DEVELOPMENTAL TRAUMA IN OBSESSIVE-COMPULSIVE DISORDER

by

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Abstract

Some individuals with obsessive-compulsive disorder (OCD) have histories of childhood traumatic experiences (CTEs). Historically, there has been relatively little focus on developmental and interpersonal factors in OCD, which are relevant in examining CTEs. Cognitive, core belief, emotion regulation, and self-concept factors have been found to mediate the CTE-OCD link, but no conclusions about causality have been possible from studies to date. Importantly, treatment resistance to first-line cognitive-behavioural therapy (CBT) is common in OCD, and poor treatment outcomes may occur as a result of negative cognitive schemas derived from CTEs. Accordingly, in this capstone, I ask: What does recent research have to say about the association between CTEs and OCD and the resulting implications for addressing treatment-resistance? Schema therapy (ST), a multimodal approach that combines experiential, cognitive-behavioural, and developmental perspectives, has been identified as a promising candidate for addressing both CTEs and OCD in parallel. By highlighting an OCD case conceptualization through a schema theory lens, I show that ST is a practical modality to explore for individuals who have failed to respond to CBT.

Keywords: Obsessive-compulsive disorder, childhood traumatic experiences, attachment trauma, schema therapy, early maladaptive schemas

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Chapter 1: Introduction

Introduction

As a social species, we are cast forth from birth into an existence amongst which cooperation with others of our kind is paramount to our survival. We are given no choice as to where or when we appear, nor do we get to choose with whom we come to instinctively rely on to protect us and make us feel safe and connected as we mature in a world where the threat of suffering and death is ever-present. When we aren't communicated consistent feelings of safety from those closest to us, we may come to learn that the world, others, and our own selves are inherently unsafe. For some of us, chronic fear begins to rule our perceptions of reality, fright overtakes curiosity, and our minds begin to sound the alarm by spitting out vile, unwelcome, and all-consuming images drawn from the most vulnerable self-themes of our core being. Attempts to escape these images through compulsive actions paradoxically only seem to make them stronger as we continue to identify danger in everything around and within us. Fully immersed in the terrifying cycle, our lives are taken hostage by obsessive-compulsive disorder (OCD).

Background Information

The following vignettes are fictional and any resemblance to actual persons and/or cases is purely coincidental. Maryam is proud to be a new mother, but has given all diaper-changing duties to her husband out of sheer desperation. Every time she tries to do it herself, she finds herself overcome with inexplicable mental images of herself violating her son's genitals. If she never has to change a diaper again, she tells herself, she can prevent the inevitable harm of her son. She recalls the sexual abuse she experienced in childhood and how she could never let the

same thing happen to her son. The joy of being a new mother progressively transforms into the fear of becoming a remorseless pedophile. And what would her husband think if he knew what monstrous atrocities she was contemplating?

Eric, who began living life fully as a transgender man five years ago, is abruptly overcome with unceasing doubts about his gender identity after hearing about a celebrity's de-transition. He remembers being constantly invalidated in his identity as a child, which led to persistent feelings of alienation. He begins spending hours each day, scouring the internet for gender identity tests and blog posts where he hopes he will finally find the information he needs to feel affirmed and at peace; the unrelenting fear of being incorrect in his identity and needing to de-transition consumes a significant portion of his mental space from waking to sleep. Constantly monitoring his positive and negative feelings around his chest, genitals, and facial hair, he finds that he can no longer focus at work and begins isolating himself at home.

Although the vignettes of Maryam and Eric seem to share little beyond an all-consuming fear of what could be, they represent manifestations of the same condition: OCD. OCD is characterized by *obsessions*, which manifest as intrusive, disturbing, and unwanted thoughts, images, and ideas that lead individuals to engage in *compulsions*, which are behaviours intended to avoid, suppress, erase, or neutralize the thoughts (American Psychiatric Association [APA], 2013). Individuals' preoccupations go far beyond the stereotype of OCD as an illness centred on contamination, hand washing, and an unyielding need for symmetry. A snapshot of recent research illuminates vastly divergent obsessional themes involving fears of developing a severe mental illness, like schizophrenia (Keyes et al., 2018), fears that one may be transforming into another person or object (Monzani et al., 2015) or a pedophile (Bruce et al., 2018), pathological guilt around potential impiety (Buchholz et al., 2019) and potentially being in the wrong

romantic relationship (Doron et al., 2016), fears of aggressively harming oneself, a loved one, or random strangers (Golden et al., 2016; Woon et al., 2017), and obsessions centred on one's gender identity (Safer et al., 2016) and sexual orientation (Williams et al., 2018). Any theme that holds weight and salience in the life and culture of a vulnerable individual is presumably ripe for OCD to grapple onto.

Most current research on OCD is ultimately focused on improving treatment outcomes. In order to inform effective treatment, researchers continue to examine the many potential causal factors that contribute to the development of OCD. Some researchers have looked beyond genetic and neurological factors, instead focusing on potential environmental and developmental influences. Childhood traumatic experiences (CTEs), particularly of an interpersonal nature, are common in individuals with OCD (Barzilay et al., 2019; Murayama et al., 2020). For example, Maryam was sexually abused by her father. Experiences like Maryam's, if significantly traumatic, often result in dysfunctional ways of viewing the self and others, and the development of maladaptive ways of coping with emotional turmoil (Desatnik et al., 2021; Ferreira et al., 2020; Young et al., 2003). Eric, on the other hand, was chronically "othered", misgendered, and treated like a "black sheep" due to his unconventional choices growing up, and so did not learn how to manage fearful emotions around his identity in a healthy way. Such traumatic experiences may predispose individuals to developing OCD (DeKlyen & Greenberg, 2016).

Statement of the Issue/Problem

Treatment is a primary concern with regards to OCD, as outcomes can be notoriously inconsistent. Over half of individuals with OCD fail to respond to both first-line psychotherapeutic treatment – cognitive-behaviour therapy with exposure and response prevention (CBT/ERP) – and first-line pharmacological treatments (Middleton et al., 2019). Of

note, van Dis et al. (2020) cited a paucity of studies examining the effect of CBT/ERP without concurrent pharmacotherapeutic augmentation. Given that nearly half of individuals with OCD do not respond to pharmacotherapy, the efficacy of CBT/ERP as a stand-alone therapy for OCD is as yet unknown (van Dis et al., 2020).

Beyond therapy, OCD contributes to significant impairments in self, family, social, academic, and professional spheres (Coles et al., 2020; Sookman et al., 2021; Stein et al., 2020). As such, individuals with OCD suffer a reduced quality of life (Remmerswaal et al., 2020) in addition to significant stigma and shame perpetrated by friends, