMHC previously subsumed within the category of anxiety-related conditions is Obsessive-Compulsive Disorder (OCD, 5th ed.; DSM-V American Psychiatric Association, 2013). Although the categorization of this disorder is now Obsessive-Compulsive and Related Disorders, the vast majority of research has referred to OCD (and some continue to) under the umbrella of anxiety (Storch et al., 2008). Notably, the reclassification of OCD into a larger spectrum of disorders, termed Obsessive-Compulsive Spectrum Disorders (OCSD), has been widely contested among clinical and research professionals specializing in OCD (Mataix-Cols et al., 2007; Storch et al., 2008). Taxonomy consensus aside, OCD is characterized by the presence of obsessions (i.e., recurrent and intrusive thoughts, urges, or images) and/or compulsions (i.e., repetitive compensatory behaviors or mental acts that function to alleviate anxiety or distress; American Psychiatric Association, 2013; Veale & Roberts, 2014). OCD is considered a heterogenous, multidimensional disorder meaning the content of obsessions and compulsions
varies among individuals (Olatunji et al., 2017; Veale & Roberts, 2014). However, common
dimensions or subtypes listed in the DSM-V are categorized as follows: contamination (e.g.,
excessive cleaning behaviors); symmetry (e.g., counting and ordering); forbidden or taboo
thoughts (e.g., aggressive, sexual, and religious fixations); and harm (e.g., safety-checking and

The Obsessive-Compulsive and Related Disorders (e.g., body-dysmorphic disorder,
hoarding disorder, trichotillomania, excoriation disorder) differ from developmentally normative
preoccupations or worries (5th ed.; DSM-V; American Psychiatric Association, 2013). Core
features of OCD and OCSD include recurrent, repetitive thoughts and behaviors (Storch et al.,
2008). Dysfunctional appraisal processes and excessive avoidance of feared stimuli, often
manifesting in the form of compulsions (covert or overt), tend to be specific to OCD (Veale &
Roberts, 2014). The course of OCD is considered to be chronic, and symptoms significantly
interfere with one’s functioning across contexts (e.g., family, work, social activities; Veale &
Roberts, 2014). In fact, OCD is ranked by the World Health Organization as one of the top 10
most handicapping conditions worldwide via detriments to one’s income and quality of life
(Bobes et al., 2001; Veale & Roberts, 2014). This designation is not particularly surprising as
compulsions are considered ego-dystonic (i.e., inconsistent with one’s values) in nature and lead
to marked distress. However, compulsions are considered driven behaviors such that they are
innately difficult to inhibit or delay and thus, are seldomly resisted (Veale & Roberts, 2014). Of
note, compulsions are differentiated from other impulsive acts that produce immediate
gratification or pleasure (e.g., shopping, gambling; Veale & Roberts, 2014). Overall, OCD is
impairing across symptom dimensions and can be reliably differentiated from other conditions,
including other OCSD (Storch et al., 2008).
Conceptualization of Obsessive-Compulsive Disorder

The cognitive-behavioral conceptualization of the etiology of OCD posits that negative, yet normally occurring, intrusive thoughts are misjudged as significant and dangerous (Larsen et al., 2006). These thoughts are then falsely interpreted as unacceptable and the person believes that they can and should eliminate them to prevent them from happening (i.e., thought-action fusion; Veale & Roberts, 2014). The subsequent compulsive behaviors or rituals provide initial relief and generate a faulty sense of control over the obsessive thoughts. While these neutralizing actions are effective in the short-term, they serve to maintain or exacerbate obsessions in the long-term (Abramowitz et al., 2003b). Specifically, compulsions interfere with the natural habituation of distress and create more deeply ingrained habits over time as successive extinction of compulsions are prevented (Abramowitz et al., 2003b; Veale & Roberts, 2014).

For example, some individuals suffering from OCD express an over-inflated sense of responsibility (Abramowitz et al., 2003b). Obsessions focused on the safety of others, such as “I may have unknowingly struck a pedestrian while driving my vehicle” evokes urges to compulsively check the roads for injured people or other ritualistic behaviors to neutralize fears (Abramowitz et al., 2003b). These compulsive actions inadvertently reinforce one’s fears/obsessions and interfere with new, adaptive learning. For instance, checking compulsions in the current example prevents the individual from learning that their level of distress will not be infinitely maintained (i.e., habituation) if the ritual (i.e., checking) is not completed. The compulsions also interfere with the ability to challenge and subsequently modify obsessive cognitions regarding risks of accidentally hurting a pedestrian. Therefore, while abstaining from compulsions may seem counterintuitive to the individual, resisting them serves to increase the ability to accurately identify danger cues in the environment thereby fostering more adaptive responding (see Figure 1).
Perinatal Obsessive-Compulsive Disorder

Despite limited perinatal OCD awareness in the general population, it is recognized in the literature as a commonly occurring MMHC (Abramowitz et al., 2003b; Munk-Olsen et al., 2006; Ross & McLean, 2006). The estimated prevalence of OCD occurring in the prenatal period and postpartum period are 2.07% and 2.43%, respectively (Russell et al., 2013). While these estimates are similar to the estimated prevalence of OCD occurring in the general population (2-3%; Ruscio et al., 2010), they are higher than the 12-month prevalence for women in this same group (1.6%; Ruscio et al., 2010). Perinatal women are also shown to be at increased risk (i.e., 1.5-2 times more likely) for experiencing OCD during or following pregnancy compared to the general population (Russell et al., 2013). In fact, one study indicated 30% of women experiencing OCD retrospectively reported symptom onset beginning during the perinatal period (Williams & Koran, 1997). Despite symptom occurrence throughout the perinatal period, existing research on perinatal OCD largely focuses on the postpartum period alone (e.g., Abramowitz et al., 2003a; Fairbrother & Woody, 2008; McGuinness et al., 2011; Zambaldi et al.,...
Research and intervention are indeed crucial during the postpartum period as it is a time when an estimated 40% of women with OCD report symptom onset (Labad et al., 2005) and between 25-75% of women diagnosed with OCD experience symptom exacerbation (Kitamura et al., 2006; Uguz & Ayhan, 2011). Thus, while postpartum OCD research is important, examination dedicated to the full scope of the perinatal period is lacking.

The developing consensus among both researchers and clinicians is that perinatal OCD should be more adequately identified, diagnosed, and treated (Challacombe & Wroe, 2013; Committee on Obstetric Practice, 2015; Forray et al., 2010; Glazier et al., 2015; Mulcahy et al., 2020; Ross & McLean, 2006; Sharma & Sommerdyk, 2015). While the research in this area is still in the nascent stages (Timpano et al., 2011), its current development is promising. This burgeoning body of literature is vital to preventative care as the perinatal period alone can trigger the development or exacerbation of OCD symptoms (Abramowitz et al., 2003b; Forray et al., 2010; Williams & Koran, 1997). Unfortunately, perinatal OCD is often misdiagnosed as other conditions such as depression or psychosis (Challacombe & Wroe, 2013; Mulcahy et al., 2020; Sharma & Sommerdyk, 2015) or left undiagnosed altogether (Berrisford & Wilson, 2015; Mulcahy et al., 2020; Timpano et al., 2011).

Additional support for increasing the degree of scientific focus on perinatal OCD is the understanding that subclinical symptoms, termed obsessive-compulsive symptoms (OCS), are common among new mothers (Abramowitz et al., 2003a; Fairbrother & Woody, 2008; Leckman et al., 1999; Miller et al., 2013, 2015; Zambaldi et al., 2009) and can run a deteriorating course if left untreated (Fairbrother et al., 2018; Sutter-Dallay et al., 2004). While symptom impairment can range from mild (e.g., distress from intrusive thoughts) to extreme (e.g., avoidance of all public restrooms; Abramowitz et al., 2003b; Zambaldi et al., 2009), even subclinical levels of
OCS pose risks for future complications. For example, perinatal OCS increases the likelihood of developing future psychopathology among expecting mothers, including postpartum depression (Ahmad et al., 1994; Sutter-Dallay et al., 2004). One potential explanation for the increased risk of developing postpartum depression is that anxiety-related disorders are highly comorbid with depression in the general population (Ruscio et al., 2010; Sutter-Dallay et al., 2004). An additional factor could be that perinatal OCS is associated with reduced social support (Burton, 2021; Challacombe et al., 2016), which may in turn contribute to the development or exacerbation of depressive symptoms. Subclinical OCS experienced during pregnancy has also been associated with more severe OCS in the postpartum period as well as increased distress and parenting interference (i.e., increased severity of behavioral responses such as infant checking, avoidance of the infant, or attempts to counteract intrusive thoughts; Fairbrother et al., 2018).

Challacombe et al. (2016) assessed postpartum OCD’s effect on postnatal mother-child interactions and illustrated the ways in which perinatal OCD can negatively impact new mothers. Study personnel observed interactions between mothers diagnosed with postpartum OCD and their infants, which were then compared against community control dyads (i.e., mothers without impairing postpartum OCD). Each group consisted of 37 mothers and their 6-month-old infants. Findings suggested that OCS extending into the postpartum period are time demanding (e.g., average of 9.6 hours per day taken up by engaging in obsessions and related compulsions) and as such were associated with reduced rates of breastfeeding. Several mothers assessed indicated an inability to breastfeed secondary to the medication they were prescribed for OCD (Challacombe et al., 2016). Additional findings demonstrated a negative social impact as mothers with impairing OCD reported low maternal self-confidence and endorsed increased marital distress.
relative to their healthy peers (Challacombe et al., 2016). Mothers with impairing OCD were also perceived as less sensitive by researchers observing lab interactions (Challacombe et al., 2016).

Familial distress and other adverse household outcomes of perinatal OCD are comparable to other MMHC such as reduced family functioning (e.g., interpersonal discord; Mahmoodabadi et al., 2018), potentially reducing the collective quality of care that infants receive (Abramowitz et al., 2003b). For example, it is common for relatives of those experiencing OCD to engage in family accommodation through supporting or assisting with compulsions or rituals, thereby reinforcing the OCD cycle and as such reducing time spent with the infant (Veale & Roberts, 2014). Alternatively, responses from family members to the mother’s engagement in OCD might also become dismissive, avoidant, or even aggressive, furthering family discord (Veale & Roberts, 2014). Thus, while the postpartum period is certainly a vulnerable phase for women to experience OCD/OCS, it has become increasingly evident that pregnancy and childbirth are also worth targeting (e.g., postpartum OCD prevention; Timpano et al., 2011) for well-being of both the mother and her child.

Existing perinatal OCD research has devoted attention to understanding risk factors (House et al., 2016) within this period (Starcevic et al., 2020). For example, House et al. (2016) discovered differential associations between delivery method and maternal age for developing postpartum OCD. For example, cesarean section (as opposed to vaginal delivery) and younger maternal age were associated with increased OCS in the postpartum period (House et al., 2016). Further, young women under the age of 25 have been shown to be at particularly high risk for developing an anxiety-related disorder (Howard, 2020).
Harm-Related and Taboo Content Obsessive-Compulsive Symptoms

Perinatal OCD research has also explored symptom heterogeneity (Starcevic et al., 2020). Symptom dimensions that commonly afflict perinatal women are harm-related and taboo content (e.g., inappropriate thoughts) obsessions, especially for those in the postpartum period (Collardeau et al., 2019; Forray et al., 2010; Kucherer & Byatt, 2020; Starcevic et al., 2020). Recent results from a systematic review and metanalysis of OCS indicated that harm/aggressive obsessions were more prevalent in the postpartum period than during pregnancy while washing and cleaning compulsions were less frequent during the postpartum period than during pregnancy (Starcevic et al., 2020). Subthreshold OCS involving intrusive thoughts about harming the fetus or newborn infant are also common during the perinatal period (i.e., 49-69% of women experience such thoughts; Frías et al., 2015). Thought-action fusion (i.e., cognitive error in which a thought about a negative events is experienced as synonymous with the occurrence of the actual negative event; Rachman, 1993) typically occurs in which the woman might think, “If I think about harming the infant, then I likely will harm the infant” (Timpano et al., 2011). In reality, these types of thoughts pose low risk of actual harm, however, the intensity and intrusiveness of the thoughts often scare women (Kucherer & Byatt, 2020). New mothers might also think that they should never have inappropriate thoughts about their infant and that if they do experience these intrusive thoughts, it means they are a “bad” mother (Starcevic et al., 2020). With such a high prevalence of women experiencing these harm-related and taboo content thoughts, it merits the need for women to be educated about the nature of infant-focused obsessions (Starcevic et al., 2020). When these intrusive thoughts or obsessions are not normalized, successive checking compulsions or other rituals to ensure safety ensue (e.g., hiding knives, excessive reassurance seeking, avoidance of infant). As previously described, these
behaviors are well-intended and “work” in the short-term; however, they perpetuate what can become a vicious cycle of unintended consequences in the long-term (Veale & Roberts, 2014).

Moreover, for accurate and adequate clinical assessment and treatment of OCD, certain hurdles remain. For example, recent research from Mulcahy et al. (2020) illustrates a lack of OCD knowledge among perinatal health practitioners. In this study of providers ($n = 94$; nurses, midwives, medical practitioners, or allied health professionals), almost 70% did not accurately identify OCS that were present in a hypothetical case vignette conveying postpartum OCD (Mulcahy et al., 2020). Additionally, for this case vignette, the majority (58%) endorsed at least one clinically contraindicated treatment strategy that might aggravate harm-related or taboo content OCS among perinatal women (e.g., conducting a violence risk assessment, increasing the frequency of case monitoring, referring the child to protective services). This is an important finding because the implementation of these strategies would be helpful in the case of parental thoughts of deliberate infant-harm that are non-obsessional in nature (e.g., those that occur in perinatal psychosis; Buchholz et al., 2020; Sajatovic et al., 2004). In contrast, these methods can exacerbate perinatal OCS by inadvertently reinforcing mothers’ misinterpretation of the importance and dangerousness of their intrusive harm-related or taboo content intrusions (Mulcahy et al., 2020; Veale et al., 2009).

Ongoing barriers to treatment also exist for individuals with harm-related and taboo content OCD in the general population (e.g., lack of knowledge, stigma; McCarty et al., 2017). For example, a vignette-based study indicated that as many as half of non-psychiatrist physicians may misidentify OCD, with the largest misidentification occurring for obsessions related to the harm/aggressive dimension (i.e., 80%; Glazier et al., 2015). These barriers are particularly amplified among perinatal women with OCS surrounding harm or taboo content (Cooke et al.,
For example, women with harm-related and taboo content OCS are often reluctant to disclose symptoms to maternal health practitioners due to fears of alarming their provider and/or being judged as an inadequate mother (Alderdice & Kelly, 2019; Kucherer & Byatt, 2020). Therefore, it is not surprising that the dimensions of harm-related and taboo content OCS represents key areas of the disorder that are subject to stigma (e.g. distancing oneself from a mother who has obsessive thoughts of harming her baby), thereby furthering a robust barrier to care (Cooke et al., 2020). Importantly, research supports that these harm-related and taboo content obsessions do not predict actual harming behaviors towards the infant (Abramowitz et al., 2003b; Brok et al., 2017; Fairbrother & Woody, 2008; Kucherer & Byatt, 2020). Referrals to child protective services or the psychiatric emergency room for harm-related and taboo content related OCD or OCS can exacerbate symptoms and increase barriers to participating in outpatient treatment (Challacombe et al., 2019). Considering some women’s hesitancy to disclose symptoms related to harm and taboo content, along with the negative outcomes associated with untreated OCD, increased awareness and training/education is needed among perinatal women and their providers.

While there is a paucity of research on the harm-related and taboo dimensions of OCD in general (Warman et al., 2015), the literature examining and targeting stigma related to this subtype has recently increased (Cooke et al., 2020; McCarty et al., 2017; Snethen & Warman, 2018; Warman et al., 2015). Several studies have used vignettes to assess differing degrees of knowledge and stigma of OCD/OCS dimensions among the general population and healthcare practitioners (Coles et al., 2013; Cooke et al., 2020; Glazier et al., 2013, 2015; McCarty et al., 2017; Snethen & Warman, 2018; Wahl et al., 2010; Warman et al., 2015). Collective results from Cooke et al. (2020) and McCarty et al. (2017) indicate that symmetry and contamination
dimensions were more accurately identified as OCD/OCS presentations than harm-related or taboo content dimensions in clinical vignettes of various OCD presentations. Notably, the taboo content and harm-related dimensions have been associated with increased levels of stigma compared to other domains (Cooke et al., 2020; McCarty et al., 2017).

More specifically, Cooke et al. (2020) presented vignettes of postpartum experiences (i.e., depression, OCD, psychosis, and a subclinical condition) to community participants. In this cross-sectional online study, participants were asked to label the vignette condition and complete several proxy measures for stigma. These proxy measures aimed to assess the following: desired social distance, perceived abnormality, dangerousness, fitness as a mother and associated fear. Results indicated that the taboo content and harm-related conditions of OCD were met with the highest level of desired social distance based on scores on the stigma proxy measures (Cooke et al., 2020). Importantly, increased levels of fear/dangerousness, abnormality, perceived fitness as a mother, and severity were rated by participants for these conditions (i.e., taboo content and harm-related OCD). One interesting interaction occurred in which male participants identifying as parents reported higher levels of abnormality, concerns about maternal fitness, and fear/dangerousness across vignettes. This finding illustrates that fathers endorsed increased stigma towards mothers with OCS. Thus, normalizing the occurrence of these symptoms to both expecting mothers and fathers is needed. Another noteworthy finding was that correct labeling of disorders was generally associated with lower concerns about maternal fitness and reduced fear and perceived dangerousness (Cooke et al., 2020). Overall, results of this study call for increased educational efforts on MMHC (Cooke et al., 2020), including OCD/OCS, to reduce stigma and promote maternal well-being. Therefore, providing psychoeducation about OCS could be a potential avenue for reducing stigma towards perinatal OCD/OCS.
Psychoeducation

Psychoeducation is an educative and integral component of psychotherapeutic intervention (Lukens & McFarlane, 2006). It is a proactive treatment technique aiming to increase and maintain stability among those with mental health concerns. In addition to increasing knowledge of one’s pathology, psychoeducation promotes a focus on intrinsic strengths and enhances resilience (Goldman, 1988; Motlova et al., 2017). Such characteristics reflect a paradigm shift in healthcare approaching pathology from a more holistic perspective (Lukens & McFarlane, 2006) relative to traditional medical models.

Psychoeducation is derived from several theories including ecological systems theory, cognitive-behavioral theory, learning theory, group practice models, stress and coping models, social support models, and narrative approaches (Anderson et al., 1986; Lukens et al., 1999; McFarlane et al., 2003). It was originally designed to inform patients as well as their families about the nature of their condition and promote healthy coping behaviors (Lincoln et al., 2007). Modern applications of psychoeducation continue to include family members, as available and willing, to bolster and synergize its effects (Bhattacharjee et al., 2011; Motlova et al., 2017) however, it is often administered individually (Economou et al., 2012). Overall, the delivery of psychoeducation utilizes a competency-based approach and facilitates collaborative empowerment (Lukens & McFarlane, 2006).

History of Psychoeducation Intervention

The evolution of psychoeducation intervention (PEI) is rooted in the treatment of serious mental illness (Chądzyńska & Charzyńska, 2011; Kryshtal et al., 2017). It began as an essential component of intervention for patients with schizophrenia and their families as a means of reducing relapse following the emergence of concepts such as “Expressed Emotion (EE)”
“Expressed emotion (EE)” has been defined as family member’s criticism, hostility or emotional over involvement towards the patient with schizophrenia (Kavanagh, 1992; Öksüz et al., 2017). Patients with schizophrenia participating in family psychoeducation for at least nine-months have been shown to have significantly reduced relapse rates relative to those not receiving psychoeducation (i.e., 15% and 30-40%, respectively; Baucom et al., 1998). Additionally, patient benefits, such as decreased symptom severity and improved social functioning, are also resultant of PEI for those with schizophrenia (Dyck et al., 2000, 2002; McFarlane et al., 1995). PEI also yields positive outcomes for family members including improved physical health and subjective well-being (McFarlane, 1997; Solomon et al., 1996). More recently, PEI remains one of the most consistently effective modalities of intervention for patients with schizophrenia (i.e., relapse rate reduction at 50-60% over treatment as usual; McFarlane, 2016; Motlova et al., 2017; Pharoah et al., 2010).

Modes of PEI have also become more humanitarian in nature since the “Mental Hygiene Movement” in the early 20th century and “Deinstitutionalization Movement” of 1950-60 (Bhattacharjee et al., 2011). Prior to these societal and therapeutic shifts, sophisticated methods of educating patients about illnesses were nonexistent (Bhattacharjee et al., 2011). Fortunately, this approach has become an indispensable feature of many psychiatric interventions. It has been successfully administered to augment treatments of bipolar disorder (types I and II; Besenek, 2020; Colom et al., 2003; Fountoulakis et al., 2009; Miklowitz et al., 2003), depression (Brady et al., 2017; Jones et al., 2018; Zhao et al., 2017), anxiety (Cardamone-Breen et al., 2018; Norr et al., 2017), eating disorders (Peterson et al., 1998; Pinto-Gouveia et al., 2019; Rocco et al., 2001), autism spectrum disorder (Backman et al., 2018; Hemdi & Daley, 2017), substance use disorders
(Sugarman et al., 2020), posttraumatic stress disorder (Kredentser et al., 2018), and borderline personality disorder (Betts et al., 2018), to name a few.

PEI’s application also extends to medical populations (e.g., Admiraal et al., 2017; Alhadidi et al., 2020; Besenek, 2020; Patel et al., 2020). For example, PEI was recently tested as a preemptive pain management approach to reduce risk of opioid addiction following surgery (Horn et al., 2020) and has been applied to those with chronic pain (Perry et al., 2017). It has also been applied to patients with cancer (Admiraal et al., 2017; Inan & Üstün, 2018), fibromyalgia syndrome (Conversano et al., 2019), and those with neurological disorders (Patel et al., 2020). The breadth of these administrations across psychiatric, medical, or clinical settings collectively support the utilization of psychoeducation as an evidence-based practice (Chambless & Hollon, 1998; Chambless & Ollendick, 2001; Lukens & Mcfarlane, 2006).

Moreover, the delivery of PEI has become more systematic over time (Bhattacharjee et al., 2011). Broad informational components include illness etiology, signs and symptoms, progression and prognosis, treatment, and alternatives (Barker, 2003). Motlova et al. (2017) articulated the following core curricula recommendations for systematic PEI: (a) information about the illness, (b) recognition and management of early warning signs, (c) lifestyle management (e.g., ameliorating household and family stress), and (d) importance of involvement of relatives and primary care providers. Thus, PEI is conceptualized as providing both disease-specific and general information to patients (Motlova et al., 2017).

While psychoeducation is foundational to empirically supported interventions (Bhattacharjee et al., 2011), independent treatment effects have also been identified (Donker et al., 2009). For example, multiple reviews have supported the effectiveness of “active” psychoeducation programs in the prevention and treatment of mental disorders (Cuijpers, 1998;
Donker et al., 2009). Active components of PEI are materials providing illness-specific information and intervention tools based in cognitive-behavioral therapy (CBT). More recent literature has provided newly identified support of web-based modalities of psychoeducation via a variety of technological platforms (Backman et al., 2018; Chan et al., 2019; Chaves et al., 2022; Hemdi & Daley, 2017; Jones et al., 2018; Perry et al., 2017; Sugarman et al., 2020; Zhao et al., 2017). Further, PEI are shown to be relatively accessible and cost effective and are easily administered compared to more traditional interventions (Donker et al., 2009; Timpano et al., 2011; Toohill et al., 2017). Therefore, given its efficacy and cost-effectiveness, PEI can be applied as a primary or adjunctive treatment for many mental illnesses (Bhattacharjee et al., 2011).

Psychoeducation programs utilizing more passive administrations have also demonstrated efficacy in reducing symptoms of depression and psychological distress (Donker et al., 2009). Passive PEI can be delivered through email, face-to-face lectures or through information published on the internet (Christensen et al., 2004). Examples of passive PEI program tools include leaflets, posters, audio-visual aids, lectures, internet material or software (Christensen et al., 2004). Passive PEI programs have been assessed in administrative settings including primary or secondary care settings, universities, community centers, or other public venues (Donker et al., 2009). Results from metanalytic reviews indicate that passive PEI has the potential to impact suicide rates (Donker et al., 2009; Fountoulakis et al., 2009) perhaps by improving treatment adherence (Sajatovic et al., 2004). Alternatively, effects might be due to PEI increasing public knowledge and improving attitudes towards mental illness and suicide (Donker et al., 2009). According to metanalytic results, factors influencing effectiveness of PEI include the content and quality of intervention (Donker et al., 2009). Effectiveness in the Donker et al. (2009) study was
defined as significant reductions in anxiety and depression symptoms and psychological distress. PEI using evidence-based medical/psychological information was found to be more effective compared to general feedback being provided on test-results and subsequent “advice.” The type/mode of delivery (e.g., website, leaflets or email) was not found to impact effectiveness of the PEI suggesting that even passive forms of PEI can reduce psychological distress (Fountoulakis et al., 2009).

**Psychoeducation Intervention and Maternal Mental Health Conditions**

Numerous studies have evidenced the success of psychoeducation programs on maternal self-efficacy and improved maternal outcomes (Ip et al., 2009; Ngai et al., 2010). The majority of PEI research in this area, however, focuses on postpartum outcomes (Chan et al., 2019; Derakhshanpour et al., 2020; Fealy et al., 2019; Kariuki et al., 2021; Missler et al., 2020; Ngai et al., 2010; Steardo et al., 2019; Ugarte et al., 2017). Consistent with the larger body of MMHC literature, PEI studies still tend to target postpartum depression exclusively (Chan et al., 2019; Fisher et al., 2010; Kariuki et al., 2021; Park et al., 2020). Interestingly, one recently published planned study protocol by Steardo et al. (2019) reported its aim is to provide a protocol to improve the clinical and psychosocial management of *perinatal* depression. The authors overviewed clinical need, and proposed recruitment strategy and methodology to compare a specific PEI with the control group consisting of Best Treatment Option¹ (BTO). To assess the efficacy of this proposed PEI program, the plan is to administer several self-report instruments at baseline, three, six, nine, and 12 months to assess for change in depressive symptoms across the

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¹ The Best Treatment Option (BTO) was in accordance with the NICE guidelines (National Collaborating Centre for Mental Health, 2014). Specifically, mild to moderate forms of postpartum depression might be adequately addressed with self-help or psychological counseling whereas moderate or severe presentations are recommended to receive high-intensity psychological intervention or pharmacological treatment (National Collaborating Centre for Mental Health, 2014; Steardo et al., 2019).
two different groups. Although a great study proposal for perinatal depression, the existing PEI literature leaves maternal anxiety relatively neglected compared to other MMHC.

Another sizeable portion of the PEI literature is dedicated to intervening on maternal fears of childbirth (Akgün et al., 2020; Fenwick et al., 2015; Ip et al., 2009; Kordi et al., 2017; Toohill et al., 2017; Turkstra et al., 2017). This research is imperative to women with perinatal anxiety, as perinatal anxiety is shown to largely surround concerns about childbirth (Blackmore et al., 2016). Even with this research focus, however, pregnant women remain less likely to receive treatment (including PEI) than postnatal women (Howard & Khalifeh, 2020). Overall, reduced rates of treatment reflect potential under-detection of MMHC (anxiety and OCD in particular) during pregnancy given that MMHC symptoms frequently begin during or before pregnancy (Patton et al., 2015; Wisner et al., 2013).

Existing research also provides support for the economic feasibility of PEI among those with general MMHC (Chan et al., 2019; Fealy et al., 2019; He et al., 2018). Another recent randomized controlled trial (RCT) protocol listed its aims as to provide empirical support for the efficacy and cost-effectiveness of PEI in promoting factors that increase well-being among first-time mothers (i.e., self-efficacy, social support, anxiety, and postnatal depression; He et al., 2018). Authors described a plan to conduct a three-group, pre/posttest experimental design among first-time mothers. According to their plan, following delivery, the first group will receive web-based PEI plus routine care, the second group will receive home-based PEI plus routine care, and the third group will serve as the study control and receive routine care provided by the recruitment hospital. Assessment of participants is scheduled to occur at baseline, one month, three months, and six months post-delivery. The authors hypothesized that online or web-based PEI might increase accessibility for those exposed to high risks of developing MMHC (e.g.,
individuals identifying with a low socioeconomic status) especially as online deliveries of PEI have been shown to be adequately delivered without compromising its efficacy (Chan et al., 2019; Fealy et al., 2019; He et al., 2018; Wantland et al., 2004).

A recent systematic review conducted by Park et al. (2020) examined the extant RCTs of PEIs administered to perinatal couples to improve both maternal and paternal mental health. Outcome variables included those related to maternal and paternal mental health (i.e., anxiety, depression, and negative affect), as well as problems within the relationship such as the couple’s relationship satisfaction and couple communication (Park et al., 2020). Data from seven articles were included in the meta-analysis to determine effect sizes, with information from 11 articles included in the qualitative analysis. This review was unique in that it evaluated paternal mental health outcomes and couples’ well-being as opposed to assessing maternal outcomes alone (Park et al., 2020). Findings from this meta-analysis suggested that PEI alone led to significantly reduced maternal postpartum depressive symptoms as well as significant reductions in both maternal and paternal negative affect (Park et al., 2020). Overall, study findings indicated that couple satisfaction was improved and negative affect among mothers and fathers was reduced following PEI, suggesting that PEI has the potential to positively impact family members (Park et al., 2020). The collective results of this study along with others previously discussed (Chan et al., 2019; Fealy et al., 2019; He et al., 2018) indicate that PEI is efficacious for women and their families while being economically feasible to administer to high-risk groups.

**Psychoeducation Intervention for Obsessive-Compulsive Disorder**

Research indicates that many individuals with OCD sustain prodromal symptoms years before the full expression of their disorder takes form (Brakoulias et al., 2018). Relatedly, extensive delays to receiving evidence-based treatments are not uncommon (Kusalaruk et al.,
2015), with one study identifying 17 years on average (Heyman et al., 2006). This is unfortunate as evidence suggests that early intervention may reduce long-term symptom severity (Brakoulias et al., 2018). Additionally, given that the disorder is at least partially maintained by family members complying with compulsions and rituals, one might assume PEI to be an ideal preventative approach, due to its emphasis on familial roles. Importantly, families of patients with OCD are found to have generally poorer functioning (e.g., increased family discord, ineffective communication) than more normative ones (Anderson et al., 2015; Jahangard et al., 2018; Wu et al., 2016). Thus, family members themselves might also benefit from PEI since OCD can interfere with their own daily routine (Mahmoodabadi & Younesi, 2009).

Brakoulias et al. (2018) completed a narrative literature review to explore prevention and early intervention strategies for those with OCD. Results identified PEI along with reduced family accommodation (e.g., participating in rituals, facilitating avoidance, giving into reassurance seeking) as encouraging areas for prevention and early intervention for high-risk groups. However, literature on PEI for OCD is relatively sparse (Dissanayake & Drummond, 2017; Mahmoodabadi et al., 2018; Snethen & Warman, 2018; Warman et al., 2015), and research on PEI for those at high risk of developing OCD (e.g., perinatal women) is even more limited (Timpano et al., 2011). More specifically, two studies exist on PEI for OCD, each of which have been conducted in the context of patients and their companions and significant others (Mahmoodabadi et al., 2018; Tynes et al., 1992, respectively). Two more recent studies assessed PEI in improving attitudes towards OCD (Snethen & Warman, 2018; Warman et al., 2015). One small study obtained pilot data on perceptions of PEI administered to a group of patients with profound refractory OCD (Dissanayake & Drummond, 2017). Only one study assessed PEI with
perinatal OCS (Timpano et al., 2011). The details of each of these studies will be discussed in the following sections.

Mahmoodabadi et al. (2018) recently investigated PEI in improving OCD symptoms and general family functioning. This quasi-experimental study assessed patients diagnosed with OCD ($n = 30$) and a corresponding family member for each ($n = 30$) using the purposive sampling method (Mahmoodabadi et al., 2018). The entire study sample (15 per condition) was placed in either the control (no intervention) or experimental condition with the experimental condition receiving eight PEI sessions. Before and after the intervention, patients completed the Yale-Brown Obsessive-Compulsive Scale (YBOCS; Goodman et al., 1989) and family participants completed the Family Assessment Device (Miller et al., 1985). Results showed a statistically significant reduction in symptom severity among those with OCD following PEI, but not for the control group. PEI was also found to be effective in improving general family functioning, which the authors discussed as contributing to OCS reduction among patients (Mahmoodabadi et al., 2018). Based on the results, the authors recommended that PEI receive increased attention for comprehensive treatment of OCD.

A more dated, yet relevant study has investigated the efficacy of PEI in conjunction with a support group for patients with OCD and their significant others (Tynes et al., 1992). Tynes et al. (1992) administered a 10-week time-limited psychoeducation and support group protocol modified from Van Noppen’s 8-session OCD “Multifamily Psychoeducational Support Group” (Van Noppen et al., 1991). The sessions included informal lecture topics based on an OCD self-help book. Each session lasted ~45 minutes (with time for discussion and questions) and was facilitated by a staff member of the Tulane Medical Center OCD Clinic. Examples of topics covered in the lectures included information on the neurobiological basis for OCD, behavior
therapy for OCD, and exposure and response prevention intervention (Tynes et al., 1992). Group attendance averaged 21 members per session. At the final session, group members in attendance \((n = 17)\) were asked to rate the PEI according to its overall quality, acceptability, usefulness, variety and completeness using a 0 (poor) to 4 (excellent) scale. Across domains, the average for the group was a 3.8 suggesting the group format was positively regarded and the information was helpful to both patients and their significant others. While the social support aspect of the approach studied is important, additional research distilling effects of PEI alone in the context of OCD/OCS is still necessary.

In addition to effectiveness of PEIs for symptom reduction (Mahmoodabadi et al., 2018), Dissanayake and Drummond (2017) provided pilot data supporting PEI’s likeability by inpatient patients with treatment refractory OCD experiencing contamination fear. Patients were asked to attend a series of three psychoeducational groups. The groups were weekly and consisted of information related to prevalence of contamination (i.e., disease transmission rates), immune system (i.e., general protective mechanisms of the body), and feces and vomit (e.g., material constituting these substances). At the end of the pilot study, participants were asked to provide feedback on the intervention, and the qualitative data obtained was subsequently analyzed. Results indicated that the psychoeducation was generally well received and appreciated among patients with refractory OCD (Dissanayake & Drummond, 2017). The strong need for future studies to further examine the efficacy of PEI in this population was emphasized (Dissanayake & Drummond, 2017).

Fortunately, OCD-related stigma is beginning to be successfully addressed via modes of PEI (Snethen & Warman, 2018; Warman et al., 2015). Warman et al. (2015) examined perceptions of violent obsessive thoughts via vignettes, each of which varied in terms of
diagnostic label (i.e., OCD, Schizophrenia, or no diagnostic label). The vignettes were presented to college students, who were asked to rate how dangerous and unpredictable they perceived the target to be along with their ideas for diagnosis. Prior to PEI participants did not accurately assign an OCD diagnosis to the OCD vignette (i.e., 12.2% accuracy); however, following the PEI (i.e., consisting of paper pamphlets detailing DSM-V diagnostic criteria for both Schizophrenia and OCD) it became the most accurate diagnosis (i.e., 74.7%; Warman et al., 2015). These results suggest that brief PEI significantly improved the credibility of an OCD diagnosis and decreased negative attitudes towards the target. Improved attitudes towards OCD among participants were attributed to the shift in determining that the violent, obsessive thoughts were related to OCD, as opposed to schizophrenia or an individual with no mental health concerns (Warman et al., 2015). This study approach was later replicated using vignettes of OCD presentations with pedophilic sexual intrusive thoughts (Snethen & Warman, 2018). Of note, vignettes also had different comparison diagnostic labels. Participants ($n = 94$; college students) were administered PEI on OCD and similar findings ensued (i.e., improved understanding and attitudes towards this variant of OCD post PEI; Snethen & Warman, 2018). Therefore, PEI appears to be a potentially essential tool in targeting illness-related stigma and subsequently reducing treatment barriers for those in need.

**Psychoeducation and Prevention of Perinatal Obsessive-Compulsive Disorder**

Initial perinatal OCD intervention research demonstrates that steps to intervening or preventing perinatal OCS are not overly burdensome or complex, providing hope and encouragement to both patients and providers (He et al., 2018; Timpano et al., 2011). For example, Timpano et al. (2011) conducted a double-blinded RCT that tested the efficacy of a cognitive-behavioral prevention program for postpartum OCS. The study sample consisted of
expecting mothers (2\textsuperscript{nd} or 3\textsuperscript{rd} trimester) and their partners, who were randomly assigned to either the prevention program ($n = 38$) or control condition ($n = 33$). The study occurred in the context of a traditional childbirth education course, consisting of six weekly 1.5-hour meetings covering topics related to childbirth and child rearing (e.g., stages of labor, newborn characteristics, and birthing techniques). Each meeting concluded with a 30-minute presentation of material pertaining to either the prevention or control condition. Symptom assessment of depression, OCD-related beliefs, and OCS were ascertained via a variety of self-report measures and semi-structured clinical interviews. More specifically, depression symptoms were measured via the EPDS (Cox et al., 1987), OCD-related beliefs were measured via the Obsessive Beliefs Questionnaire (OBQ; Obsessive Compulsive Cognitions Working Group, 2005; Tolin et al., 2003), and baseline OCS were assessed via the Dimensional Obsessive-Compulsive Scale (DOCS; Abramowitz et al., 2010). The presence and severity of postpartum OCS was examined using the Postpartum Thoughts and Behaviors Checklist (Abramowitz et al., 2006) and the YBOCS (Abramowitz et al., 2006).

Both study groups (prevention program and control) participated in the usual childbirth course (Timpano et al., 2011). Following the weekly childbirth meetings, each group then received a specific class lasting 30 minutes (i.e., six total classes for each condition; Timpano et al., 2011). Pregnant women in the prevention program (active intervention) received psychoeducation on OCD from a cognitive-behavioral orientation (Rachman, 1997, 1998) with classes manualized according to Timpano and Abramowitz (2011; “BabyPREP”; a postpartum OCS prevention program). Components of the prevention program integrated material related to perinatal OCS with the traditional childbirth education course. The first class differentiated between postpartum anxiety and OCS. The second conceptualized OCS using the cognitive
model of emotion while emphasizing the unintended consequences of misinterpreting intrusive thoughts. The third and fourth classes discussed cognitive restructuring of dysfunctional “obsessive” beliefs. The fifth class provided instructions on the integral components of OCS intervention (e.g., behavioral experiments and exposure and response prevention techniques). Finally, the sixth session included a review and wrap-up of course material.

For the control condition, expectant mothers were administered an evidence-based psychoeducation course regarding general anxiety and specific anxiety disorders. A brief overview of symptoms, prevalence of the different anxiety disorders, and associated demographics were provided. Since this overview of material took less time to present to participants compared to those in the prevention condition, participants also viewed a series of brief videos that included stories of “perinatal couples.”

Results demonstrated the efficacy of a preventative perinatal OCS psychoeducation program (Timpano et al., 2011). Participants in the PEI prevention condition exhibited a significant reduction in YBOCS scores (measuring OCS severity) compared to the control group at each follow-up period (up to six months). Women in the control condition did not demonstrate a downward trend in YBOCS scores, indicating that their symptoms remained consistent throughout the study. Group differences in symptom reduction between the prevention and control group remained significant even after controlling for baseline OCS and depression symptoms (all p’s < 0.05). Additionally, mothers in the prevention condition also reported a significant decrease in levels of cognitive distortions (according to scores on the OBQ) compared to the control condition. These results provide preliminary support for administering CBT-based OCS psychoeducational prevention programs to perinatal women, with this study being considered a seminal step forward to enhancing OCD prevention. While far from the first to
evidence the effectiveness of psychoeducational intervention (Bhattacharjee et al., 2011; Chan et al., 2019; Chen et al., 2018; Donker et al., 2009; Economou et al., 2012; Fruzzetti et al., 2014; Lukens & McFarlane, 2006), it is one of the first to target perinatal OCS through psychoeducation intervention alone.

The benefits of PEI are clearly far-ranging as it has become a cardinal component of evidence-based interventions for a variety of illnesses discussed thus far (e.g., schizophrenia, depression, OCD). Aside from its proven efficacy and feasibility, PEI also instills a sense of hope during times of uncertainty and vulnerability (e.g., during and after pregnancy). PEI is an established part of both the history and science of modern psychology; however, its implementation has been underutilized for some groups (e.g., women with perinatal OCD). Thus, the empirical exploration of PEI’s clinical and practical utility among such populations is a worthwhile endeavor.

The Present Study

Rationale

While bridging the gap in knowledge related to stigma reduction and PEI is underway, no research to date has included PEI specifically targeting perinatal OCD/OCS while subsequently addressing maternal attitudes towards other mothers endorsing OCS. Further, with the exception of the previously discussed study by Timpano et al. (2011), no studies exist on PEI delivered to perinatal women for the prevention and intervention of OCD. Additionally, no studies to date have examined the efficacy of a single-session PEI administration on reducing OCD/OCS occurrence and/or severity among a sample of perinatal individuals. Considering the limited literature on MMHC occurring within the full range of the perinatal period (including pregnancy), and even less study on perinatal anxiety in general (Fairbrother & Abramowitz,
2007), the relative lack of research on PEI for perinatal OCD/OCS is not entirely unexpected. Further, reductions in stigma surrounding general OCD have been observed in response to PEI (Warman et al., 2015); however, no studies exist examining PEI’s potential effect on reducing stigma endorsed towards perinatal OCD/OCS. Thus, PEI presents a modifiable target for increasing awareness surrounding perinatal OCD/OCS, potentially leading to more accurate attitudes and understanding towards this condition. Such outcomes might have important implications for increasing access to treatment (e.g., decreasing barriers) among individuals with perinatal OCD/OCS.

**Clinical Implications**

Misidentification of perinatal OCD by healthcare professionals is a widespread and concerning issue (Challacombe & Wroe, 2013; Committee on Obstetric Practice, 2015; Forray et al., 2010; Glazier et al., 2015; Mulcahy et al., 2020; Ross & McLean, 2006; Sharma & Sommerdyk, 2015). Research indicates that a significant number of non-psychiatrist physicians and perinatal health practitioners struggle to accurately identify OCD symptoms, particularly those related to harm obsessions. Studies have found that up to 80% of non-psychiatrist physicians misidentify harm obsessions (Glazier et al., 2015), and nearly 70% of perinatal health practitioners fail to accurately recognize obsessions of harming the infant, with a notable percentage even misidentifying these symptoms as psychotic (Mulcahy et al., 2020). The consequences of misidentification can be detrimental, as it may lead to inappropriate and potentially harmful interventions (Glazier et al., 2015; Mulcahy et al., 2020). Additionally, there is evidence of health professionals prescribing antipsychotic medications instead of evidence-based treatments like cognitive-behavioral therapy (CBT) and selective serotonin reuptake inhibitors (SSRIs [Glazier et al., 2015]).
In addition to the need for healthcare professionals to accurately identify OCD symptoms, it is also important for patients themselves to be educated and well-informed about their symptoms. Patient education plays a vital role in empowering individuals with OCD to understand their condition, seek appropriate help, and actively participate in their treatment process (Snethen & Warman, 2018; Warman et al., 2015). Further, evaluating the effects of psychoeducation interventions on OCS levels and participant satisfaction can provide insights into the effectiveness of such interventions. This information might help guide the development and refinement of psychoeducation programs targeted at individuals experiencing OCS during the perinatal period.

Taken together, the overarching purpose of the present study was to further assess attitudes and experience of OCS, as well as expand awareness and understanding surrounding perinatal MMHC (with a focus on perinatal OCD/OCS). To achieve this goal, a single-session virtually-delivered OCD/OCS psychoeducational intervention (Active PEI Condition) was administered and compared to a Control PEI Condition across both perinatal and non-perinatal individuals.

**Specific Aims and Hypotheses**

1. To evaluate prevalence of OCS among the study sample (i.e., both perinatal and non-perinatal individuals).

   **Hypothesis 1**: Perinatal individuals would endorse higher symptom experience of OCS compared to non-perinatal individuals.

2. To evaluate whether the proportion of OCS occurring across OCD dimensions/subtypes is dependent on whether the individual is pregnant, postpartum, or non-perinatal. In
other words, assess whether the proportion of OCS occurring across OCD dimensions/subtypes changes based on the perinatal status of the participant.

**Hypothesis 2a:** Pregnant individuals would endorse an increased number of OCS corresponding to the Contamination Subtype compared to postpartum and non-perinatal individuals.

**Hypothesis 2b:** Postpartum individuals would endorse an increased number of OCS corresponding to the Harm-Related Subtype compared to pregnant and non-perinatal women.

**Hypothesis 2c:** Postpartum individuals would endorse an increased number of OCS corresponding to the Taboo Content Subtype compared to pregnant and non-perinatal women.

3. *To assess endorsement of stigma towards perinatal OCD/OCS dimensions/subtypes among those included in the study sample.*

**Hypothesis 3:** Prior to any PEI, among all study participants, increased levels of stigma would be endorsed towards OCS in the Harm-Related and Taboo Content Subtype compared to those in the Contamination OCS Subtype.

4. *To assess the effectiveness and perceived acceptability of a psychoeducation intervention (Active PEI Condition) targeting perinatal OCD/OCS and related stigma.*

**Hypothesis 4a:** Participants in the Active PEI Condition would endorse lower symptoms of OCS post-intervention, controlling for depression, anxiety, and psychosocial risk factors, than those in the Control PEI Condition, and effects would be maintained at 1-month follow-up.
**Hypothesis 4b:** Stigma towards perinatal OCD/OCS would decrease for all study participants who receive the Active PEI compared to those in the Control PEI Condition, and effects would be maintained at 1-month follow-up.

**Hypothesis 4c:** Participants receiving the Active PEI would report increased satisfaction and usefulness of the intervention compared to those in the Control PEI condition, and effects would be maintained at 1-month follow-up.
METHODS

Participants

Participants for this study included recruitment of perinatal (i.e., pregnant and postpartum women) and non-perinatal (i.e., parous women that have given birth within the last five years) participants. Initially, participants were recruited through a variety of internet platforms (i.e., Facebook and Reddit) and announcements/flyers were distributed at two local OB-GYN offices in the Chicagoland area. Data collection began in October 2022 and a total of 8 participants completed the study, whereas other participants started the study, but many did not complete past the demographics form. To address such challenges during community recruitment, participant recruitment was expanded in December 2022 using Prolific, an online research platform (Peer et al., 2017). Prolific is a widely used platform through which participants are compensated for completing online studies. It offers an efficient and accessible way to recruit participants for research studies, including those that may have specific demographic characteristics (e.g., pregnant and postpartum individuals). Furthermore, Prolific incorporates quality control measures to ensure the reliability and validity of data collected (Palan & Schitter, 2018). Of note, this change to participant recruitment was approved by the IRB prior to being implemented.

To be eligible for the study, individuals needed to be able to operate an electric device connected to the internet (e.g., laptop, smartphone, tablet). Additional inclusion criteria included identifying as female, being at least 18 years of age, and being fluent in the English language. Participants must have been pregnant, postpartum, or have had given birth no more than 5 years prior (i.e., non-perinatal) prior to their participation in the study. Nonparous individuals, with the
exception of those currently pregnant, were excluded from the study. Additional exclusion criteria included those who have received psychotherapy for OCD/OCS in particular. An a priori power analysis utilizing the G*Power 3 software (Faul et al., 2009) was conducted to determine the minimum sample size for the present study. Results indicated that for the primary study hypothesis/analysis (Hypothesis 4a; Mixed Model Repeated Measure MANCOVA), a total sample size of 74 participants (37 per group) would be needed to obtain a medium effect at adequate power ($\beta = .80$), and a statistical significance level of $\alpha = .05$. To allow for any potential missing or erroneous data, at least 90 participants (45 per group) was the recruitment goal.

**Measures**

**Demographics Questionnaire**

The demographics questionnaire is a self-report form that was used to assess and understand the demographics of the sample. Basic demographic questions included maternal age, race, ethnicity, gender identification, marital/partner status, place of birth, and current residing location. Socioeconomic information was collected via questions regarding participants’ employment status, total household income, and education level. Maternity information was gathered via questions assessing participants’ maternal status (i.e., pregnant, postpartum, or non-perinatal), number of gestation weeks or weeks postnatal, and gravidity. Finally, participants were asked to report (i.e., yes/no) any previous mental health treatment specifically for OCD/OCS to assess intervention history for this condition.

**Antenatal Risk Questionnaire-Revised** (ANRQ-R; Reilly et al., 2021). The ANRQ-R is an 11 item self-report measure designed to support routine psychosocial assessments during the perinatal period. The ANRQ-R assesses salient risk factors associated with perinatal mental
health morbidity across the following psychosocial domains: past history of depression or other mental health condition and associated socio-occupational functioning, quality of the woman’s partner relationship, degree of social support, distress associated with recent stressful life events, worry proneness and perfectionism, adverse childhood experiences, quality of emotional relationship with their own mother during childhood, and current or recent domestic violence and problematic substance use. Four of the items are scored dichotomously and the other seven are scored using a Likert-type scale (i.e., 1 = not at all; 2 = a little; 3 = somewhat; 4 = quite a lot; 5 = very much). Total scores range from 5 – 55, with higher scores indicating higher psychosocial risk. Multiple qualitatively scored items are also included to gain important clinical (e.g., past mental health intervention and help-seeking efforts) and contextual (i.e., nature of recent stressful event) information. The ANRQ-R has evidenced good test-retest reliability (ICC = 0.77; Reilly et al., 2021) and item-level test-rested reliabilities were moderate to good (ICC range = 0.65 – 0.80; Reilly et al., 2021). The ANRQ-R was used to provide information on the psychosocial factors (e.g., emotional support) impacting participants in the present study sample. The ANRQ-R demonstrated questionable internal consistency (α = .65) in the current sample. Of note, ranges of internal consistency (adequate-excellent) for measures the current study were determined based on prior research on Cronbach’s alpha (e.g., Tavakol & Dennick, 2011).

**Depression, Anxiety, Stress Scale-21** (DASS-21; Lovibond & Lovibond, 1995). The DASS-21 was designed (i.e., via principal components and confirmatory factor analyses) to evaluate the full range of the core symptoms of negative emotional syndromes. A total of three factors or states emerged, which are included as the three scales of the measure (i.e., depression, anxiety, stress). The scales assess features unique to depression (e.g., dysphoric mood, low positive affect), anxiety (e.g., physical hyperarousal), and stress (e.g., tension, irritability). The
DASS-21 has been cited as an excellent self-report instrument as it has demonstrated acceptable to excellent psychometric properties among both clinical and non-clinical groups (Antony et al., 1998). It has evidenced good internal consistency across the depression ($\alpha = 0.94$), anxiety ($\alpha = 0.87$), and stress ($\alpha = 0.91$) scales (Antony et al., 1998). It also demonstrated acceptable concurrent validity ($\alpha$s $= 0.68-0.85$) when correlated with other depression and anxiety measures (i.e., Beck Depression Inventory, Beck Anxiety Inventory, and the State-Trait Anxiety Inventory- Trait version; Antony et al., 1998). The depression and anxiety scales (i.e., total scores from each individual scale) were used to determine the presence of depression and anxiety among all participants in the study sample. The pre-intervention, post-intervention, and one-month follow-up subscales all demonstrated excellent internal consistency: depression ($\alpha = .94, .96, .95$), anxiety ($\alpha = .81, .84, .83$), and stress ($\alpha = .87, .90, .92$).

**Edinburgh Postnatal Depression Scale** (EPDS; Cox et al., 1987). The EPDS is a 10-item self-report scale that is specially designed to screen for depression occurring during the postpartum period (Cox et al., 1996). Prior depression screening instruments have contributed to over-diagnosis of postpartum depression due to the normative behavioral changes that occur following pregnancy (e.g., increases in fatigue levels, appetite, and tearfulness). The EPDS has demonstrated satisfactory sensitivity (i.e., percentage of cases correctly identified, 79%) and specificity (i.e., percentage of non-cases correctly identified, 85%) along with good user acceptability (i.e., 92% response rate) when administered to postpartum women (Cox et al., 1996). Cut-off scores have been established for both the prenatal and postpartum period (i.e., 15 and 13, respectively; Matthey et al., 2006). The EPDS total score was used in the present study to determine depression severity levels among all participants. The EPDS demonstrated excellent
internal consistency across pre-intervention ($\alpha = .83$), post-intervention ($\alpha = .90$), and one-month follow-up ($\alpha = .87$) administrations.

**Obsessive-Compulsive Inventory – Revised** (OCI-R; Foa et al., 2002). The OCI-R is a brief, 18-item self-report questionnaire commonly used in OCD outcome research worldwide (Andersson et al., 2012; Jónsson et al., 2011; Simpson et al., 2008; Wootton et al., 2011a, 2011b). It consists of six symptom subscales including washing, checking, neutralizing, obsessing, ordering, and hoarding. Individuals are asked to rate the degree to which they are bothered or distressed by each presented symptom over the past month on a five-point Likert scale (i.e., 0 = not at all, 4 = extremely), with higher scores indicating more severe symptoms of OCD (Foa et al., 2002). The OCI-R has evidenced adequate to excellent test-retest reliability among those with OCD ($rs = 0.57-0.91$; Foa et al., 2002), high internal consistency (total score $\alpha$s = 0.81-0.93; Foa et al., 2002) and convergent validity ($rs = .98$; Foa et al., 2002). One limitation of the OCI-R is that each subscale only contains three items therefore, OCS severity is dependent on the degree to which symptoms match the specific items on each subscale, leading to a one-dimensional and potentially confounded assessment of symptom severity. Nonetheless, the OCI-R has been widely administered among clinical and non-clinical samples and is considered a well-validated measure of OCD. All subscales of the OCI-R were included in the current study. The OCI-R total scores were used to assess the presence of OCD and symptom severity among study participants. Also, change in scores from this measure were also used to help determine effects of PEI among participants in the active and control condition given its sensitivity to treatment effects. The OCI-R demonstrated excellent internal consistency across pre-intervention ($\alpha = .92$), post-intervention ($\alpha = .92$), and one-month follow-up ($\alpha = .93$) administrations.
The Dimensional Obsessive-Compulsive Scale (DOCS; Abramowitz et al., 2010). The DOCS is a self-report measure consisting of 20 items designed to capture the heterogeneity and idiosyncratic nature of ODC along with assessing symptom severity independent of the frequency and type of OCS present (Abramowitz et al., 2010). Another aim of its development was to include the connections between obsessions, compulsions, and avoidance within each symptom dimension, resulting in a more multidimensional, comprehensive assessment of OCD. The four broad domains or dimensions of OCD/OCS included are 1) contamination/washing, 2) harm-related obsessions/checking compulsions, 3) symmetry/ordering, and 4) unacceptable thought. Severity of OCS is determined using the following parameters: 1) time occupied by obsessions/compulsions, 2) avoidant behavior, 3) distress associated with symptoms, 4) functional impairment, and 5) difficulty letting go of obsessions and resisting compulsions. Items are rated on a scale of 0 (“no symptom”) to 4 (“extreme symptoms”). Higher total scores correspond with increased symptom severity. Each of four subscales and the total score have demonstrated good to excellent internal consistency ($\alpha$ = 0.90 – 0.96; Abramowitz et al., 2010; Nunnally & Bernstein, 1994) and adequate test-retest reliability ($r_s$ = 0.55 – 0.66; Abramowitz et al., 2010; Nunnally, 1970). Regarding diagnostic sensitivity, the initial validation study used the estimated area under the curve (AUC) to indicate how well scores distinguish between positive and negative cases of OCD. Results indicated that the DOCS has a diagnostic sensitivity of 60% and a diagnostic specificity of 80% (Abramowitz et al., 2010). The cut-off score used to differentiate OCD patients from those with other anxiety disorders (i.e., specificity) is 21 (Abramowitz et al., 2010). A cut-off score of 18 is used when classifying OCD patients from non-clinical adults (sensitivity; Abramowitz et al., 2010). The DOCS was used to assess the three symptom dimensions/subtypes of interest for the present study (i.e., Contamination,
Responsibility for Harm, and Taboo Content). Thus, the following subscales were included: 1) contamination/washing (i.e., contamination obsessions and decontamination compulsions [Contamination]), 2) responsibility for harm, injury, or bad luck (i.e., obsessions about causing harm by various means, and checking, reassurance seeking, and related compulsions [Harm-Related]), 3) unacceptable obsessional thoughts (i.e., violent, sexual, and religious obsessions with mental rituals and other forms of neutralizing [Taboo Content]). The pre-intervention, post-intervention, and one-month follow-up subscales all demonstrated excellent internal consistency across administrations: contamination/washing ($\alpha = .90, .93, .84$), unacceptable obsessional thoughts ($\alpha = .92, .94, .97$), and responsibility for harm, injury, or bad luck ($\alpha = .93, .95, .94$).

**Acceptability of Intervention Measure** (AIM; Weiner et al., 2017). The AIM is a four-item measure that represents one of three key components of intervention implementation outcomes (i.e., acceptability, appropriateness, and feasibility). Acceptability is conceptually defined as “The perception among implementation stakeholders that a given treatment, service, practice, or innovation is agreeable, palatable, or satisfactory” (Proctor et al., 2011, p. 2). All three constructs (i.e., acceptability, appropriateness, and feasibility) imply an evaluation of the fit or match of something (e.g., PEI) and a criterion (Weiner et al., 2017). The criterion for acceptability is personal as it is influenced by individual differences in judgements, preferences, needs, and expectations (Weiner et al., 2017), which are accounted for in the AIM. Items are scored on a 4-point Likert scale in which higher scores indicate greater intervention acceptability. The measure has demonstrated acceptable test-retest reliability ($\alpha = 0.83$), good internal consistency ($\alpha = 0.89$), and is shown to be sensitive to change in both positive and negative directions (Weiner et al., 2017). The AIM was used to assess participants’ perceived acceptability of the PEIs (both Active and Control PEI Conditions) administered in the present
The AIM demonstrated excellent internal consistency across post-intervention ($\alpha = .94$) and one-month follow-up ($\alpha = .94$) administrations.

**Proxy Measures for Stigma**

The following proxy measures for stigma were included in the present study to assess participants’ perceptions of other perinatal women’s OC symptoms. Negative perceptions were operationalized as higher total scores on the measures, which were referred to as “stigma”. It was expected that such measures would capture participants’ stigma towards other perinatal individuals with OCD/OCS, rather than self-stigma.

**Social Distance Scale** (SDS; Link et al., 1999). The SDS is a five-item measure assessing individuals’ willingness or inclination to engage with the subject of a given vignette in a variety of social situations (e.g., “How willing would you be to become friends with Jennifer?”). Items are scored on a 4-point Likert-scale ranging from definitely willing (1) to definitely unwilling (4). Scores on each item are summed and divided by five so that scores are averaged into a single score (range of 1 – 4) with higher scores indicating more desired social distance. The SDS was first employed in a vignette experiment assessing public conceptions of mental illness (Link et al., 1999) and has since been utilized in a variety of vignette studies assessing stigma of mental illness, including OCD (Cooke et al., 2020; McCarty et al., 2017). It has demonstrated good internal consistency ($\alpha = 0.86$) and test-retest reliability (Intraclass correlation coefficient [ICC] = 0.84). The SDS was used as a proxy measure for stigma among all participants in the present study. The SDS demonstrated excellent internal consistency across pre-intervention ($\alpha = .92$), post-intervention ($\alpha = .96$), and one-month follow-up ($\alpha = .95$) administrations.
Attribution Questionnaire-27 (AQ-27; Corrigan et al., 2003). The AQ-27 is a 20-item measure formulated to assess four important aspects of stigmatizing attitudes/beliefs towards individuals with mental illness. Following its development, four subscales (i.e., Fear/Dangerousness, Help/Interact, Forcing Treatment, and Negative Emotions) demonstrated adequate psychometric properties (e.g., test-retest reliability [ICC= .84] Brown, 2008). Only the Fear/Dangerousness subscale was used in the present study to assess participants’ fear and perceptions of danger towards the study vignettes. The Fear/Dangerousness subscale of the AQ-27 is psychometrically valid (e.g., good internal consistency [αs = 0.70-0.93; Brown, 2008]) and contains six items (e.g., “How scared of Jennifer would you feel?”) that are rated using a 9-point scale ranging from not at all (1) to very much (9; Corrigan et al., 2003). Similar to the SDS scores from each individual item are averaged to create a single score (range of 1 – 9) with higher scores indicating higher levels of fear and/or perceived dangerousness. The AQ-27 demonstrated excellent internal consistency across pre-intervention (α = .94), post-intervention (α = .95), and one-month follow-up (α = .95) administrations.

Perceptions of fitness as a mother (Cooke et al., 2020). This three-item measure of perceived maternal fitness was created for a recent study evaluating stigma and awareness of postpartum OCD (Cooke et al., 2020). The measure assesses participants’ perceptions of an individual presented in a vignette regarding fitness as a mother. The items are scored on a 7-point Likert-scale and include the following questions: 1) how good of a mother is she, 2) how dangerous is she to her child, 3) to what extent should she be reported to child and family services. Scores on each item are averaged to create a single fitness concern score (range of 1 – 7; α = 0.78; Cooke et al., 2020), with higher scores suggesting higher concerns regarding maternal fitness. Additionally, two Likert-scale questions rated on seven-item scales evaluate...
participant perceptions related to the significance of the experience presented in the vignette (i.e., how normal is her experience; how severe are her concerns; Cooke et al., 2020). For each item, higher scores are indicative of perceived abnormality or severity. This Likert-style measure was used to assess participant perceptions of maternal fit towards the vignettes presented in the current study. This measure demonstrated excellent internal consistency across pre-intervention ($\alpha = .82$), post-intervention ($\alpha = .83$), and one-month follow-up ($\alpha = .87$) administrations.

**Study Vignettes**

The vignettes used in the present study were replicated from previous vignettes assessing stigma and illness recognition of OCD (Cooke et al., 2020; McCarty et al., 2017). Each vignette included a mean of 110 words and depicted a 28-year-old woman named Jennifer who is experiencing mental health concerns related to her newborn child. Four of the six vignettes from the Cooke et al., 2020 study were included in the present study. The vignettes included described an individual endorsing clinical levels of perinatal OCD. Each vignette presented a different dimension/subtype of OCD (i.e., Contamination, Responsibility for Harm, and Taboo Content). The distress and level of functional impairment were consistent for each vignette in terms of symptom severity (i.e., each was rated equally severe by two practicing psychiatrists and a psychologist in the original study). The fourth vignette described a mother endorsing subclinical symptoms of emotional dysfunction without distress. This vignette was used as a control and represents emotion fluctuations that typically occur in the postpartum period. All four vignettes were presented in a counterbalanced order to evoke potential stigma (or lack thereof) towards others with perinatal OCD/OCS.
**Procedure**

All study procedures were completed electronically to optimize safety during the COVID-19 pandemic. Given that the present study sampled individuals from a vulnerable population (i.e., pregnant individuals), it was of heightened importance to minimize all COVID-19 related risks (e.g., in-person contact, group interactions). All study procedures were submitted to the University of Mississippi’s institutional review board (IRB) prior to recruitment. Once IRB approval for the study was obtained, participants were recruited via online platforms as well as through perinatal health offices. A description of the study was posted online along with announcements/flyers. The study posts included inclusionary criteria for participation and the intervention mode of delivery (i.e., video recordings). All study measures (including informed consent) were housed electronically via Qualtrics, an online survey platform. The study recruitment posts included a link and QR code (i.e., Quick Response code created via an online generator) to the study webpage. The webpage directed interested participants to complete an eligibility screener and electronic consent form. Following eligibility screening and virtually signing the informed consent, all eligible and willing study participants were enrolled into the study.

Following the eligibility procedure, study participants were sent an email confirming their registration in the study. The initial email provided relevant information/instructions regarding their participation and included an unsigned copy of the study consent form to keep for their records. Participants were reminded that they must have internet access to complete the study and were advised to complete all portions of the study independently.

Following enrollment, participants began the first assessment phase of the study, which consisted of completing a demographic questionnaire and baseline symptom measures assessing pre-intervention MMHC symptoms (i.e., depression, anxiety, and OCS). Specifically, baseline
measures included the ANRQ-R, the DASS-21, the EPDS, OCI-R, and the DOCS. Next, all participants were randomized to either the Active (perinatal OCD/OCS psychoeducation intervention) or Control Condition (alternative psychoeducation intervention) via the randomization function in Qualtrics. Given the base rate prevalence of OCD among perinatal women, it was expected that participants with OCD/OCS would be uniformly distributed between the active and control group. Following the randomization procedure, participants were presented a series of vignettes of various perinatal OCD/OCS Subtypes (i.e., Contamination, Harm-Related, and Taboo Content). After reading each vignette, participants were asked to complete an additional set of self-report measures (i.e., proxy stigma measures) for each vignette. The proxy stigma measures included the SDS, the AQ-27, and the perceptions of ‘fitness as a mother’ Likert-scale questions. Once this portion was completed, study participants were directed to a webpage presenting pre-recorded videos corresponding to either the active or control condition. The active condition included PEI videos pertaining to perinatal OCD/OCS and related stigma and the control condition included PEI videos related to MMHC occurring in the perinatal period. Total video viewing time was approximately equal for each condition (approximately 25 minutes). Attentional checks were included during each video to ensure engagement in the material. Next, the second assessment phase of the study began in which the same vignettes were presented to participants immediately after viewing the PEI videos. Participants were asked to complete the same corresponding vignette measures (i.e., proxy stigma measures) and symptom measures (i.e., same as baseline measures) to detect any changes post-intervention. The AIM was also administered during the second assessment phase to measure perceived acceptability of the PEIs post-intervention.
Finally, participants completed the third assessment phase (i.e., follow-up assessment) approximately 30 days after completing the second assessment phase. A link/QR code to access the follow-up material was sent via email. The same vignettes were presented, and participants were asked to complete proxy measures of stigma for each vignette in addition to the final round of symptoms measures and the AIM (i.e., all baseline measures were repeated). The third assessment phase was intended to assess whether any changes that occurred from the first to the second assessment phase are maintained at 1-month post-intervention. All vignettes and self-report measures were presented in a randomized order during each assessment phase. At the end of the study, all study participants received instructions on how to access mental health resources in their area (e.g., crisis and domestic abuse hotlines) if interested.

**Active Condition**

The active PEI condition consisted of pre-recorded PEI videos modeled and modified from the PEI administered by Timpano et al. (2011). The content of the PEI for the study was consistent with the aforementioned PEI modules presented in Timpano et al., 2011; however, the duration was reduced given that the current study aimed to test the utility of a single-session PEI intervention. The PEI material for this study predominantly focused on OCD/OCS subtypes that are shown to the most stigmatized (i.e., Harm-Related and Taboo Content; Cooke et al., 2020; McCarty et al., 2017). The overall components of the PEI were derived from the cognitive-behavioral model of OCD (Rachman, 1997, 1998). The first component included information on perinatal OCD/OCS, with particular focus on harm-related and taboo content subtypes. Specifically, information included a description of OCD symptom subtypes and corresponding prevalence among perinatal women throughout the course of pregnancy and the postpartum period. The PEI also highlighted the differentiating features of OCD/OCS from perinatal
depression or psychosis. Participants were provided psychoeducation on the CBT Three Component Model of Emotion and shown how OCS fit within this model. The role of dysfunctional beliefs (e.g., thought-action fusion), avoidant behaviors, and family accommodation in maintaining and exacerbating symptoms were also emphasized. Information related to evidence-based approaches used to treat OCD/OCS was provided (e.g., exposure and response prevention, cognitive restructuring, behavioral experiments). The next section of the video conveyed information related to the stigmatization of perinatal OCD/OCS, focusing on harm-related and taboo content subtypes, and how symptoms are often not adequately addressed by perinatal providers. Participants also received information related to contraindicated interventions occasionally administered to those with perinatal OCD/OCS.

**Control Condition**

Participants in the control condition were presented with psychoeducation (pre-recorded videos) about general MMHC occurring throughout the perinatal period, with a focus on “baby blues” and how such symptoms differ from postpartum depression and anxiety. An overview of symptoms, prevalence data, and demographics associated with each of the conditions was provided.
Figure 2

Flowchart of Procedure

1. Assess for eligibility and obtain consent

2. Administer study measures and vignettes (Assessment phase I)

3. Randomization procedure

Allocate to active PEI condition
Allocate to control condition

4. Administer PEI for either the active or control condition

5. Readminister study measures (AIM included) and vignettes (Assessment phase II)

1-month interim

6. Readminister study measures (AIM included) and vignettes (Assessment phase III)

Collect, record and analyze data
RESULTS

Preliminary Analyses

All statistical analyses were conducted using SPSS Version 27 (IBM Corp., 2022). A significance level of \( p < .05 \) was used for all analyses. The data were examined to detect entry errors and missing values, outliers were identified using Mahalanobis distance, and statistical assumptions were examined. A total of 183 participants were recruited to the study, which included 85 participants from the community and 98 from Prolific. Duplicate cases, ineligible participants (i.e., those who did not virtually consent to participate in the study), and those with incomplete data (i.e., completed only a portion of the survey; \( n = 11 \)) were removed, leaving 134 participants remaining (i.e., 40 participants from the community and 94 from Prolific).

Upon further data cleaning, an additional 31 participants were excluded from the study due to missing 100% of the attention checks (responses left blank) following the psychoeducation video interventions (\( n = 30 \)) and/or having had previous treatment for OCD (\( n = 1 \)). Several outliers (\( n = 20 \)) were identified using Mahalanobis distance. However, following closer examination, such outliers were determined to be genuine (i.e., likely occurring due to natural variation in the data) rather than erroneous (i.e., those resulting from measurement errors, data entry errors, etc.) and were therefore retained.

The final sample consisted of 92 participants with 47 in the Active PEI Condition (51.1%) and 45 in the Control PEI Condition (48.9%). Participants’ ages ranged from 18 to 45, with an average of 32.2 years (\( SD = 6.27 \)). Participants all identified as female and were
predominantly White ($n = 73, 79.3\%$) with at least a Bachelor’s degree [$n = 34, 37\%$ (see Table 1 for complete descriptive statistics)]. Regarding perinatal status, 2 participants were “trying to conceive” (2.2%), 26 participants (28%) were pregnant (13 in each condition), 23 participants (25%) were postpartum (7 in the Active PEI Condition and 16 in the Control PEI Condition), and 41 participants (44.6%) had delivered a child in the last 5 years (26 in the Active PEI Condition and 15 in the Control PEI Condition). One participant (1.1%) reported being both postpartum and having had delivered a child in the last 5 years (Active PEI Condition). Finally, a total of 58 participants (63%) completed the one-month follow-up portion of the study (34 from Control PEI Condition and 24 from Active PEI Condition).

A series of independent samples t-test analyses examined group differences for all demographic variables (see Table 1 for results). There were no significant differences among any of these variables between groups with the exception of education level, showing that education level was higher in the Active PEI Condition than education level in the Control PEI Condition [$t(90) = 2.30, p < .05$].

Additionally, baseline correlational analyses were conducted to identify relations among OCS and other constructs of interest (i.e., depression and psychosocial stress [pre-intervention assessment phase]). A summary of these findings can be found in Table 2. Results suggest that across all three assessment phases (i.e., pre-intervention, post-intervention, and one-month follow-up), OCS were significantly positively correlated with depression symptoms ($r = .613, p < .001$; $r = .575, p < .001$ and $r = .585, p < .001$) and psychosocial stress ($r = .456, p < .001$; $r = .373, p < .001$ and $r = .519, p < .001$). Results indicate those with higher levels of OCS are more likely to also experience more severe depression and greater levels of psychosocial stress.
Primary Analyses

Hypothesis 1: Controlling for maternal age and parity, perinatal individuals would endorse higher symptom experience of OCS compared to non-perinatal individuals (i.e., participants that had delivered a child in the last 5 years).

To test hypothesis 1, an ANCOVA was conducted to detect any differences in total OCS between the two categories (i.e., perinatal/non-perinatal) when controlling for maternal age and parity. For this analysis, the total number of OCS was the dependent variable, which was measured via the pre-intervention OCI-R total scores. Results (see Table 3) showed that the main effect of perinatal status on total OCS severity, controlling for maternal age and parity, was not statistically significant \[ F(1, 86) = 3.22, p = .076, \eta^2_p = .036 \]. This finding suggests that perinatal and non-perinatal participants experienced similar levels of OCS at baseline.

Hypothesis 2a: Pregnant individuals would endorse an increased number of OCS corresponding to the Contamination Subtype compared to postpartum and non-perinatal individuals.

Hypothesis 2b: Postpartum individuals would endorse an increased number of OCS corresponding to the Harm-Related Subtype compared to pregnant and non-perinatal individuals.

Hypothesis 2c: Postpartum individuals would endorse an increased number of OCS corresponding to the Taboo Content Subtype compared to pregnant and non-perinatal individuals.

To test hypotheses 2a, 2b, and 2c, a 3 (Perinatal status: pregnant vs. postpartum vs. non-perinatal) X 3 (OCS dimension/subtype: Contamination OCS vs. Harm-Related OCS vs. Taboo Content OCS) MANCOVA was conducted. For this analysis, the OCS dimension/subtype was the dependent variable, measured via the individual total scores on each of the DOCS subscales. Maternal age and parity were controlled for as potential covariates in the analyses. Results (see Table 4) revealed that perinatal status did not have a significant main effect on OCS.
dimension/subtype \[ F(6, 162) = .457, p = .84, \eta^2_p = .017 \]. However, results (see Table 5) showed that the interaction effect of Age and Taboo Content OCS was statistically significant, \[ F(1, 87) = 5.213, p = .025, \eta^2_p = .059 \] in a negative direction. This suggests that as age increased, participants were less likely to endorse Taboo Content OCS. Similarly, the interaction of Age and Harm-Related OCS was found to be marginally significant in a negative direction, \[ F(1, 87) = 4.062, p = .05, \eta^2_p = .047 \], indicating that age has a weaker but still noticeable impact on this OCS subtype. Conversely, for the Contamination Subtype, there was no significant interaction effect of Age \[ F(1, 87) = 0.880, p = .351, \eta^2_p = .010 \]. Of note, the effect sizes for all three of these dependent variables (i.e., OCS dimension/subtypes) were small, indicating that the observed associations between Age and OCS dimension/subtypes are relatively weak.

**Hypothesis 3:** Prior to any PEI, among all study participants, increased levels of stigma would be endorsed towards OCS in the Harm-Related and Taboo Content Subtypes compared to those in the Contamination Subtype.

To test hypothesis 3, an ANOVA was conducted to assess whether stigma levels significantly differed according to OCS symptom dimension. Perinatal status (i.e., pregnant, postpartum, non-perinatal) was entered as the between-subjects factor, whereas the total scores for the proxy measures of stigma (administered following each vignette) were entered as the within-subjects factor. Results (see Table 6) demonstrated that the main effect of Perinatal Status on stigma levels for the Contamination Subtype \[ F(2,84) = 1.373, p = .259, \eta^2_p = .032 \], Taboo Content Subtype \[ F(2,83) = .326, p = .723, \eta^2_p = .008 \], and Harm-Related Subtype \[ F(2,85) = .113, p = .893, \eta^2_p = .003 \] were not statistically significant. Therefore, this finding suggests that all participants, regardless of perinatal status, endorsed similar levels of stigma towards the various OCD/OCS subtypes. However, despite the lack of significant group differences
according to perinatal status, the levels of stigma were higher for the Taboo Content and Harm-Related Subtypes compared to Contamination and Control (see Table 6 for further details on descriptive statistics).

**Hypothesis 4a:** Participants in the Active PEI condition would endorse lower symptoms of OCS post-intervention, controlling for depression, anxiety, and psychosocial risk factors, than those in the Control PEI Condition and effects would be maintained at 1-month follow-up.

To test hypothesis 4a, a 2 (Condition: Active vs. Control PEI condition) X 2 (Time: pre-intervention vs. post-intervention assessment vs. follow-up assessment) Mixed Model Repeated Measure MANCOVA was conducted. The dependent variables for this analysis were individual total scores on the OCI-R (pre-intervention, post-intervention, and follow-up). The covariates for this analysis were pre-intervention depression, anxiety, and psychosocial risk factors, which were measured by the DASS-21 (i.e., depression and anxiety subscales) and the ANRQ-R, respectively. Results (see Table 7) demonstrated that the main effect of Time on OCS severity was not statistically significant \( F(1, 40) = 2.75, p = .105, \eta_p^2 = .064 \), suggesting that Time did not have a significant effect on OCS severity (see Table 8). Additionally, the interaction effect between Time and Condition was also not statistically significant \( F(1, 40) = .78, p = .384, \eta_p^2 = .019 \), suggesting that the combined influence of Time and Condition did not have as significant effect on OCS severity (see Table 8). In other words, the Active PEI Condition did not lead to a greater reduction in OCS across time compared to the Control PEI Condition.

**Hypothesis 4b:** Stigma towards perinatal OCD/OCS would decrease for all study participants who receive Active PEI compared to those in the Control PEI Condition and effects would be maintained at 1-month follow-up.
To test hypothesis 4b, a 2 (Condition: active vs. control condition) X 2 (Time: pre-intervention vs. post-intervention assessment vs. follow-up assessment) Mixed Model Repeated Measure MANOVA was conducted. The dependent variables for this analysis were the combined total scores on each of the three stigma proxy measures (i.e., SDS, AQ-27, and the perceptions of ‘fitness as a mother’ Likert-scale question) across the three assessment phases. For the Contamination vignette, results (see Table 9) indicated there was a significant main effect of Time \([F(2, 50) = 16.45, p = <.001, \eta_p^2 = .397]\). Additionally, (see Table 10) a significant interaction between Time and Condition with a medium-to-large effect \([F(1, 51) = 5.86, p = .019, \eta_p^2 = .103]\) was seen for the Contamination vignette. Specifically, those in the Active PEI Condition endorsed greater reductions in stigma endorsed towards the Contamination Subtype across time compared to those in the Control PEI Condition. Of note, an independent samples t-test analysis was conducted to determine whether the mean differences in baseline stigma levels for the Contamination Subtype between the Active PEI and Control PEI conditions were statistically significant. Results demonstrated that such differences were not statistically significantly different, \(t(2, 88) = 6.95, p = .051\).

_Hypothesis 4c:_ Participants receiving Active PEI would report increased satisfaction and usefulness of the intervention compared to those in the Control PEI condition and effects would be maintained at 1-month follow-up.

To test hypothesis 4c, a 2 (Condition: active vs. control condition) X 2 (Time: post-intervention assessment vs. follow-up assessment) Mixed Model Repeated Measure ANOVA was conducted. The dependent variables for this analysis were total scores on the AIM (post-intervention and follow-up). Results (see Table 11) showed that there was a significant main effect of Time on \([F(1, 55) = 15.17, p < .001, \eta_p^2 = .216]\). This finding suggests that participants’
perceived acceptability and feasibility of the intervention decreased over time. However, results (see Table 12) show that the interaction effect between Time and Condition was not statistically significant \( F(1, 55) = .72, p = .399, \eta^2_p = .013 \), suggesting that the combined influence of Time and Condition did not impact participants’ perceived acceptability and feasibility of the intervention. In other words, there were no meaningful differences in participants’ perceived acceptability and feasibility of the intervention across time between those in the Active PEI and Control PEI Conditions.

**Post-Hoc Analyses**

To further evaluate relations between constructs of interest (OCS subtypes and stigma levels) and demographic factors (i.e., age, education status, and gestational age), additional correlational analyses were conducted. A summary of these findings can be found in Table 13. Results suggest that age was significantly negatively correlated to Taboo Content OCS Subtype across all three assessment phases (e.g., pre-intervention \( r = -.224; p < .05 \)). Age was significantly negatively correlated to Harm-Related OCS Subtype in the one-month follow-up timepoint only (\( r = -.303; p < .05 \)). Age was also significantly positively correlated to stigma endorsed towards the Contamination OCS Subtype (\( r = .268; p < .05 \)); however, it was not significantly related to stigma endorsed towards any other OCS Subtypes. Further, education status was significantly negatively correlated to both the Taboo Content and Harm-Related OCS Subtypes across all three assessment phases (e.g., pre-intervention Taboo Content \( r = -.323; p < .01 \), pre-intervention Harm-Related \( r = -.347; p < .001 \)). Finally, gestational age (among pregnant women in the study sample) was significantly negatively correlated to the Harm-Related OCS Subtype across all three assessment phases (e.g., pre-intervention \( r = -.433; p < .05 \)).
An additional post-hoc analysis was conducted to assess whether including only perinatal participants in the MANCOVA would impact results for Hypothesis 2 (i.e., predicting that specific OCS subtypes would differ in prevalence prenatally versus postnatally). The post-hoc conducted followed the same steps as the original analysis; however, only pregnant (n = 25) and postpartum (n = 25) individuals were included. The OCS dimension/subtype was the dependent variable, measured via the individual total on the DOCS. Maternal age and parity were controlled for as potential covariates in the analyses. Results (see Table 14) revealed that perinatal status (i.e., pregnancy vs. postpartum) did not have a significant main effect on OCS dimension/subtype \[F(8, 82) = .770, p = .630, \eta^2 = .070\]. Results (see Table 15) also demonstrated no significant interaction effects between OCS dimensions/subtypes and perinatal status (e.g., Contamination Subtype: \[F(2, 3.73) = .433, p = .651, \eta^2 = .019\]). Such results indicated that within the current sample, there were no significant differences in domain/subtype of OCD/OCS between pregnant and postpartum participants.
DISCUSSION

The current study tested the idea that the application of a single-session, virtually-delivered psychoeducation intervention focused on perinatal OCD/OCS can impact perinatal women’s experience of OCS as well as improve attitudes towards this understudied MMHC. The rationale for the current study was to bridge gaps in current literature regarding perinatal OCD, namely on improving awareness and attitudes towards this condition, which is shown to be highly stigmatized and misdiagnosed (Challacombe & Wroe, 2013; Committee on Obstetric Practice, 2015; Forray et al., 2010; Glazier et al., 2015; Mulcahy et al., 2020; Ross & McLean, 2006; Sharma & Sommerdyk, 2015).

The main finding of the study was that compared to the Control PEI Condition, the Active PEI Condition contributed to a reduction in stigma endorsed towards the Contamination Subtype of Perinatal OCD/OCS. Specifically, the Active PEI Condition had a greater reduction in stigma levels at one-month follow-up assessment (11-point decrease) compared to the Control PEI Condition (4-point decrease). Surprisingly, there were no significant reductions within or between the two Conditions among other Perinatal OCD/OCS subtypes. Based on the literature (Warman et al., 2015), it was hypothesized that PEI on Perinatal OCD/OCS would lead to reduction in stigma endorsed towards the Taboo Content and Harm-Related Subtypes. One possible explanation for why the Active PEI Condition contributed to a reduction in stigma endorsed towards the Contamination Subtype only is that initial levels of stigma endorsed towards this subtype were higher in the Active PEI Condition ($M = 40.14$) compared to the
Control PEI Condition \( (M = 33.74) \). However, these differences were not statistically significant, thus supporting the genuine impact that the Active PEI Condition had on stigma endorsed towards this subtype. Several factors could have contributed to this impact. One potential factor is that the Active PEI provided information covering a wider range of domains related to perinatal OCD/OCS subtypes. By addressing different aspects of OCS, including cleanliness and contamination, the Active PEI may have specifically targeted and reduced stigma associated with these symptoms. In contrast, stigma endorsed towards Harm-Related and Taboo Content Subtypes may have remained more impactful, potentially increasing the malleability of contamination/cleanliness stigma in comparison. Further research is needed to investigate the underlying mechanisms through which the Active PEI influenced stigma towards the Contamination Subtype and to explore the potential differential effects on stigma between different OCD/OCS subtypes.

Moreover, findings related to the Active PEI’s effect on reducing stigma endorsed towards the Contamination Subtype could be due in part to the COVID-19 pandemic. Specifically, the pandemic could have exacerbated negative perceptions of contamination-based symptoms, for which the Active PEI alleviated. Further, the malleability of stigma towards Contamination OCS, and not Taboo/Harm-Related OCS, could be influenced by participants’ internalized stigma. For example, it is possible that high levels of internalized stigma towards the Taboo Content and Harm-Related Subtypes led to avoidance of receiving the information presented in the Active PEI in some way. If so, it could mean that psychoeducation (at least in the way it was administered in the current study) may be insufficient to impact internalization of stigma for Taboo Content and Harm-Related OCD/OCS. Additional interventions (e.g.,
cognitive-restructuring, acceptance-based approaches) may be needed to address emotions associated with internalized stigma such as shame, fear, guilt, etc.

**Preliminary Findings**

Regarding preliminary baseline correlational findings, all constructs of interests were significantly related, such that OCS within the current sample were positively associated with depression and psychosocial stress across all three assessment phases. Such findings indicate that as OCS severity increases, depressive symptoms and psychosocial stress increase and/or become exacerbated. The observed correlations between such MMHC are evidenced in the literature (Burton, 2021; Challacombe et al., 2016; Kinlein et al., 2015; Sutter-Dallay et al., 2004). In fact, OCD is ranked by the World Health Organization as one of the top 10 most handicapping conditions worldwide via detriments to one’s income and quality of life (Bobes et al., 2001; Veale & Roberts, 2014). As such, it is not surprising that OCS within the current sample was associated with elevated psychosocial stress and impairment. Moreover, perinatal OCS has been shown to increase the likelihood of developing future psychopathology among expectant mothers, especially postpartum depression (Ahmad et al., 1994; Sutter-Dallay et al., 2004).

Overall, correlational findings in the current study support the relationship between perinatal OCS and depression (both prenatal and postpartum depression) and underscore the importance of intervening on perinatal OCD/OCS to prevent development and/or exacerbation of other MMHC.

**Primary Findings**

The first aim of this study was to evaluate the prevalence of OCD among a sample of perinatal and non-perinatal individuals, predicting that perinatal participants (i.e., pregnant and
postpartum) would endorse higher levels of OCS compared to non-perinatal participants (i.e., those that have delivered a child in the last 5 years). Surprisingly, results did not support study predictions as there were no significant differences found between perinatal and non-perinatal participants in the experience of OCS severity. This finding is inconsistent with current literature, which has demonstrated that perinatal individuals are more vulnerable to OCD/OCS (Fairbrother et al., 2016; Fawcett et al., 2019; Viswasam et al., 2019) compared to women outside of the perinatal period (Uguz et al., 2007). One potential reason for why such findings were not replicated in the current sample could be the average age of the sample. Specifically, the final sample was an average of 32.2 years old therefore, perhaps a sample of younger participants might have yielded different results given that younger age within the childbearing years is associated with increased OCS severity (House et al., 2016). In fact, past studies have shown that women under the age of 25 are at higher risk for developing an anxiety-related disorder (House et al., 2016).

Alternatively, such findings could have been due to the lower levels of OCS endorsed in the current sample compared to past research in this area (Timpano et al., 2011). In the current sample, approximately 13% were at or above the clinical cutoff score (21) for the OCI-R and approximately 18% were at or above the clinical cutoff score (18) for the DOCS. As such, the baseline symptom levels among the current sample were likely considerably lower than those included in the study conducted by Timpano and colleagues (2011), which also assessed the efficacy of a perinatal OCD/OCS psychoeducation program. Of note, The Timpano et al. (2011) study differed from the present study in that authors specifically aimed to prevent postpartum OCD via a psychoeducation prevention program. Therefore, Timpano and colleagues’ (2011) study administered PEI to pregnant individuals who endorsed antenatal risk factors for this
condition, namely higher levels of pre-existing OCS. The inclusion criteria for this study was a score of 139 or greater on the Obsessive Belief Questionnaire (OBQ). This score represents 1.25 standard deviations above the community mean. More specifically, baseline OBQ scores in Timpano and colleagues’ (2011) study sample were elevated ($M = 172.70$ [prevention condition]; $M = 166.64$ [control condition]), compared to community samples ($M = 96.0$). Moreover, perhaps the current findings provide evidence that brief PEI, as what was included in the current study, may be less effective for those endorsing lower baseline OCS symptoms; however, future research to confirm this idea is warranted.

The second aim was to evaluate whether the experience of OCS across OCD/OCS subtypes occur at different frequency and/or severity across pregnant, postpartum, or non-perinatal individuals. Findings did not find differential symptom experience, such that pregnant, postpartum, and non-perinatal women all endorsed similar rates of OCS occurring in the Contamination, Harm-Related, and Taboo Content Subtypes. This finding is inconsistent with prior research demonstrating that the prenatal period is associated with increased endorsement of contamination OCS (Buchholz et al., 2020; Fairbrother & Abramowitz, 2016; Starcevic et al., 2020), and the postpartum period more associated with taboo/harm-related OCS (Starcevic et al., 2020). Possible explanations of the current findings could be due to the relatively low severity of OCS in the current sample. Specifically, participant scores on the pre-intervention OCI-R had an average of 10.40, whereas the recommended clinical cutoff score is 21 ($n = 12; 13.4\%$ in current sample). Additionally, participant scores on the pre-intervention DOCS total scores had an average of 9.78, whereas the recommended clinical cutoff score is 18 ($n = 17; 18.5\%$ in current sample). Regarding past and current psychological diagnoses in the current sample, only 29%
reported having a past and/or current anxiety-related disorder. Thus, perhaps a clinical sample might have resulted in outcomes consistent with the literature.

Another possibility is that the present study included a sample of perinatal and non-perinatal participants, which could have contributed to the null findings. Perhaps if the sample was comprised of only pregnant and postpartum individuals, results would have been more consistent with past literature in demonstrating that pregnancy is associated with contamination-based OCS and postpartum being associated with taboo/harm-related OCS. As previously mentioned, numerous studies demonstrate that contamination OCS are more commonly associated with pregnancy whereas aggressive, including taboo/harm-related, OCS occur more frequently during the postpartum period (Buchholz et al., 2020; Fairbrother & Abramowitz, 2016; Starcevic et al., 2020). Therefore, perhaps the fact that approximately half of the current sample was comprised of non-perinatal individuals, the effect of perinatal status on OCS domain could have been diminished and thus undetected.

To assess this, a post-hoc analysis was conducted in which only perinatal (i.e., pregnant and postpartum) participants were included in the analysis. Results of the post-hoc MANCOVA were null, supporting the idea that the effect of perinatal status may not substantially impact subtype of subclinical OCS, a novel finding worth seeking replication in future studies. Such conclusions could impact screening for perinatal OCS such that providers should be attuned to both contamination and taboo/harm-related symptoms during early prenatal appointments and caution should be taken to avoid misdiagnosing taboo/harm-related symptoms as other disorders (e.g., psychosis). Conversely, the null findings could be due to the lack of clinical OCS in the current sample; additional research is needed to determine which of these possible explanations best accounts for current findings.
Notably, the impact of age (a covariate in the original analysis) was found to be significantly related to OCS in the negative direction occurring in the Taboo Content Subtype, and to a lesser degree the Harm-Related Subtype. There was no significant impact of age on OCS occurring in the Contamination Subtype. However, according to post-hoc analysis, age was significantly associated with stigma endorsed towards the Contamination Subtype in the positive direction. Interestingly, age was not significantly correlated to stigma endorsed towards any other OCD/OCS subtype. Such findings suggest that older age within the current sample was associated with increases in stigma endorsed towards the Contamination Subtype. While there is no extant literature to-date that has identified age as correlated to or a predictor of stigma towards contamination OCD (including perinatal), recent research on stigma related to the COVID-19 pandemic has identified older age as being significantly associated with increases in stigma endorsed towards those with the infection (Zhang et al., 2021). Therefore, perhaps the older participants in the sample somehow associated contamination-based symptoms with COVID-19 (e.g., excessive cleanliness could have been perceived as a means to reduce infection or prevent spreading to others), thereby perceiving such symptoms more negatively. This potential explanation is largely speculatory and requires future examination to be confirmed; however, such research may not be as relevant post-pandemic.

Additionally, according to post-hoc analysis, parity was not shown to be significantly related to main constructs of interest, which is inconsistent with past studies demonstrating that parity is positively associated with perinatal OCS (Mahaffey et al., 2022). One reason for the null finding in the current study is that past studies identified nulliparity as a significant correlate of higher OCS, noting that first time mothers endorsed greater OCI-R total scores (Mahaffey et al.,
Only 7.5% of women in the current study reported being first time mothers \((n = 7)\), which in turn likely contributed to the lack of significance observed.

The third aim of this study was to assess endorsement of stigma towards perinatal OCD/OCS dimensions/subtypes among those included in the study sample. Findings suggested that the Contamination, Harm-Related, and Taboo Content Subtypes received similar levels of stigma among the three groups within the sample (i.e., pregnant, postpartum, and non-perinatal participants). Specifically, there were no differences in stigma endorsed towards subtype of OCS based on perinatal or non-perinatal status. Such findings are not particularly surprising given that there is no evidence to suggest that stigma levels would be different for pregnant versus postpartum and/or non-perinatal individuals. Moreover, while meaningful differences according to perinatal status were not observed, there were differences in the average levels of stigma endorsed according to OCS subtype. Specifically, pre-intervention stigma levels for the Contamination Subtype \((M = 36.70)\) were higher than stigma levels for the Taboo Content \((M = 62.34)\) and Harm-Related \((M = 60.98)\) subtypes. Notably, pre-intervention stigma levels endorsed towards the Control Vignette (i.e., postpartum emotional dysfunction without distress) were lower on average \((M = 23.29)\). Such findings are supported by past research in the general population, showing that stigma levels are higher for Harm-Related and Taboo Content OCS (Ponzini & Steinman, 2021) compared to contamination-based symptoms and mild levels of depression (Cooke et al., 2020; McCarty et al., 2017).

Alternatively, the lack of significant differences in stigma levels among Contamination, Harm-Related, and Taboo Content Subtypes could have been due to the manner in which stigma was assessed. Specifically, the vignettes included provided a brief depiction of perinatal OCS (as well as a Control) and were originally created to assess providers’ knowledge of this condition.
(Cooke et al., 2020; McCarty et al., 2017). Perhaps a video vignette of such symptoms might have led to different perceptions. In fact, Chaves and colleagues (2022) recently assessed the efficacy of an online, gamified intervention program targeting stigma endorsed towards OCD occurring in the general population. In addition to psychoeducation, authors incorporated methods of video recordings of patients (i.e., indirect contact) as exemplars. Rather than using clinical vignettes as in the present study, Chaves and colleagues utilized brief videos of patients with OCD (i.e., 6 videos of approximately 2-3 minutes each) and found significant differences in stigma (Chaves et al., 2022). Thus, perhaps if the current study employed such indirect contact methods, differences in stigma among the different OCD/OCS subtypes could have been detected if present.

The fourth and primary aim of this study was to assess the effectiveness and perceived acceptability of a psychoeducation intervention (Active PEI Condition) targeting perinatal OCD/OCS and related stigma. First, findings were null for the impact of PEI on OCS severity across all three assessment phases. Specifically, there were no meaningful differences in OCS severity (i.e., increase or decrease) across time between those in the Active PEI Condition compared to those in the Control PEI Condition. As previously discussed, the relatively low OCS severity endorsed by the current sample likely also impacted findings related to intervention effectiveness on symptom reduction. Additionally, participants’ scores on the DASS-21 anxiety subscale had an average of 6.0, which is within the moderate range of severity. Thus, perhaps a sample with higher levels of OCS and anxiety might have demonstrated a response to the Active PEI, as was evidenced by Timpano and colleagues (2011) in which participants included were 1.25 standard deviations above the community mean on the OBQ. One factor potentially accounting for this idea is the presence of elevated obsessive beliefs, which are specifically
measured by the OBQ (OCCWG, 2005), and are shown to be positively correlated with OCS (OCCWG, 2003, 2005). As multiple past studies have identified obsessive beliefs as being significant to perinatal OCS (Mulcahy, 2021; Timpano et al., 2011), it could be that this construct presents a more modifiable factor to preventing, and potentially intervention upon, perinatal OCS/OCD. However, future research is needed to explore whether obsessive beliefs are a mechanism of overall OCD/OCS prevention and/or reduction following PEI.

Alternatively, perhaps the null findings for the impact of PEI on OCS severity provide more support for the use of additional components of intervention, such that psychoeducation is a needed but not sufficient as a standalone approach when specifically aiming to reduce symptoms (Foa et al., 2012). Of note, this aspect of the study was largely exploratory, although still predicted to be impactful, given that no previous research has assessed the effects of a single-session PEI on OCS reduction among a sample of perinatal and non-perinatal individuals. Further, the lack of significance observed in the current study provides more evidence for the implementation of the PEI protocol as presented by Timpano and colleagues (2011). As a reminder, in the Timpano and colleagues study (2011), each childbirth education meeting concluded with a 30-minute presentation of OCD/OCS psychoeducation material for both partners. All of the participants were pregnant, nulliparous, and screened for antenatal risk factors for postpartum OCD, such as higher anxiety and OCS levels and the presence of cognitive distortions (i.e., obsessive beliefs). Therefore, perhaps until further research is conducted on brief/single-session PEI among perinatal and non-perinatal individuals with subclinical OCS (as was done in the current study), it may be worthwhile to adopt the protocol proposed by Timpano and colleagues (2011) by offering psychoeducation as a preventative measure to perinatal individuals exhibiting elevated OCS at baseline.
Furthermore, the current study presented a novel opportunity to not only assess stigma levels endorsed towards various subtypes of perinatal OCS, but to also evaluate whether PEI led to meaningful reductions in stigma, especially towards the Taboo Content and Harm-Related Subtypes. Past research (Cooke et al., 2020; McCarty et al., 2017) has demonstrated that such subtypes of OCD are more stigmatized than other OCD subtypes (e.g., Contamination and Symmetry); therefore, it seemed reasonable to predict that this relationship would also exist for perinatal OCD/OCS. Past studies have also identified PEI as a useful intervention for reducing stigma towards Harm-Related and Taboo Content OCS (Warman et al., 2015). Surprisingly, findings from the current study indicated that PEI led to reductions in stigma endorsed towards the Contamination Subtype only, rather than the Harm-Related and Taboo Content Subtypes. This finding is particularly interesting given that the Contamination Subtype initially had the lowest levels of stigma (with the exception of the Control Vignette). There are multiple potential explanations for this finding. One potential reason is that perhaps stigma endorsed towards Harm-Related and Taboo Content OCS are more related to an emotion of disgust rather than fear, which could contribute to a slower habituation process. Previous research has indeed demonstrated that disgust tends to have a slower rate of habituation relative to other emotions such as fear (Olatunji et al., 2009; Smits et al., 2002). As a result, it is plausible that stigma endorsed towards Harm-Related and Taboo Content OCS might have been less influenced by the Active PEI due to potential involvement of emotions such as disgust. If so, then it is also worth considering that a longer follow-up period might be necessary to observe changes in stigma endorsed towards Harm-Related and Taboo Content OCS or perhaps the use of disgust-specific psychoeducation might be needed.
Another potential explanation could be related to the COVID-19 pandemic, which was still ongoing during the present study. In fact, recent research suggests that the pandemic had a more negative impact on contamination-based OCS compared to other OCD dimensions (Alonso et al., 2021, Wheaton et al., 2022), which has also been cited for pregnant individuals (Mahaffey et al., 2022). Additionally, studies have demonstrated that pregnant women endorse stigma towards the COVID-19 infection and infected people (Kitamura et al., 2022) namely due to concerns about the health, safety, and wellbeing of their future infants (Preis et al., 2020) as well as their other children (Corbett et al., 2020). This research offers a potential explanation for why levels of stigma endorsed towards the Contamination Subtype in the current sample was reduced following the Active PEI. Such findings underscore the importance of psychoeducation on reducing stigma towards Contamination OCD/OCS, which is especially salient amidst a global pandemic. Alternatively, the current study’s post-hoc analysis revealed that age was significantly positively correlated to stigma endorsed towards the Contamination OCS Subtype. Given the relatively older age of the current sample, it makes sense that the Contamination Subtype might be the only subtype impacted by the Active PEI Condition.

As previously mentioned, such findings could also have been due to the manner in which stigma was assessed and targeted. Perhaps assessing and intervening upon self-stigma or stigma that is internalized might have resulted in different outcomes. For example, internalized stigma might be more resistant to change, possibly due to emotions such as shame, fear, guilt, disgust, etc. Even if future studies do not specifically target internalized stigma, it could be useful to assess and in turn control for this construct during the statistical analyses of PEI efficacy. Perhaps the inclusion of a psychometrically validated measure of internalized stigma that has been utilized among OCD populations (Kılıç et al., 2022), such as the Internalized Stigma of
Mental Illness (ISMI) scale (Ritsher et al., 2003), might be beneficial in future studies. Additionally, results from recent studies targeting stigma endorsed towards OCD in the general population suggest that the combination of psychoeducation, indirect contact, and cognitive restructuring was effective in reducing social distance and negative beliefs towards those with OCD (Gürbüz et al., 2020). As such, the inclusion of indirect contact methods and cognitive restructuring (in addition to PEI) might have led to greater impact on stigma levels across OCD/OCS subtypes in the current study.

Lastly, it was predicted that participants receiving Active PEI would report increased satisfaction and usefulness of the intervention compared to those in the Control PEI condition. Findings demonstrated that there were no meaningful differences in participants’ perceived acceptability and feasibility of the intervention across time between those in the Active PEI and Control PEI Conditions. More specifically, the Active PEI Condition had an average of 17 post-intervention and average of 15.30 at one-month follow-up; the Control PEI Condition had an average of 16.08 post-intervention and an average of 15 at one-month follow-up. The highest score possible on the AIM is 20, indicating that participants had high averages and therefore regarded both PEIs positively. Qualitative responses further demonstrate participants’ perceptions of satisfaction and usefulness of the intervention:

“I had OCD/Postpartum Anxiety and had no clue what was happening to me since we mainly only hear about postpartum depression. So that was a great video.” (Active PEI Condition)
“Now that I know what I had, it’s always nice to hear or read that there are other people with similar situations to what I was in (it was terrible). So thanks for this!” (Active PEI Condition)
There were no qualitative responses provided by participants in the Control PEI Condition. Overall, findings suggest that both PEI Conditions were deemed acceptable and feasible in the current sample in the second assessment phase, adding credibility to the usefulness of psychoeducation on perinatal OCD/OCS and other MMHC. Such findings make sense theoretically given perinatal individuals generally receive limited information about MMHC by their providers (Byatt et al., 2012, 2015). Of note, effects were not maintained at one-month follow-up, suggesting that both groups demonstrated significant reductions in satisfaction and usefulness of the intervention at the third assessment phase.

One remaining interesting finding revealed during post-hoc correlational analysis was that higher education was negatively associated with Taboo Content and Harm-Related Subtypes of OCS. This finding suggests that as education increases, OCS within these domains decrease. Notably, the current sample was highly educated, with 24.7% of the sample having a graduate school degree (i.e., 19 participants having a Master’s degree and 4 having a Doctorate degree). In general, education promotes increased exposure to diverse ideas and has been associated with lower degrees of stigma towards mental illness (Corrigan et al., 2012; Girma et al., 2013; Hirai et al., 2015). This has important implications for which potential populations of perinatal individuals might be most impacted by PEI focused on Harm-Related and Taboo Content OCS. Indeed, baseline correlational analysis results revealed that education was higher among participants in the Active PEI Condition compared to those in the Control PEI Condition in the current study sample. As such, it is possible that the Active PEI might have had a more substantial impact on symptom reduction in Harm-Related and Taboo Content OCS among a sample of participants with less education on average.
The present study included several notable strengths, namely collecting a sufficient sample of perinatal women, for which a portion (i.e., pregnant individuals) are considered a vulnerable population for research. An extensive review of previous literature on MMHC and perinatal anxiety and OCD/OCS was also included. Importantly, the present study provided novel investigation into the effectiveness of a single-session, virtually delivered psychoeducational intervention for perinatal individuals. Additionally, the study incorporated a repeated measures design, collecting data at three consecutive timepoints. This longitudinal approach provides a deeper understanding of the effects of the psychoeducational intervention over time, allowing for the examination of changes and potential long-term benefits. Finally, the current study addressed a novel and unique aspect compared to past studies by investigating stigma endorsed towards various domains of postpartum OCD/OCS among a sample of perinatal individuals and assessing how a single-session of psychoeducation can impact such attitudes.

Despite the strengths of the present study, several limitations should be acknowledged. One limitation pertains to the generalizability of the findings. The sample consisted of perinatal women who were predominantly White and of relatively higher socioeconomic status. For example, the majority of the sample had a Bachelor’s Degree or higher and had an income of $50-100k per year. Therefore, the lack of diversity in the sample warrants caution when generalizing the results to more diverse populations. As such, future studies should include participants with increased diversity as it relates to race, ethnicity, cultural background, education level and socioeconomic status.

Additionally, the online platform used (i.e., Prolific) and other virtual aspects of the study (e.g., video recordings of PEI) pose further limitations. Specifically, recruitment was limited to individuals with access to the internet and electronic literacy, which could limit generalizability
of study findings. Further, given that participants could participate in the study remotely, there was limited control over potential naturally occurring confounds (e.g., environmental distractions). Similarly, it was not possible to directly confirm the perinatal status of participants or ensure that the PEI videos were fully attended to. For example, the present study faced difficulties with the accuracy of attention checks. Specifically, only 20 participants achieved a perfect score on the attention checks, suggesting that some participants may not have fully attended to study tasks. Future studies could employ more direct methods of verifying perinatal status and monitoring participants’ engagement with intervention materials. Future studies could also explore the effectiveness of different modes of psychoeducational interventions, such as briefer versions of PEI displayed to participants across time (e.g., using smartphone applications). In fact, a recent study conducted by Chaves and colleagues (2022) evidenced efficacy of a gamified mental health mobile application (app) in reducing stigmatized attitudes and increasing OCD literacy and help-seeking intentions among a non-clinical adult sample. Additionally, past studies have shown that a combination of psychoeducation in addition to other strategies (i.e., indirect contact and cognitive restructuring) are effective at reducing stigma towards OCD in the general population (Chaves et al., 2022; Gürbüz et al., 2020). Therefore, future studies could administer such approaches to a sample of perinatal individuals to evaluate whether stigma towards perinatal OCD/OCS is more significantly impacted using this combined approach. If such approaches are ineffective among perinatal individuals, then there might be increased evidence/rationale for administering PEI on perinatal OCD/OCS during traditional childbirth education classes as a preventative approach, which was effectively done in a past study (Timpano et al., 2011).
To further expand the scope of knowledge in this area, future studies could consider including clinical samples to assess whether only higher symptom level is more impacted by an Active PEI. Future studies could also be conducted among nulliparous individuals (i.e., first time mothers) and also consider involving family members, such as partners, to gain a more comprehensive understanding of the impact of OCD/OCS (e.g., assessment of family accommodation as a factor). Further, exploring whether psychoeducational intervention influences perinatal individuals’ willingness to disclose OCS to healthcare providers could provide valuable information on the potential benefits of such interventions in clinical settings. Indeed, past studies have found that women experience shame, stigma, and discomfort when seeking mental health treatment (Dennis & Chung-Lee, 2006) and that such factors contribute to hesitancy to disclose MMHC symptoms to perinatal healthcare professionals (Byatt et al., 2012). Relatedly, future research might benefit from addressing internalized stigma and/or disgust among perinatal individuals experiencing OCS, given that many OCD patients in the general population expect negative reactions from their environments, which in turn is shown to contribute to beliefs that concealment of symptoms is a viable strategy for dealing with symptoms (Stengler-Wenzke et al., 2004).

Taken together, the present study implemented a novel single-session, virtually delivered psychoeducation intervention targeting obsessive-compulsive symptoms as well as stigma endorsed among a sample of perinatal and non-perinatal individuals. This study expanded upon Timpano and colleagues’ research (2011) by evaluating the efficacy of a single-session psychoeducation intervention and was the first to assess stigma endorsed towards various subtypes of perinatal OCD/OCS among a sample of perinatal individuals. With the exception of reducing stigma endorsed towards the Contamination Subtype of OCD/OCS, overall findings
were null. Although other study predictions were not supported, results nonetheless contribute to the literature by offering points for future consideration in an understudied area of research. The clinical implications for such research include reducing shame and stigma by normalizing perinatal OCD/OCS, namely Contamination OCS during a global pandemic, thereby potentially improving access to evidence-based care for such symptoms. Despite previously stated limitations, the current study sets the stage for further research to address the gaps in knowledge, improve study methodologies, and advance the understanding of OCD/OCS occurring in the perinatal period.
REFERENCES
REFERENCES


81


85


APPENDICES
APPENDIX A: TABLES

Table 1

Overall Sample Characteristics and Differences between Conditions

<table>
<thead>
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<td>Some college</td>
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<td>Associate's degree (i.e., AA)</td>
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<td>9.8</td>
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<td></td>
</tr>
<tr>
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<td>34</td>
<td>37.0</td>
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<td>Master's degree (e.g., M.A., M.S., M. Ed., etc.)</td>
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<td>Doctorate (e.g., PhD, EdD, MD, etc.)</td>
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<td><strong>Income</strong></td>
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<td>$100k-150k</td>
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<td><strong>Marital Status</strong></td>
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<td>78.3</td>
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<tr>
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<td>Given birth in the last 5 years</td>
<td>41</td>
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*(table continues)*
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<th>Gestational Age (if pregnant)</th>
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<td>19</td>
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<tr>
<td>&gt;28 weeks</td>
<td>4</td>
<td>4.3</td>
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<table>
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<th>Months postpartum (if applicable)</th>
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<td>1 month 1 day - 3 months</td>
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<td>3 months 1 day - 6 months</td>
<td>7</td>
<td>7.6</td>
<td></td>
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<tr>
<td>6 months 1 day - 1 year</td>
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<td>Greater than 1 year</td>
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<td>7</td>
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*Note. p < .001***; p < .01**; p < .05*. 
Table 2

Descriptive Statistics and Summary of Baseline Correlational Analysis

<table>
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<tr>
<th></th>
<th>M</th>
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<th>Pre-Intervention OCS (OCI-R)</th>
<th>Post-Intervention OCS (OCI-R)</th>
<th>Follow-up OCS (OCI-R)</th>
<th>Pre-Intervention Psychosocial stress (ANRQ-R)</th>
<th>Pre-Intervention Depression (EPDS)</th>
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<td>Pre-Intervention OCS (OCI-R)</td>
<td>10.40</td>
<td>10.32</td>
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<tr>
<td>Post-Intervention OCS (OCI-R)</td>
<td>9.70</td>
<td>10.19</td>
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<td>---</td>
<td>.83***</td>
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<td>Follow-up OCS (OCI-R)</td>
<td>10.12</td>
<td>10.97</td>
<td>.89***</td>
<td>.52***</td>
<td>.52***</td>
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<td>.52***</td>
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<tr>
<td>Pre-Intervention Psychosocial stress (ANRQ-R)</td>
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<td>8.70</td>
<td>.45***</td>
<td>.37***</td>
<td>.52***</td>
<td>.57***</td>
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<tr>
<td>Pre-Intervention Depression (EPDS)</td>
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<td>.61***</td>
<td>.58***</td>
<td>.59***</td>
<td>.57***</td>
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Note. OCI-R = Obsessive-Compulsive Inventory – Revised. ANRQ-R = Antenatal Risk Questionnaire-Revised. EPDS = Edinburgh Postnatal Depression Scale. p < .001***; p < .01**; p < .05*. 
Table 3

*Differences in OCS between Perinatal and Non-Perinatal: Analysis of Covariance (ANCOVA) Results*

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>η²</th>
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<tr>
<td>Intercept</td>
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<td>910.31</td>
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<tr>
<td>Age</td>
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<td>395.115</td>
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<td>.043</td>
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<td>Parity</td>
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<td>2.269</td>
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<td>.000</td>
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<td>Group (Perinatal vs. Non-Perinatal)</td>
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<td>332.791</td>
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<tr>
<td>Error</td>
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<td>86</td>
<td>103.258</td>
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</table>

*Note. OCS = Obsessive-Compulsive Symptoms. p < .001***; p < .01**; p < .05*. 
Table 4

Differences in Pre-Intervention OCS Subtype among Pregnant, Postpartum, and Non-Perinatal (“New Mothers”) Participants: Multivariate Analysis of Covariance (MANCOVA) Results

<table>
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<tr>
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<th>Error df</th>
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<th>η²</th>
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<tr>
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<td>81.00</td>
<td>.012*</td>
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<td>Group (Pregnant vs. Postpartum vs. Non-Perinatal (“new mother”)</td>
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<td>6</td>
<td>162.00</td>
<td>.840</td>
<td>.017</td>
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Note. OCS = Obsessive-Compulsive Symptoms. p < .001***; p < .01**; p < .05*. 
Table 5

Differences in Pre-Intervention OCS Subtype among Pregnant, Postpartum, and Non-Perinatal (“New Mothers”) Participants: Tests of Between-Subjects Effects Multivariate Analysis of Covariance (MANCOVA) Results

<table>
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<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>(\eta_p^2)</th>
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<td>Pre-Intervention DOCS Taboo Content</td>
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<td>88.48</td>
<td>7.42</td>
<td>.008*</td>
<td>.082</td>
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<tr>
<td></td>
<td>Pre-Intervention DOCS Harm-Related Content</td>
<td>137.51</td>
<td>1</td>
<td>137.51</td>
<td>9.04</td>
<td>.003**</td>
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<tr>
<td>Age (Covariate)</td>
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<td>8.12</td>
<td>.88</td>
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<td></td>
<td>Pre-Intervention DOCS Taboo Content</td>
<td>62.14</td>
<td>1</td>
<td>62.14</td>
<td>5.21</td>
<td>.025*</td>
<td>.059</td>
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<tr>
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<td>Pre-Intervention DOCS Harm-Related Content</td>
<td>61.81</td>
<td>1</td>
<td>61.81</td>
<td>4.06</td>
<td>.047*</td>
<td>.047</td>
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<tr>
<td>Parity (Covariate)</td>
<td>Pre-Intervention DOCS Contamination</td>
<td>23.07</td>
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<td>Pre-Intervention DOCS Taboo Content</td>
<td>3.43</td>
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<td>3.43</td>
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<tr>
<td></td>
<td>Pre-Intervention DOCS Harm-Related Content</td>
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<td>1</td>
<td>.81</td>
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<td>.818</td>
<td>.001</td>
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<tr>
<td>Group (Pregnant vs. Postpartum vs. Non-Perinatal (“new mother”))</td>
<td>Pre-Intervention DOCS Contamination</td>
<td>5.86</td>
<td>2</td>
<td>2.93</td>
<td>.32</td>
<td>.729</td>
<td>.008</td>
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<tr>
<td></td>
<td>Pre-Intervention DOCS Taboo Content</td>
<td>21.18</td>
<td>2</td>
<td>10.59</td>
<td>.89</td>
<td>.415</td>
<td>.021</td>
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<tr>
<td></td>
<td>Pre-Intervention DOCS Harm-Related Content</td>
<td>7.55</td>
<td>2</td>
<td>3.77</td>
<td>.25</td>
<td>.781</td>
<td>.006</td>
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*(table continues)*
<table>
<thead>
<tr>
<th>Error</th>
<th>Pre-intervention DOCS</th>
<th>766.27</th>
<th>83</th>
<th>9.23</th>
</tr>
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<tbody>
<tr>
<td>Contamination</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Pre-intervention DOCS</td>
<td>989.37</td>
<td>83</td>
<td>11.92</td>
</tr>
<tr>
<td>Taboo Content</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-intervention DOCS</td>
<td>1262.94</td>
<td>83</td>
<td>15.22</td>
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<td>Harm-Related Content</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*Note. OCS = Obsessive-Compulsive Symptoms. DOCS = Dimensional Obsessive-Compulsive Scale. \( p < .001^{***} \); \( p < .01^{**} \); \( p < .05^* \).*
Table 6

*Differences in Stigma Levels for Various OCS Subtypes among Pregnant, Postpartum, and Non-Perinatal ("New Mothers"): Analysis of Variance (ANOVA) Results*

<table>
<thead>
<tr>
<th>ANOVA Results</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>(\eta^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proxy Stigma-Contamination Vignette (Pre-Intervention)</td>
<td>Between Groups</td>
<td>452.11</td>
<td>2</td>
<td>226.06</td>
<td>1.37</td>
<td>.259</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>13831.15</td>
<td>84</td>
<td>164.66</td>
<td>1.37</td>
<td>.259</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>14283.26</td>
<td>86</td>
<td>14283.26</td>
<td>1.37</td>
<td>.259</td>
</tr>
<tr>
<td>Proxy Stigma-Taboo Content Vignette (Pre-Intervention)</td>
<td>Between Groups</td>
<td>357.20</td>
<td>2</td>
<td>178.60</td>
<td>.33</td>
<td>.723</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>45499.66</td>
<td>83</td>
<td>548.19</td>
<td>.33</td>
<td>.723</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>45856.85</td>
<td>85</td>
<td>45856.85</td>
<td>.33</td>
<td>.723</td>
</tr>
<tr>
<td>Proxy Stigma-Harm-Related Vignette (Pre-Intervention)</td>
<td>Between Groups</td>
<td>122.95</td>
<td>2</td>
<td>61.47</td>
<td>.11</td>
<td>.893</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>46199.56</td>
<td>85</td>
<td>543.52</td>
<td>.11</td>
<td>.893</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>46322.50</td>
<td>87</td>
<td>46322.50</td>
<td>.11</td>
<td>.893</td>
</tr>
</tbody>
</table>

*Descriptive Statistics*

| | Proxy Stigma-Contamination Vignette (pre-intervention) | Proxy Stigma-Taboo Content Vignette (pre-intervention) | Proxy Stigma-Harm-Related Vignette (pre-intervention) | Proxy Stigma-Control Vignette (pre-intervention) |
| | M | SD | M | SD | M | SD | M | SD |
| Pregnant | 36.76 | 10.65 | 60.52 | 20.91 | 59.92 | 18.43 | 23.20 | 9.20 |
| Postpartum | 32.86 | 9.24 | 61.24 | 22.34 | 60.48 | 22.97 | 23.82 | 10.65 |
| Non-perinatal ("new mother") | 38.50 | 15.46 | 64.9 | 23.23 | 62.53 | 26.04 | 22.39 | 7.19 |

Note. Proxy Stigma = total scores of the Social Distance Scale, Attribution Questionnaire-27, and Perceptions of fitness as a mother measure. p < .001***; p < .01**; p < .05*. 

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Table 7

**Effects of PEI on OCS across Time: Mixed Model Repeated Measure Multivariate Analysis of Covariance (MANCOVA) Results**

<table>
<thead>
<tr>
<th>Multivariate Results</th>
<th>Wilks’ Lambda Value</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time (Pre, Post, and Follow-up)</td>
<td>.93</td>
<td>1.56</td>
<td>2</td>
<td>39.00</td>
<td>.223</td>
<td>.074</td>
</tr>
<tr>
<td>Time x Anxiety (DASS-21 Anxiety Subscale [Covariate])</td>
<td>.90</td>
<td>2.10</td>
<td>2</td>
<td>39.00</td>
<td>.136</td>
<td>.097</td>
</tr>
<tr>
<td>Time x Depression (DASS_21_Depression Subscale [Covariate])</td>
<td>.96</td>
<td>.77</td>
<td>2</td>
<td>39.00</td>
<td>.469</td>
<td>.038</td>
</tr>
<tr>
<td>Time x Psychosocial Stress (ANRQ-R [Covariate])</td>
<td>.98</td>
<td>.67</td>
<td>2</td>
<td>39.00</td>
<td>.517</td>
<td>.033</td>
</tr>
<tr>
<td>Time x Condition</td>
<td>.98</td>
<td>.47</td>
<td>2</td>
<td>39.00</td>
<td>.629</td>
<td>.024</td>
</tr>
</tbody>
</table>

*Note.* PEI = Psychoeducation Intervention. OCS = Obsessive-Compulsive Symptoms. DASS-21 = Depression, Anxiety, Stress Scale-21. ANRQ-R = Antenatal Risk Questionnaire-Revised. $p < .001^{***}$; $p < .01^{**}$; $p < .05^{*}$.
Table 8

*Effects of PEI on OCS across Time: Mixed Model Repeated Measure Multivariate Analysis of Covariance (MANCOVA) Results*

<table>
<thead>
<tr>
<th>Mixed Model Repeated Measure MANCOVA Results</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>p</th>
<th>η^2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Between-subjects Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condition</td>
<td>239.30</td>
<td>1</td>
<td>239.30</td>
<td>1.61</td>
<td>.212</td>
<td>.039</td>
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<tr>
<td>Error (Condition)</td>
<td>5954.30</td>
<td>40</td>
<td>148.86</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Within-subjects Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (Pre, Post, and Follow-up)</td>
<td>38.73</td>
<td>1</td>
<td>38.73</td>
<td>2.75</td>
<td>.105</td>
<td>.064</td>
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<tr>
<td>Time x DASS-21_Anxiety</td>
<td>4.18</td>
<td>1</td>
<td>4.18</td>
<td>.30</td>
<td>.589</td>
<td>.007</td>
</tr>
<tr>
<td>Time x DASS-21_Depression</td>
<td>5.62</td>
<td>1</td>
<td>5.62</td>
<td>.400</td>
<td>.531</td>
<td>.010</td>
</tr>
<tr>
<td>Time x ANRQ-R</td>
<td>17.51</td>
<td>1</td>
<td>17.51</td>
<td>1.25</td>
<td>.271</td>
<td>.030</td>
</tr>
<tr>
<td>Time x Condition</td>
<td>10.90</td>
<td>1</td>
<td>10.90</td>
<td>.78</td>
<td>.384</td>
<td>.019</td>
</tr>
<tr>
<td>Error (Time)</td>
<td>562.59</td>
<td>40</td>
<td>14.07</td>
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<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>Active Condition</th>
<th>Control Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Pre-intervention OCI-R</td>
<td>13.07</td>
<td>12.04</td>
</tr>
<tr>
<td>Post-intervention OCI-R</td>
<td>12.27</td>
<td>13.46</td>
</tr>
<tr>
<td>Follow-up OCI-R</td>
<td>12.86</td>
<td>12.77</td>
</tr>
</tbody>
</table>

Note. PEI = Psychoeducation Intervention. OCS= Obsessive-Compulsive Symptoms. OCI-R = Obsessive-Compulsive Inventory – Revised. ANRQ-R = Antenatal Risk Questionnaire-Revised. DASS-21 = Depression, Anxiety, Stress Scale-21. p < .001***; p < .01**; p < .05*. 
Table 9

Effects of PEI on Stigma Levels across Time: Mixed Model Repeated Measure Multivariate Analysis of Variance (MANOVA) Results for Proxy Stigma Scores—Contamination Vignette

<table>
<thead>
<tr>
<th>Multivariate Results</th>
<th>Wilks’ Lambda Value</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time (Pre, Post, and Follow-up [Proxy Stigma Scores-Contamination Vignette])</td>
<td>.60</td>
<td>16.45</td>
<td>2</td>
<td>50.00</td>
<td>&lt; .001***</td>
<td>.397</td>
</tr>
<tr>
<td>Time x Condition</td>
<td>.88</td>
<td>3.40</td>
<td>2</td>
<td>50.00</td>
<td>.041*</td>
<td>.120</td>
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</tbody>
</table>

Note. PEI = Psychoeducation Intervention. Proxy Stigma = total scores of the Social Distance Scale, Attribution Questionnaire-27, and Perceptions of fitness as a mother measure.  p < .001***; p < .01**; p < .05*. 

### Table 10

**Effects of PEI on Stigma Levels across Time: Mixed Model Repeated Measure (MANOVA)**

*Results for Proxy Stigma Scores - Contamination Vignette*

<table>
<thead>
<tr>
<th>Mixed Model Repeated Measure MANOVA Results</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between-subjects Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Condition</td>
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<td>609.09</td>
<td>2.23</td>
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<td>.042</td>
</tr>
<tr>
<td>Error (Condition)</td>
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<td>51</td>
<td>273.19</td>
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</tr>
<tr>
<td>Within-subjects Effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (Pre, Post, and Follow-up)</td>
<td>1434.93</td>
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<td>1434.93</td>
<td>29.98</td>
<td>&lt;.001***</td>
<td>.370</td>
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<td>Time x Condition</td>
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<td>281.24</td>
<td>5.86</td>
<td>.019*</td>
<td>.103</td>
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<td>Error (Time)</td>
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<td>48.00</td>
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### Descriptive Statistics - Contamination Vignette

<table>
<thead>
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<th>Active Condition</th>
<th>Control Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Pre-intervention Proxy Stigma-Contamination Vignette</td>
<td>40.14</td>
<td>13.93</td>
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<tr>
<td>Post-intervention Proxy Stigma-Contamination Vignette</td>
<td>34.54</td>
<td>16.78</td>
</tr>
<tr>
<td>Follow-up Proxy Stigma-Contamination Vignette</td>
<td>29.36</td>
<td>10.35</td>
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</table>

### Additional Descriptive Statistics - Taboo Content Vignette

<table>
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<th>Control Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>SD</td>
</tr>
<tr>
<td>Pre-intervention Proxy Stigma-Taboo Content Vignette</td>
<td>66.16</td>
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<tr>
<td>Post-intervention Proxy Stigma-Taboo Content Vignette</td>
<td>47.87</td>
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<td>Follow-up Proxy Stigma-Taboo Content Vignette</td>
<td>45.08</td>
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### Additional Descriptive Statistics - Harm-Related Vignette

<table>
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</tr>
</thead>
<tbody>
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<td>SD</td>
</tr>
<tr>
<td>Pre-intervention Proxy Stigma-Harm-Related Vignette</td>
<td>60.19</td>
<td>20.51</td>
</tr>
<tr>
<td>Post-intervention Proxy Stigma-Harm-Related Vignette</td>
<td>46.74</td>
<td>19.10</td>
</tr>
<tr>
<td>Follow-up Proxy Stigma-Harm-Related Vignette</td>
<td>44.38</td>
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### Additional Descriptive Statistics - Control Vignette

<table>
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</tr>
</thead>
<tbody>
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<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Pre-intervention Proxy Stigma-Control Vignette</td>
<td>21.31</td>
<td>6.12</td>
</tr>
<tr>
<td>Post-intervention Proxy Stigma-Control Vignette</td>
<td>21.66</td>
<td>6.37</td>
</tr>
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<td>Follow-up Proxy Stigma-Control Vignette</td>
<td>22.42</td>
<td>10.09</td>
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</tbody>
</table>

*Note. PEI = Psychoeducation Intervention. Proxy Stigma = total scores of the Social Distance Scale, Attribution Questionnaire-27, and Perceptions of fitness as a mother measure. p < .001***; p < .01**; p < .05*. 

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Table 11

Effects of PEI on Acceptability and Feasibility across Time: Mixed Model Repeated Measure Analysis of Variance (ANOVA) Results for AIM Scores

<table>
<thead>
<tr>
<th>Multivariate Results</th>
<th>Wilks’ Lambda Value</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time (Post and Follow-up [AIM Scores])</td>
<td>.78</td>
<td>15.17</td>
<td>1</td>
<td>55.00</td>
<td>&lt;.001***</td>
<td>.216</td>
</tr>
<tr>
<td>Time x Condition</td>
<td>.99</td>
<td>.72</td>
<td>1</td>
<td>55.00</td>
<td>.399</td>
<td>.013</td>
</tr>
</tbody>
</table>

Note. PEI = Psychoeducation Intervention. AIM = Acceptability of Intervention Measure. p < .001***; p < .01**; p < .05*. 
### Table 12

**Effects of PEI on Acceptability and Feasibility across Time: Mixed Model Repeated Measure Analysis of Variance (ANOVA) Results for AIM Scores**

<table>
<thead>
<tr>
<th>Mixed Model Repeated Measure ANOVA Results</th>
<th>Sum of squares</th>
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<th>Mean square</th>
<th>F</th>
<th>p</th>
<th>ηp²</th>
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</thead>
<tbody>
<tr>
<td><strong>Between-subjects Effects</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condition</td>
<td>10.15</td>
<td>1</td>
<td>10.15</td>
<td>1.51</td>
<td>.288</td>
<td>.020</td>
</tr>
<tr>
<td>Error (Condition)</td>
<td>484.80</td>
<td>55</td>
<td>8.82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Within-subjects Effects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (Post and Follow-up)</td>
<td>53.16</td>
<td>1</td>
<td>53.16</td>
<td>15.17</td>
<td>&lt;.001***</td>
<td>.216</td>
</tr>
<tr>
<td>Time x Condition</td>
<td>2.53</td>
<td>1</td>
<td>2.53</td>
<td>.72</td>
<td>.399</td>
<td>.013</td>
</tr>
<tr>
<td>Error (Time)</td>
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**Descriptive Statistics**

<table>
<thead>
<tr>
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<th>Active Condition</th>
<th>Control Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>M</strong></td>
<td><strong>SD</strong></td>
<td><strong>M</strong></td>
</tr>
<tr>
<td>Post-intervention AIM</td>
<td>17.00</td>
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</tr>
<tr>
<td>Follow-up AIM</td>
<td>15.30</td>
<td>2.34</td>
</tr>
</tbody>
</table>

**Note.** PEI = Psychoeducation Intervention. AIM = Acceptability of Intervention Measure. p < .001***; p < .01**; p < .05*. 
Table 13

Descriptive Statistics and Summary of Post-Hoc Correlational Analysis

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td>32.2</td>
<td>6.27</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>2. Educational Status</td>
<td>.34***</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>3. Gestational Age</td>
<td>.11</td>
<td>.47*</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>4. Parity</td>
<td>-.17</td>
<td>-.04</td>
<td>-.30</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>5. Contamination Subtype (DOCS-contamination/washing subscale)</td>
<td>2.0</td>
<td>3.0</td>
<td>-.08</td>
<td>-.16</td>
<td>-.20</td>
<td>-.17</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>6. Taboo Content Subtype (DOCS-unacceptable thought subscale)</td>
<td>2.3</td>
<td>3.5</td>
<td>-.22*</td>
<td>-.32**</td>
<td>-.35</td>
<td>-.05</td>
<td>.47***</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>7. Harm-Related Subtype (DOCS- harm-related obsessions/checking compulsions subscale)</td>
<td>3.6</td>
<td>4.0</td>
<td>-.14</td>
<td>.35***</td>
<td>-.43*</td>
<td>-.01</td>
<td>.57***</td>
<td>.54***</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>8. Proxy Stigma- Contamination Vignette</td>
<td>36.6</td>
<td>12.9</td>
<td>.27*</td>
<td>.13</td>
<td>-.23</td>
<td>.07</td>
<td>-.16</td>
<td>-.13</td>
<td>-.11</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>9. Proxy Stigma- Taboo Content Vignette</td>
<td>62.7</td>
<td>23.2</td>
<td>-.10</td>
<td>-.17</td>
<td>-.20</td>
<td>.07</td>
<td>.15</td>
<td>.15</td>
<td>.18</td>
<td>.33</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>10. Proxy Stigma- Harm-Related Vignette</td>
<td>61.3</td>
<td>23.1</td>
<td>-.02</td>
<td>-.05</td>
<td>-.05</td>
<td>-.02</td>
<td>.06</td>
<td>-.12</td>
<td>-.03</td>
<td>.43***</td>
<td>.68***</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>11. Proxy Stigma- Control Vignette</td>
<td>23.0</td>
<td>8.6</td>
<td>.11</td>
<td>.05</td>
<td>.00</td>
<td>-.05</td>
<td>.03</td>
<td>-.12</td>
<td>-.04</td>
<td>.24*</td>
<td>-.04</td>
<td>.05</td>
<td>---</td>
</tr>
</tbody>
</table>

Note. Results depicted in this table are from the pre-intervention correlation analyses. DOCS = Dimensional Obsessive-Compulsive Scale. Proxy Stigma = total scores of the Social Distance Scale, Attribution Questionnaire-27, and Perceptions of fitness as a mother measure. $p < .001***; p < .01**; p < .05*.
### Table 14

**Differences in Pre-Intervention OCS Subtype among Pregnant and Postpartum Participants: Post-Hoc Multivariate Analysis of Covariance (MANCOVA) Results**

<table>
<thead>
<tr>
<th>Multivariate Results</th>
<th>Wilks’ Lambda Value</th>
<th>F</th>
<th>Hypothesis df</th>
<th>Error df</th>
<th>p</th>
<th>η_p^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>.87</td>
<td>.770</td>
<td>8</td>
<td>82.00</td>
<td>.630</td>
<td>.070</td>
</tr>
<tr>
<td>Age (Covariate)</td>
<td>.89</td>
<td>1.31</td>
<td>4</td>
<td>41.00</td>
<td>.281</td>
<td>.114</td>
</tr>
<tr>
<td>Parity (Covariate)</td>
<td>.90</td>
<td>1.17</td>
<td>4</td>
<td>41.00</td>
<td>.339</td>
<td>.102</td>
</tr>
<tr>
<td>Group (Pregnant vs. Postpartum)</td>
<td>.87</td>
<td>.77</td>
<td>8</td>
<td>82.00</td>
<td>.630</td>
<td>.070</td>
</tr>
</tbody>
</table>

*Note. OCS = Obsessive-Compulsive Symptoms. p < .001***; p < .01**; p < .05*. 
Table 15. Differences in Pre-Intervention OCS Subtype among Pregnant and Postpartum Participants: Post-Hoc Tests of Between-Subjects Effects Multivariate Analysis of Covariance (MANCOVA) Results

<table>
<thead>
<tr>
<th>Tests of Between-Subjects Effects Results</th>
<th>DOCS Subscale</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>ηp²</th>
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</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>Pre-Intervention DOCS Contamination</td>
<td>32.23</td>
<td>1</td>
<td>32.23</td>
<td>3.74</td>
<td>.060</td>
<td>.078</td>
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<tr>
<td></td>
<td>Pre-Intervention DOCS Taboo Content</td>
<td>62.33</td>
<td>1</td>
<td>62.33</td>
<td>5.84</td>
<td>.020*</td>
<td>.117</td>
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<tr>
<td></td>
<td>Pre-Intervention DOCS Harm-Related Content</td>
<td>31.57</td>
<td>1</td>
<td>31.57</td>
<td>2.51</td>
<td>.120</td>
<td>.054</td>
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<tr>
<td>Age (Covariate)</td>
<td>Pre-Intervention DOCS Contamination</td>
<td>16.26</td>
<td>1</td>
<td>16.26</td>
<td>1.52</td>
<td>.224</td>
<td>.033</td>
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<td>Pre-Intervention DOCS Taboo Content</td>
<td>1.53</td>
<td>1</td>
<td>1.53</td>
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<td>Parity (Covariate)</td>
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<td>Pre-Intervention DOCS Harm-Related Content</td>
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<td>.06</td>
<td>.01</td>
<td>.946</td>
<td>.000</td>
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<tr>
<td>Group (Pregnant vs. Postpartum)</td>
<td>Pre-Intervention DOCS Contamination</td>
<td>7.47</td>
<td>2</td>
<td>3.73</td>
<td>.43</td>
<td>.651</td>
<td>.019</td>
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<tr>
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<td>Pre-Intervention DOCS Taboo Content</td>
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<td>2</td>
<td>3.08</td>
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<td>.750</td>
<td>.013</td>
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<tr>
<td></td>
<td>Pre-Intervention DOCS Harm-Related Content</td>
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<td>2</td>
<td>.83</td>
<td>.07</td>
<td>.936</td>
<td>.003</td>
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</table>

*(table continues)*
<table>
<thead>
<tr>
<th>Error</th>
<th>Pre-intervention DOCS Contamination</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>379.14</td>
<td>44</td>
</tr>
<tr>
<td>Pre-intervention DOCS Taboo Content</td>
<td></td>
<td>469.31</td>
<td>44</td>
</tr>
<tr>
<td>Pre-intervention DOCS Harm-Related Content</td>
<td></td>
<td>553.74</td>
<td>44</td>
</tr>
</tbody>
</table>

*Note: OCS = Obsessive-Compulsive Symptoms. DOCS = Dimensional Obsessive-Compulsive Scale. \( p < .001^{***}; p < .01^{**}; p < .05^* \).*
APPENDIX B: DEMOGRAPHIC QUESTIONNAIRE

What is your age?
- 18-24 years of age
- 25-30 years of age
- 31-34 years of age
- 35-39 years of age
- 40 years of age or older

What is your biological sex?
1. Female
2. Male
3. Intersex

What is your gender identity?
1. Female
2. Male
3. Transgender
4. Non-binary
5. Prefer not to say

What is your race:
1. White
2. Black or African American
3. Native American or American Indian
4. Asian/Pacific Islander
5. Non-white Hispanic or Latino
6. White Hispanic or Latino
7. Other: _____

What state do you currently live in? _____
What is your highest degree or level of school you have completed:
1. Less than a high school diploma
2. High school degree or equivalent
3. Some college
4. Associate’s degree (i.e. AA)
5. Bachelor’s degree (e.g. BA, BS, etc)
6. Master’s degree (e.g. M.A., M.S., M.Ed, etc)
7. Doctorate (e.g. PhD, EdD, MD, etc)
8. Other, please specify: _____

What is your household income?
1. Below $10k
2. $10k-50k
3. $50k-100k
4. $100k-150k
5. Over $150k

What is your marital status?
1. Never married
2. Married
3. Not married, but living with partner
4. Divorced/Annulled
5. Separated
6. Widowed

What is your maternal status?
1. Pregnant
2. Postpartum
3. Given birth in the last 5 years

Gestational age (if pregnant)
1. <14 weeks
2. 14-28 weeks
3. >28 weeks

Please list the number of weeks postpartum: _____

Have you previously been pregnant?
1. Yes, please list number of past pregnancies: _____
2. No

Please select the type of childbirth method used to deliver your baby/child:
1. Vaginal
2. Cesarian Section (C-Section)
3. Other, please describe: ____________________________________________
Have you had any miscarriages?
1. Yes, please list number of miscarriages: _____
2. No

Any other complications during pregnancy or childbirth?
1. Yes, please describe: _____
2. No

Are you currently taking any medications?
2. Yes, please list medications: ____________________________________________
3. No

Have you ever been diagnosed with a psychological disorder?
1. Yes, please list diagnoses: _______________________________________________
2. No

Have you ever received treatment for a psychological disorder?
1. Yes, please describe: ___________________________________________________
2. No

Have you ever received treatment for obsessive-compulsive disorder?
1. Yes
2. No
APPENDIX C: VIGNETTES

Control Condition: Jennifer is a 28-year-old woman who recently had a baby. She sometimes worries that she is an inadequate mother and that something bad may happen to her baby. She sometimes feels miserable and tearful. These feelings and worries have not stopped her from wanting to pick up her baby or engage in play. Jennifer sometimes feels anxious and worried, but does not blame herself for things going wrong. Jennifer thinks she’s doing okay and her thoughts and feelings are not causing her substantial distress or significantly interfering with her quality of life.

Responsibility for Harm Condition: Jennifer is a 28-year-old woman who is afraid that she is going to hurt her baby. She frequently sees images in her head of herself stabbing or dropping her baby. She spends on average three hours a day seeking reassurance and checking to make sure that she hasn’t hurt her baby in any way. Because of her fears, Jennifer generally avoids knives, the kitchen, and places with potential hazards. She also avoids driving in the car with her baby or picking up her baby. While this temporarily makes her feel better, her worries soon return, causing her to repeat these rituals. Jennifer knows her concerns and behaviors are irrational and excessive, but they still cause her substantial distress and are significantly interfering with her quality of life.

Taboo Content (Sexual) Condition: Jennifer is a 28-year-old woman who is afraid that she is going to hurt her baby. She frequently sees images in her head of her engaging in inappropriate sexual contact with her baby. She spends on average three hours a day seeking reassurance and checking to make sure that she hasn’t touched her baby inappropriate. Because of her fears, Jennifer generally attempts to avoid being left alone with her baby. While this temporarily makes her feel better, her worries soon return, causing her to repeat these rituals. Jennifer knows her concerns and behaviors are irrational and excessive, but they still cause her substantial distress and are significantly interfering with her quality of life.

Contamination Condition: Jennifer is a 28-year-old woman who is afraid that she is going to hurt her baby. She has frequent intrusive, unwanted thoughts about things she touches being dirty and contaminated, and is afraid that they will make her baby sick. She spends on average three hours a day washing her hands and bathing in order to ensure she has not become contaminated. While this temporarily makes her feel better, her worries soon return, causing her to repeat these rituals. Jennifer knows her concerns and behaviors are irrational and excessive, but they still cause her substantial distress and are significantly interfering with her quality of life.
## APPENDIX D: SOCIAL DISTANCE SCALE (SDS)

How willing would you be to...

<table>
<thead>
<tr>
<th>Move next door to Jennifer? (1)</th>
<th>Definitely Willing (1)</th>
<th>Probably Willing (2)</th>
<th>Probably Unwilling (3)</th>
<th>Definitely Unwilling (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spend an evening socializing with Jennifer? (2)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Become friends with Jennifer? (3)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Start working closely with Jennifer? (4)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Have Jennifer marry into the family? (5)</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>
APPENDIX E: ATTRIBUTION QUESTIONNAIRE-27

Please rate how you would feel about the following questions and statements based upon the paragraph you read earlier;

<table>
<thead>
<tr>
<th>Question</th>
<th>1 (not at all)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9 (very much)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How scared of Jennifer would you feel?</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>I would feel threatened by Jennifer.</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>How frightened of Jennifer would you feel?</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>Jennifer would terrify me.</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>How dangerous would you feel Jennifer is?</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>I would feel unsafe around Jennifer.</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>

Based only upon the information you read in the paragraph above, please answer the following questions about Jennifer:

What label would you use to describe what Jennifer is currently experiencing? That is, what do you think Jennifer would be diagnosed with, if anything?

(OPEN ENDED RESPONSE)
APPENDIX F: PERCEPTIONS OF FITNESS AS A MOTHER

On a 1 to 7 scale, how normal do you think Jennifer’s experience is?
- 1 (Completely normal)
- 2
- 3
- 4 (somewhat normal, there might be a problem)
- 5
- 6
- 7 (She needs medical help)

On a 1 to 7 scale, how severe do you believe Jennifer’s experiences are?
- 1 (Not Severe)
- 2
- 3
- 4 (Somewhat Severe)
- 5
- 6
- 7 (Very Severe)

On a 1 to 7 scale, how good of a mother do you think Jennifer is?
- 1 (Good mother)
- 2
- 3
- 4 (Okay mother)
- 5
- 6
- 7 (Bad mother)

On a 1 to 7 scale, how dangerous do you believe Jennifer is to her child?
- 1 (No Danger)
- 2
- 3
- 4 (Somewhat Dangerous)
- 5
- 6
- 7 (Very Dangerous)
On a 1 to 7 scale, do you believe Jennifer should be reported to child and family services?

- 1 (Should not report)
- 2
- 3
- 4 (Would consider reporting)
- 5
- 6
- 7 (Definitely report)
APPENDIX G: DEPRESSION, ANXIETY, AND STRESS SCALE – 21 (DASS-21)

0- did not apply to me at all; 1- applied to me to some degree, or some of the time; 2- applied to me a considerable degree or a good part of the time; 3- applied to me very much or most of the time

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

1. I found it hard to wind down: 0, 1, 2, 3
2. I was aware of dryness of my mouth: 0, 1, 2, 3
3. I couldn’t seem to experience any positive feeling at all: 0, 1, 2, 3
4. I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion): 0, 1, 2, 3
5. I found it difficult to work up the initiative to do things: 0, 1, 2, 3
6. I tended to over-react to situations: 0, 1, 2, 3
7. I experienced trembling (e.g. in the hands): 0, 1, 2, 3
8. I felt that I was using a lot of nervous energy: 0, 1, 2, 3
9. I was worried about situations in which I might panic and make a fool of myself: 0, 1, 2, 3
10. I felt that I had nothing to look forward to: 0, 1, 2, 3
11. I found myself getting agitated: 0, 1, 2, 3
12. I found it difficult to relax: 0, 1, 2, 3
13. I felt down-hearted and blue: 0, 1, 2, 3
14. I was intolerant of anything that kept me from getting on with what I was doing: 0, 1, 2, 3
15. I felt I was close to panic: 0, 1, 2, 3
16. I was unable to become enthusiastic about anything: 0, 1, 2, 3
17. I felt I wasn’t worth much as a person: 0, 1, 2, 3
18. I felt that I was rather touchy: 0, 1, 2, 3
19. I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat): 0, 1, 2, 3
20. I felt scared without any good reason: 0, 1, 2, 3
21. I felt that life was meaningless: 0, 1, 2, 3
APPENDIX H: ANTENATAL RISK QUESTIONNAIRE-REVISED (ANRQ-R)

The following questions below are designed to help better understand your experience and level of support during this time of change. You may find some questions challenging, but please choose the answers that best apply to you. There are no right or wrong answers.

Have you ever had a period of 2 weeks or more when you felt particularly worried, miserable or depressed?
  - Yes (If Yes, please answer Q1.a., Q1.b., and Q1.c.)
  - No (If No, skip to Q1c)

If yes, did this:
Q1.a. Seriously interfere with your work or your relationships with friends and family?
  - Not at all
  - A little
  - Somewhat
  - Quite a lot
  - Very much

Q1.b. Lead you to seek professional help?
  - Did you see a:
    - Psychiatrist
    - Psychologist/counselor
    - General practitioner
    - If Yes, please provide the name of the professional: ____________

Did you take tablets/herbal medicine?
  - No
  - Yes
  - If Yes, please list medication(s): ____________

Q1.c. Did you have any other history or mental health problems? (e.g., eating disorders, psychosis, bipolar, schizophrenia)
  - No
  - Yes
  - If Yes, please list other mental health problems:
    __________________________________________________________________
Q2. Is your relationship with your partner an emotionally supportive one?
   o  Very much
   o  Quite a lot
   o  Somewhat
   o  A little
   o  Not at all
   o  No partner

Q3. Have you had any stresses, changes or losses in the last 12 months? (e.g., only: separation, domestic violence, job loss, bereavement etc.)
   o  No (If No, skip to Q4)
   o  Yes (If Yes, please answer Q3.a.)
   o  If Yes, please specify: _________________________

   If Yes:
   Q3.a. How distressed were you by these stresses, changes or losses?
      o  Not at all
      o  A little
      o  Somewhat
      o  Quite a lot
      o  Very much

Q4. Would you generally consider yourself a worrier?
   o  Not at all
   o  A little
   o  Somewhat
   o  Quite a lot
   o  Very much

Q5. In general, do you become upset if you do not have order in your life? (e.g., regular timetable, tidy house)
   o  Not at all
   o  A little
   o  Somewhat
   o  Quite a lot
   o  Very much

Q5. Do you feel you will have people you can depend on for support with your baby?
   o  Very much
   o  Quite a lot
   o  Somewhat
   o  A little
   o  Not at all
Q6. Have you experienced any current or recent problematic substance use?
   - Yes
   - No

Q7. Have you experienced any current or recent domestic violence?
   - Yes
   - No

Now that you’re having a baby, you may be starting to think about your own childhood and what it was like:

Q8. Were you emotionally abused when you were growing up?
   - Yes
   - No

Q9. Have you ever been sexually or physically abused?
   - Yes (sexual abuse)
   - Yes (physical abuse)
   - No

Q10. When you were growing up, did you feel your mother was emotionally supportive of you?
    - Very much
    - Quite a lot
    - Somewhat
    - A little
    - Not at all
    - No mother
APPENDIX I: OBSESSIVE-COMPULSIVE INVENTORY – REVISED (OCI-R)

The OCI-R is a self-rating scale that is designed to assess the severity and type of symptoms of those potentially dealing with OCD.

The following statements refer to experiences that many people have in their everyday lives. Select the answer that best describes how much that experience has distressed or bothered you during the past month.
<table>
<thead>
<tr>
<th></th>
<th>Not at all (0)</th>
<th>A little (2)</th>
<th>Moderately (3)</th>
<th>A lot (4)</th>
<th>Extremely (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have saved up so many things that they get in the way. (1)</td>
<td>o</td>
<td>o</td>
<td></td>
<td>o</td>
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<tr>
<td>I check things more often than necessary. (2)</td>
<td>o</td>
<td>o</td>
<td></td>
<td>o</td>
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<tr>
<td>I get upset if objects are not arranged properly. (3)</td>
<td>o</td>
<td>o</td>
<td></td>
<td>o</td>
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<tr>
<td>I feel compelled to count while I am doing things. (4)</td>
<td>o</td>
<td>o</td>
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<tr>
<td>I find it difficult to touch an object when I know it has been touched by strangers or certain people (5)</td>
<td>o</td>
<td>o</td>
<td></td>
<td>o</td>
<td></td>
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<tr>
<td>I find it difficult to control my own thoughts (6)</td>
<td>o</td>
<td>o</td>
<td></td>
<td>o</td>
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<tr>
<td>I collect things I don’t need (7)</td>
<td>o</td>
<td>o</td>
<td></td>
<td>o</td>
<td></td>
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<tr>
<td>I repeatedly check doors, windows, drawers, etc. (8)</td>
<td>o</td>
<td>o</td>
<td></td>
<td>o</td>
<td></td>
</tr>
<tr>
<td>I feel compelled to count while I am doing things. (9)</td>
<td>o</td>
<td>o</td>
<td></td>
<td>o</td>
<td></td>
</tr>
<tr>
<td>I feel I have to repeat certain numbers (10)</td>
<td>o</td>
<td>o</td>
<td></td>
<td>o</td>
<td></td>
</tr>
</tbody>
</table>

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I sometimes have to wash or clean myself simply because I feel contaminated. (11)

I am upset by unpleasant thoughts that come into my mind against my will. (12)

I avoid throwing things away because I am afraid I might need them later. (13)

I repeatedly check gas and water taps and light switches after turning them off. (14)

I need things to be arranged in a particular way. (15)

I feel that there are good and bad numbers. (16)

I wash my hands more often and longer than necessary. (17)

I frequently get nasty thoughts and have difficulty in getting rid of them. (18)
This questionnaire asks you about 4 different types of concerns that you might or might not experience. For each type there is a description of the kinds of thoughts (sometimes called *obsessions*) and behaviors (sometimes called *rituals* or *compulsions*) that are typical of that particular concern, followed by 5 questions about your experiences with these thoughts and behaviors. Please read each description carefully and answer the questions for each category based on your experiences in the last month.

**Category 1: Concerns about Germs and Contamination**

*Examples*...

- Thoughts or feelings that you are contaminated because you came into contact with (or were nearby) a certain object or person.
- The feeling of being contaminated because you were in a certain place (such as a bathroom).
- Thoughts about germs, sickness, or the possibility of spreading contamination.
- Washing your hands, using hand sanitizer gels, showering, changing your clothes, or cleaning objects because of concerns about contamination.
- Following a certain routine (e.g., in the bathroom, getting dressed) because of contamination.
- Avoiding certain people, objects, or places because of contamination.

The next questions ask about your experiences with thoughts and behaviors related to contamination over the last month. Keep in mind that your experiences might be different than the examples listed above. Please circle the number next to your answer:

1. About how much time have you spent each day thinking about contamination and engaging in washing or cleaning behaviors because of contamination?
   
   0 None at all
   1 Less than 1 hour each day
   2 Between 1 and 3 hours each day
   3 Between 3 and 8 hours each day
   4 8 hours or more each day

2. To what extent have you avoided situations in order to prevent concerns with contamination or having to spend time washing, cleaning, or showering?
   
   0 None at all
   1 A little avoidance
   2 A moderate amount of avoidance
   3 A great deal of avoidance
   4 Extreme avoidance of nearly all things
3. If you had thoughts about contamination but could not wash, clean, or shower (or otherwise remove the contamination), how distressed or anxious did you become?
   0 Not at all distressed/anxious
   1 Mildly distressed/anxious
   2 Moderately distressed/anxious
   3 Severely distressed/anxious
   4 Extremely distressed/anxious

4. To what extent has your daily routine (work, school, self-care, social life) been disrupted by contamination concerns and excessive washing, showering, cleaning, or avoidance behaviors?
   0 No disruption at all.
   1 A little disruption, but I mostly function well.
   2 Many things are disrupted, but I can still manage.
   3 My life is disrupted in many ways and I have trouble managing.
   4 My life is completely disrupted and I cannot function at all.

5. How difficult is it for you to disregard thoughts about contamination and refrain from behaviors such as washing, showering, cleaning, and other decontamination routines when you try to do so?
   0 Not at all difficult
   1 A little difficult
   2 Moderately difficult
   3 Very difficult
   4 Extremely difficult continued
The next questions ask about your experiences with thoughts and behaviors related to harm and disasters over the last month. Keep in mind that your experiences might be slightly different than the examples listed above. Please circle the number next to your answer:

1. About how much time have you spent each day thinking about the possibility of harm or disasters and engaging in checking or efforts to get reassurance that such things do not (or did not) occur?
   0 None at all
   1 Less than 1 hour each day
   2 Between 1 and 3 hours each day
   3 Between 3 and 8 hours each day
   4 8 hours or more each day

2. To what extent have you avoided situations so that you did not have to check for danger or worry about possible harm or disasters?
   0 None at all
   1 A little avoidance
   2 A moderate amount of avoidance
   3 A great deal of avoidance
   4 Extreme avoidance of nearly all things

3. When you think about the possibility of harm or disasters, or if you cannot check or get reassurance about these things, how distressed or anxious did you become?
   0 Not at all distressed/anxious
   1 Mildly distressed/anxious
   2 Moderately distressed/anxious

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**Category 2: Concerns about being Responsible for Harm, Injury, or Bad Luck**

*Examples...*

- A doubt that you might have made a mistake that could cause something awful or harmful to happen.
- The thought that a terrible accident, disaster, injury, or other bad luck might have occurred and you weren’t careful enough to prevent it.
- The thought that you could prevent harm or bad luck by doing things in a certain way, counting to certain numbers, or by avoiding certain “bad” numbers or words.
- Thought of losing something important that you are unlikely to lose (e.g., wallet, identify theft, papers).
- Checking things such as locks, switches, your wallet, etc. more often than is necessary.
- Repeatedly asking or checking for reassurance that something bad did not (or will not) happen.
- Mentally reviewing past events to make sure you didn’t do anything wrong.
- The need to follow a special routine because it will prevent harm or disasters from occurring.
- The need to count to certain numbers, or avoid certain bad numbers, due to the fear of harm.
3 Severely distressed/anxious
4 Extremely distressed/anxious

4. To what extent has your daily routine (work, school, self-care, social life) been disrupted by thoughts about harm or disasters and excessive checking or asking for reassurance?
   0 No disruption at all.
   1 A little disruption, but I mostly function well.
   2 Many things are disrupted, but I can still manage.
   3 My life is disrupted in many ways and I have trouble managing.
   4 My life is completely disrupted and I cannot function at all.

5. How difficult is it for you to disregard thoughts about possible harm or disasters and refrain from checking or reassurance-seeking behaviors when you try to do so?
   0 Not at all difficult
   1 A little difficult
   2 Moderately difficult
   3 Very difficult
   4 Extremely difficult

---

**Category 3: Unacceptable Thoughts**

*Examples…*
- Unpleasant thoughts about sex, immorality, or violence that come to mind against your will.
- Thoughts about doing awful, improper, or embarrassing things that you don’t really want to do.
- Repeating an action or following a special routine because of a bad thought.
- Mentally performing an action or saying prayers to get rid of an unwanted or unpleasant thought.
- Avoidance of certain people, places, situations or other triggers of unwanted or unpleasant thoughts

The next questions ask about your experiences with unwanted thoughts that come to mind against your will and behaviors designed to deal with these kinds of thoughts over the last month. Keep in mind that your experiences might be slightly different than the examples listed above. Please circle the number next to your answer:

1. About how much time have you spent each day with unwanted unpleasant thoughts and with behavioral or mental actions to deal with them?
   0 None at all
   1 Less than 1 hour each day
   2 Between 1 and 3 hours each day
   3 Between 3 and 8 hours each day
   4 8 hours or more each day

---
2. To what extent have you been avoiding situations, places, objects and other reminders (e.g., numbers, people) that trigger unwanted or unpleasant thoughts?
   0 None at all
   1 A little avoidance
   2 A moderate amount of avoidance
   3 A great deal of avoidance
   4 Extreme avoidance of nearly all things

3. When unwanted or unpleasant thoughts come to mind against your will how distressed or anxious did you become?
   0 Not at all distressed/anxious
   1 Mildly distressed/anxious
   2 Moderately distressed/anxious
   3 Severely distressed/anxious
   4 Extremely distressed/anxious

4. To what extent has your daily routine (work, school, self-care, social life) been disrupted by unwanted and unpleasant thoughts and efforts to avoid or deal with such thoughts?
   0 No disruption at all.
   1 A little disruption, but I mostly function well.
   2 Many things are disrupted, but I can still manage.
   3 My life is disrupted in many ways and I have trouble managing.
   4 My life is completely disrupted and I cannot function at all.

5. How difficult is it for you to disregard unwanted or unpleasant thoughts and refrain from using behavioral or mental acts to deal with them when you try to do so?
   0 Not at all difficult
   1 A little difficult
   2 Moderately difficult
   3 Very difficult
   4 Extremely difficult
Category 4: Concerns about Symmetry, Completeness, and the Need for Things to be “Just Right”

Examples...
- The need for symmetry, evenness, balance, or exactness.
- Feelings that something isn’t “just right.”
- Repeating a routine action until it feels “just right” or “balanced.”
- Counting senseless things (e.g., ceiling tiles, words in a sentence).
- Unnecessarily arranging things in “order.”
- Having to say something over and over in the same way until it feels “just right.”

The next questions ask about your experiences with feelings that something is not “just right” and behaviors designed to achieve order, symmetry, or balance over the last month. Keep in mind that your experiences might be slightly different than the examples listed above. Please circle the number next to your answer:

1. About how much time have you spent each day with unwanted thoughts about symmetry, order, or balance and with behaviors intended to achieve symmetry, order or balance?
   - 0 None at all
   - 1 Less than 1 hour each day
   - 2 Between 1 and 3 hours each day
   - 3 Between 3 and 8 hours each day
   - 4 8 hours or more each day

2. To what extent have you been avoiding situations, places or objects associated with feelings that something is not symmetrical or “just right?”
   - 0 None at all
   - 1 A little avoidance
   - 2 A moderate amount of avoidance
   - 3 A great deal of avoidance
   - 4 Extreme avoidance of nearly all things

3. When you have the feeling of something being “not just right,” how distressed or anxious did you become?
   - 0 Not at all distressed/anxious
   - 1 Mildly distressed/anxious
   - 2 Moderately distressed/anxious
   - 3 Severely distressed/anxious
   - 4 Extremely distressed/anxious
4. To what extent has your daily routine (work, school, self-care, social life) been disrupted by the feeling of things being “not just right,” and efforts to put things in order or make them feel right?

0 No disruption at all.
1 A little disruption, but I mostly function well.
2 Many things are disrupted, but I can still manage.
3 My life is disrupted in many ways and I have trouble managing.
4 My life is completely disrupted and I cannot function at all.

5. How difficult is it for you to disregard thoughts about the lack of symmetry and order, and refrain from urges to arrange things in order or repeat certain behaviors when you try to do so?

0 Not at all difficult
1 A little difficult
2 Moderately difficult
3 Very difficult
4 Extremely difficult
APPENDIX K: EDINBURGH POSTNATAL DEPRESSION SCALE (EPDS)

As you are pregnant or have recently had a baby, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt IN THE PAST 7 DAYS, not just how you feel today.

Here is an example, already completed.

I have felt happy:
- Yes, all the time
- Yes, most of the time: This would mean: “I have felt happy most of the time” during the past week. Please complete the other questions in the same way.
- No, not very often
- No, not at all

In the past 7 days:

1. I have been able to laugh and see the funny side of things
   - As much as I always could
   - Not quite so much now
   - Definitely not so much now
   - Not at all as usual

2. I have looked forward with enjoyment to things
   - As much as I always could
   - Rather less that I used to
   - Definitely less than I used to
   - Hardly at all

3. I have blamed myself unnecessarily when things went wrong
   - Yes, most of the time
   - Yes, some of the time
   - Not very often
   - No, never

4. I have been anxious or worried for no good reason
   - No, not at all
   - Hardly ever
   - Yes, sometimes
5. I have felt scared or panicky for no very good reason
   - Yes, very often
   - Yes, quite a lot
   - Yes, sometimes
   - No, not much
   - No, not at all

6. Things have been getting on top of me
   - Yes, most of the time I haven’t been able to cope at all
   - Yes, sometimes I haven’t been coping as well as usual
   - No, most of the time I have coped quite well
   - No, I have been coping as well as ever

7. I have been so unhappy that I have had difficulty sleeping
   - Yes, most of the time
   - Yes, sometimes
   - Not very often
   - No, not at all

8. I have felt sad or miserable
   - Yes, most of the time
   - Yes, quite often
   - Not very often
   - No, not at all

9. I have been so unhappy that I have been crying
   - Yes, most of the time
   - Yes, quite often
   - Only occasionally
   - No, never

10. The thought of harming myself has occurred to me
    - Yes, quite often
    - Sometimes
    - Hardly ever
    - Never
APPENDIX L: ACCEPTABILITY OF INTERVENTION MEASURE (AIM)

1- completely disagree; 2- disagree; 3- neither agree nor disagree; 4- agree; 5- completely agree

1. [The intervention] meets my approval
2. [The intervention] is appealing to me
3. I like [the intervention]
4. I welcome [the intervention]
Alexandra Marie Gilbert, M.A.
Curriculum Vitae
Updated August 3, 2023

1640 West Division, Apt 1206H
Chicago, IL 60622
Phone: 813.317.5550 | Email: agilbert@go.olemiss.edu

EDUCATION

August 2023
Doctor of Philosophy, Clinical Psychology
University of Mississippi, University, MS
Dissertation: Baby, OCD, and Me: Psychoeducation Intervention on Perinatal Obsessive-Compulsive Disorder
Chairperson: Danielle Maack, Ph.D.

(Expected)

December 2019
Master of Arts, Clinical Psychology
University of Mississippi, University, MS
Chairperson: Danielle Maack, Ph.D.

December 2015
Bachelor of Science, Psychology
University of Florida, Gainesville, FL
Thesis project: Bridging the Gap in Coverage for Uninsured Children: An Examination of Attrition in Florida KidCare
Chairperson: Melissa Bright, Ph.D.

CERTIFICATIONS

Jun 2023
Certificate of Internship
Certified Through the Veteran Affairs Medical Center, Hines, IL

Dec 2022
VHA PCMHI Competency Training
Certified Through the Veterans Health Administration

2020-2021
Provisionally Certified Mental Health Therapist (PCMHT)
Mississippi Department of Mental Health, License #PH5144
2020  **Telepsychology Best Practice 101 4-Part Series**  
8-hour online training conducted by the American Psychological Association (APA)

2020  **Examination for Professional Practice in Psychology (EPPP)**  
Passed at the Doctoral level

**CLINICAL EXPERIENCE & TRAINING**

<table>
<thead>
<tr>
<th>Date</th>
<th>Experience</th>
</tr>
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<tbody>
<tr>
<td>Dec 2022-</td>
<td>Edward Hines, Jr. VA Hospital (APA-accredited), Hines, IL</td>
</tr>
<tr>
<td>Jun 2023</td>
<td><strong>Clinical Psychology Predoctoral Intern</strong></td>
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<td></td>
<td><strong>Women’s Mental Health Team/Mental Health Clinic (MHC)</strong></td>
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<tr>
<td></td>
<td>- Provide evidenced-based, patient-centered care (individual and group services) to women Veterans with reproductive and sexual health concerns and gender-linked trauma histories as a part of an interdisciplinary program.</td>
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<td>- Co-facilitate Reach Out, Stay Strong, Essentials (ROSE), an evidence-based preventative postpartum depression program based in IPT and collaborate with Reproductive Women’s Health Team.</td>
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<td></td>
<td>- Assist with creation of a “drop-in” telehealth support group for new mothers, providing brief education on caring for newborns, child development, etc.</td>
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<td><strong>Supervisor: Kathleen Colangelo, Ph.D.</strong></td>
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<td><strong>Health Promotion Disease Prevention (HPDP)</strong></td>
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<td>- Conduct biopsychosocially oriented evaluations (e.g., chronic pain coping, bariatric, transgender hormone therapy) and evidence-based interventions focused on health behavior changes for various health conditions.</td>
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<td>- Serve as the manager of the Wellness Workshop Series, an education- and skills-based group for Veterans and lead outreach events focused on prevention efforts.</td>
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<td>- Participate in the interdisciplinary HPDP Committee (e.g., HPDP LGBT and Minority Health).</td>
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<td><strong>Supervisor: Matthew Davis, Ph.D.</strong></td>
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<td><strong>Women’s Health Clinic (WHC)/Primary Care Behavioral Health (PCBH)</strong></td>
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<td></td>
<td>- Provided integrated, evidence-based assessment, intervention (e.g., CBT-I, PE-PC), and consultation for women Veterans as part of an interdisciplinary team in the WHC.</td>
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<td></td>
<td>- Participated in weekly Women’s Behavioral Health Integration (BHIP) meetings.</td>
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<td>- Completed brief functional assessments and risk assessments to triage clinical care via Warm-Handoffs from Patient Aligned Clinical Teams.</td>
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<td>- Co-led Women’s Unified Protocol for Primary Care group session and observe Coping with Chronic Pain Class.</td>
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<td><strong>Supervisor: Katherine Meyers, Ph.D.</strong></td>
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<td><strong>Trauma Services Program (TSP)</strong></td>
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<td>- Conducted specialized PTSD evaluations using The Clinician-Administered PTSD Scale for DSM-5 (CAPS-5), which includes integrating other assessment data, to inform Shared-Decision Making regarding identifying a treatment plan</td>
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</tbody>
</table>
(e.g., most appropriate trauma-focused evidence-based treatment) for Veterans with PTSD and trauma-related symptoms.

- Provided individual therapy to Veterans using trauma-focused, recovery-oriented, evidenced-based protocols such as Cognitive Processing Therapy, Prolonged Exposure, and Trauma-Focused Cognitive Behavioral Therapy.
- Conducted weekly Treatment Information and Consultation (TIC) sessions to provide psychoeducation on PTSD and trauma-focused treatments and develop detailed treatment plans for Veterans referred to TSP using Shared-Decision Making.
- Participated in weekly consultation meetings and in-depth didactics on PTSD and trauma-focused interventions with staff psychologists and trainees.
- Consulted with National Center for PTSD regarding severe PTSD and comorbid dissociative amnesia case.

**Supervisor:** Emily Jeffries, Ph.D.

**Adjunctive Experiences**

- Conduct solid organ and stem cell pre-transplant psychological evaluations via patient and caregiver interview, cognitive screener, personality assessment, and various psychometrically validated self-report measures to generate integrated report of results and detailed recommendations for patient and Transplant Medical Team.
- Providing consultation to both the patient and the Transplant Medical Team to coordinate care when necessary to offer support throughout the organ transplant process.

**Supervisor:** Katherine Meyers, Ph.D. and Cassandra Mikrut, Ph.D.

**Jun 2018 - Jun 2022**

**Psychological Services Center,** University of Mississippi

**Graduate Therapist**

- Conducted in intake assessments and created evidence-based treatment plans administered to children and adults with DSM-5 disorders.
- Administering semi-structured clinical interviews and utilized weekly self-report measures to inform the delivery of evidence-based interventions (e.g., CBT, DBT, ACT).
- Attended weekly supervision meetings to review the cases of students with patients.

**Supervisors:** Danielle Maack, Ph.D. (Summer 2018-Spring 2019); Laura Johnson, Ph.D. (Fall 2019-Spring 2020); Laura Dixon, Ph.D. (Fall 2020-Spring 2021); and Alan Gross (Fall 2021-Spring 2022). Additional supervisors: Scott Gustafson, Ph.D., ABPP (Summer 2018), and Kristin Austin, Ph.D. (Summer 2020)

**Aug 2021 - May 2022**

**Psychological Assessment Services,** University of Mississippi

**Graduate Psychological Assessor**

- Conducted comprehensive psychological evaluations to assess for DSM-5 disorders, including ADHD and specific learning disorders.
- Administered a breadth of cognitive and achievement and neuropsychological testing instruments (CPT-3, WRAML-3).
• Generated integrated reports and provided assessment feedback, which included evidence-based recommendations.
• Participated in weekly group supervision meetings, which included the provision of detailed case presentations and facilitation of discussions of peer-reviewed articles about diversity/cultural considerations in assessment.

Supervisor: Kristin Austin, Ph.D.

Aug 2019- May 2022
LGBTQ+ Support Group & Registered Student Organization (RSO), University of Mississippi
Lead Graduate Student Facilitator and LAMBDA RSO President
• Collaborated with other graduate student facilitators to offer a safe and open environment for disclosure and identity exploration among students in the LGBTQ+ community.
• Facilitated weekly process-based discussions and helped the group to develop healthy and positive coping strategies and social connectivity.
• Recruited students and conducted outreach to other LGBTQ+ organizations on campus and in the community (e.g., Pride Camp).

Supervisor: Kristin Austin, Ph.D.
Former supervisor: Laura Johnson, Ph.D.

Aug 2019- May 2022
University of Mississippi Law School, University of Mississippi School of Law
Student Wellness Clinician
• Conducted intake assessments, treatment planned, and administered evidence-based treatments and consultation services to students enrolled in the UM School of Law.
• Coordinated outreach services among law school student organizations (e.g., LGBTQ+ organization, OUTLaw) and events related to mental health (e.g., World Mental Health Day).
• Co-led Students in Distress training for UM School of Law faculty and staff.
• Offered consultation services to Dean of Student Affairs regarding student mental health crises.
• Participated in weekly individual supervision meetings.

Supervisor: Todd Smitherman, Ph.D.

Aug 2019- May 2022
Institute of Community Services Head Start, Batesville, Crenshaw, Holly Springs, Hickory Flat, Clen Moore, MS
Behavioral Health Consultant
• Developed and implemented behavioral interventions for children (ages 3-5) enrolled in Head Start programs throughout northern Mississippi.
• Consulted with teachers, administrators and parents to reduce target behaviors at home and in the classroom.
• Created psychoeducation material to distribute to parents during the COVID-19 pandemic.

Supervisor: Alan Gross, Ph.D.

Jul 2020- June 2021
Communicare, Oxford, MS
Provisionally Certified Mental Health Therapist
• Provided outpatient psychological services in a rural community mental health facility among a multidisciplinary treatment team.
• Conducted biopsychosocial intake assessments, consisting of semi-structured clinical interviews, psychometrically validated self-report instruments, and functional behavioral analysis.
• Formulated case conceptualization, developed treatment plans, and collaborated with case managers, social workers, peer support specialists, and nurse practitioners.
• Provided crisis intervention, placement for inpatient care, and coordinated care with judicial and legal authorities (e.g., drug court).
• Administered evidence-based treatments (e.g., CBT, DBT-skills, ACT, CPT, PE) for a variety of psychological disorders, including PTSD, serious mental illness, comorbid substance use disorders, and medical/health complexities among adult and adolescent patients.

Supervisors: Dixie Church, LMFT; Rachel Alcorn, LCSW; and Scott Gustafson, Ph.D., ABPP

Sept 2019-Jun 2020  Diagnostic Services & Psychological and Behavioral Services, North Mississippi Regional Center, Oxford, MS  Graduate Intern
• Provided individual behavioral and psychological intervention to individuals with intellectual, developmental, and behavioral disorders in a residential facility.
• Provided DBT-informed treatment adapted for special populations to group of individuals with Prader-Willi Syndrome.
• Assisted with functional assessments and construction of behavior programs for residents with Lesch-Nyhan Syndrome and Neurodevelopmental delay due to fetal exposure to alcohol.
• Planned and administered comprehensive assessments with children, adolescents, and adults in the Diagnostic and Evaluation Department.
• Completed integrated reports and provided feedback.
• Conducted routine dementia and tardive dyskinesia (DISCUS) assessments
• Participated in weekly group supervision.

Supervisors: Melinda Redding, Ph.D., Tom Moore, Ph.D., Mark Wildmon, Ph.D., and Stefan Schulenberg, Ph.D.

Aug 2015-May 2016  Division of Medical Psychology, University of Florida  Therapy Assistant
• Assisted with CBT and E/RP for children, adolescents, and adults with various anxiety and/or eating disorders.
• Assisted with weekly meal exposures with adolescents diagnosed with eating disorders.
• Scored multidimensional assessment measures.

Supervisor: Joseph McNamara, Ph.D.

Aug 2015-May 2016  Alachua County Crisis Center, Gainesville, FL  Phone Counselor
• Completed a 60-hour Crisis Intervention Training Program to develop counseling skills required to effectively serve the community through a 24-hour Crisis and Suicide Hotline.
• Facilitated role-plays in the Crisis Intervention Training Program for local law enforcement.
Supervisor: Manuel Lopez, Ph.D.

RESEARCH EXPERIENCE

Aug 2017-
Jul 2022  Research Lab (ADEPT Lab), University of Mississippi  
Graduate Research Assistant
• Pregnancy Initiative
  ▪ Recruited pregnant women at a large OB/GYN clinic for a research study examining levels of depression and suicidality, anxiety, disgust, emetophobia, intimate dating violence, and disturbed sleep across pregnancy and postpartum.
• Emetophobia Study
  ▪ Assisted with running research participants through a series of Behavioral Avoidance Tasks (BATs) for a study assessing behavioral avoidance related to the fear of vomiting.
• Undergraduate Mentorship
  ▪ Mentored undergraduate students on participant recruitment, thesis research, conference presentations, and preparation of graduate school application materials.
Supervisor: Danielle Maack, Ph.D.

Sept 2018-
Sept 2019  St. Jude Children’s Research Hospital, Department of Psychology, Memphis, TN  
Graduate Research Assistant
• Assisted with systematic review of electronic health (eHealth) and mobile health (mHealth) interventions in pediatric cancer and survivorship. Specifically, assisted with article review, data abstraction, and manuscript writing and preparation.
• Assisted with project examining agreement between child and caregiver reports of pain and functioning among youth with sickle cell disease. Specifically, assisted with literature review, manuscript writing and preparation, and dissemination of results via poster presentation at an international conference.
• Assisted with the day-to-day operations of a pilot study examining the feasibility and preliminary effectiveness of a wearable respiration device among adult survivors of childhood cancer with chronic pain. Tasks included: preparation of study materials, writing of psycho-education documents, and beta testing of wearable device and associated smartphone app prior to use in the trial.
Supervisor: Nicole Alberts, Ph.D.

May 2018-
Jul 2018  Research Lab (SITH Lab), University of Mississippi  
Research Assistant
• Recruited patients and administered self-report measures at the Willow Pain and Wellness clinic in Oxford, MS for a research study assessing factors related to chronic pain.
Supervisor: John Young, Ph.D.
May 2016-Jun 2017  **Rogers Behavioral Health**, Child and Adolescent IOP Unit, Tampa, FL  
**Clinical Research Assistant**  
- Consented patients for research investigating caregiver burden experienced by parents of children with a primary or co-primary anxiety disorder diagnosis.  
- Administered semi-structured clinical interviews and facilitated group therapy sessions among children and adolescents with anxiety-based disorders and obsessive-compulsive disorder.  
**Supervisor:** Eric Storch, Ph.D.

Jul 2015-May 2016  **Research Assistant**, UF College of Medicine, Health Outcomes and Policy, Gainesville, FL  
- Organized KidCare data to produce the 2015 Florida Annual KidCare Report and completed a systematic assessment of the barriers to enrollment to Florida KidCare.  
- Gained proficiency in conducting qualitative research methodology and utilized RedCap clinical and translational research database.  
**Supervisor:** Melissa Bright, Ph.D.

**PUBLICATIONS**

*PEER-REVIEWED PUBLICATIONS*


*MANUSCRIPTS IN PROGRESS*


**PROFESSIONAL PRESENTATIONS**

*ORAL PRESENTATIONS*


**Gilbert, A. M.** & Maack, D. J. (2019, September). *Gender Differences in Factors Related to Contamination-Based Obsessive-Compulsive Symptoms.* Data blitz presented at the 70th Annual Convention of the Mississippi Psychological Association, Biloxi, MS.
Gilbert, A. M. (2019, May). *Pain Rating Concordance among Youth with Sickle Cell Disease and Their Caregivers.* Oral presentation presented at the Psychology Rounds at St. Jude Children’s Research Hospital, Memphis, TN.

Gilbert, A. M. & Maack, D. J. (2019, April). *Disgust’s Unique Impact on Obsessive-Compulsive Symptoms Above and Beyond Contamination Fear.* Data blitz presented at the 6th Annual UM Conference on Psychological Science at the University of Mississippi, University, MS.

Gilbert, A. M. & Maack, D. J. (2018, November). *Emetophobia and Disgust Throughout the Pregnancy Period.* Presented at the Three Minute Thesis Competition and Final Round at the University of Mississippi, University, MS.

Gilbert, A. M. & Maack, D. J. (2017, October). *Contamination Fear, Disgust, and Emotion.* Presented at the Three Minute Thesis Competition at the University of Mississippi, University, MS.

Maack, D. J. (2017, September). *You Can Run but You Can’t Hide (From Your Physiological Symptoms): Approaching Interoceptive Exposure.* Served as a facilitator to presentations given at the Annual Mississippi Psychological Association Convention, Biloxi, MS.


**POSTER PRESENTATIONS**


ATTENDED WORKSHOPS AND SEMINARS

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tr>
<td>2021</td>
<td>Behavior Analytic Skills and Knowledge Seminar&lt;br&gt;University of Mississippi&lt;br&gt;Instructor: Karen Kellum, Ph.D.</td>
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<td>2020</td>
<td>Dialectical Behavioral Therapy Seminar&lt;br&gt;University of Mississippi&lt;br&gt;Instructor: Laura Dixon, Ph.D.</td>
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<tr>
<td>2019</td>
<td>Acceptance and Commitment Therapy Seminar&lt;br&gt;University of Mississippi&lt;br&gt;Instructor: Kelly Wilson, Ph.D.</td>
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<tr>
<td>2019</td>
<td>Functional Analysis Workshop in Process-Based CBT&lt;br&gt;53rd Annual ABCT Convention, Atlanta, GA&lt;br&gt;Stefan Hofmann, Ph.D. &amp; Steven Hayes, Ph.D.</td>
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<td>2020</td>
<td>LGBTQ+ Allies Workshop&lt;br&gt;University of Mississippi</td>
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<td>2019</td>
<td>Woodcock Johnson – Fourth Edition Workshop&lt;br&gt;University of Mississippi</td>
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<tr>
<td>2018</td>
<td>Evidence-Based Treatments Seminar&lt;br&gt;University of Mississippi&lt;br&gt;Instructor: John Young, Ph.D.</td>
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<tr>
<td>2016</td>
<td>Acceptance and Commitment Therapy Bootcamp&lt;br&gt;University of South Florida, Tampa FL&lt;br&gt;Steven Hayes, Ph.D. &amp; Kelly Wilson, Ph.D.</td>
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TEACHING EXPERIENCE

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<tr>
<th>Term</th>
<th>Course</th>
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<tbody>
<tr>
<td>Jan 2021- May 2021</td>
<td>Behavioral Science, University of Mississippi&lt;br&gt;Statistics Tutor</td>
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<tr>
<td>Oct 2021</td>
<td>Abnormal Psychology, University of Mississippi&lt;br&gt;Guest Lecturer: “Posttraumatic Stress Disorder”&lt;br&gt;Instructor: Danielle Maack, Ph.D.</td>
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</table>
Nov 2019  **Industrial and Organizational Psychology**, University of Mississippi  
*Guest Lecturer: “Organizational Citizenship Behaviors, Counterproductive Work Behaviors, and the Hierarchical Model of Deviance”*

*Instructor: Danielle Maack, Ph.D.*

Sept 2017  **Abnormal Psychology**, University of Mississippi  
*Guest Lecturer: “Eating Disorders and Obesity”*

*Instructor: Danielle Maack, Ph.D.*

Aug 2020-Dec 2020  **Brain and Behavior**, University of Mississippi  
*Graduate Teaching Assistant*

*Instructor: Karon Sabol, Ph.D.*

Jan 2020-May 2020  **Personality Psychology**, University of Mississippi  
*Graduate Teaching Assistant*

*Instructor: Kimberly Sallis, Ph.D.*

Aug 2019-Dec 2019  **Abnormal Psychology**, University of Mississippi  
*Graduate Teaching Assistant*

*Instructor: Danielle Maack, Ph.D.*

Aug 2016-May 2017  **Diseases of Eating**, University of Florida  
*Online Course Writer*

- Conducted literature reviews on current research in the field of eating disorders and provided DSM-5 and ICD-10 diagnostic criteria for eating disorders.
- Generated written material for 7 course modules, developed exam questions, and selected appropriate supplementary research material.

*Instructors: Joseph McNamara, Ph.D. & Czerne Reid, Ph.D.*

Jan 2015-May 2015  **Positive Psychology**, University of Florida  
*Teaching Assistant*

*Instructor: Ryan Duffy, Ph.D.*

Aug 2015-Dec 2015  **Introduction to Counseling Psychology**, University of Florida  
*Teaching Assistant*

*Instructor: Laurie Mintz, Ph.D.*

**AWARDS AND LEADERSHIP EXPERIENCE**

Aug 2022  **2022 ABA E. Smythe Gambrell Award**, National Association of Bar Executives (NABE), Chicago, IL  
*Corecipient: UM School of Law Wellness Program*

- National-level award from the American Bar Association, recognizing mental health programming at the UM School of Law, including Wellness Counseling service.
- Attended the National Conference of Bar Presidents (NCBP) Annual Meeting in Chicago, IL with UM School of Law Dean and Dean of Student Affairs to receive the award.
Jul 2022- Jun 2023 
**Diversity, Equity, and Inclusion Committee**, Edward Hines, Jr. VA Hospital  
*Committee Member*

- Assisting with development of DEI Inaugural Newsletter.  
- Assisting with training and consultation DEI subcommittees.  
- Engaging in program development via correspondence with other VA leadership teams on diversity experiences for trainees (e.g., DEI rotations).

**Supervisors:** Annie Tang, Ph.D. and Megan Conrad, Ph.D.

Jun 2022-Dec 2022 
**Women’s Health Clinic**, Edward Hines, Jr. VA Hospital  
*Peer Supervisor*

- Tiered supervision of psychology extern under the guidance of a licensed clinical psychologist who provides feedback and instruction to promote supervision competence.  
- Provided weekly individual clinical supervision focused on clinical and case conceptualization skills through teaching, discussions, role-plays, and observation.

**Supervisor:** Katherine Meyers, Ph.D.

May 2021-Jun 2021 
**Psychological Services Center**, University of Mississippi  
*Graduate Peer Supervisor*

- Held weekly supervision meetings with peer supervisee to review clinical cases and implement didactic instruction of evidence-based practices (e.g., role plays).  
- Conducted live supervision and provided feedback on peer supervisee’s case conceptualization, intervention strategies, and clinical notes.

**Supervisor:** Kristin Austin, Ph.D.

Aug 2020-Dec 2020 
**Psychology Department**, University of Mississippi  
*Graduate Peer Mentor*

- Provided support to first year graduate student via monthly individual meetings and attended peer mentorship program events.

2019-2020 
**Mississippi Psychological Association**  
*Student Representative to the Executive Council*

- Served as a liaison between student members and the Executive Council on ideas, problems, concerns and suggestions.  
- Attended Executive Council meetings, conference calls, and annual conventions  
- Wrote student member report and column in the spring and fall issues of the MPA newsletter.

2018-2019 
**Graduate Student Council**, University of Mississippi  
*Senator, Communications Committee*

- Represented the Psychology Department during monthly meetings to facilitate the GSC’s academic, professional, and social events.

Nov 2018 
**Finalist at the Three Minute Thesis Competition**, University of Mississippi

May 2016 
**The Alachua County Crisis Center Award of Excellence**, Gainesville, FL
PROFESSIONAL MEMBERSHIPS AND ASSOCIATIONS

Society of Behavioral Medicine
Association for Behavioral and Cognitive Therapies Membership
Southeastern Psychological Association
International Obsessive-Compulsive Disorder Foundation
Canadian Pain Society
Association for Behavior Analysis International
Mississippi Psychological Association

REFERENCES

Available upon request.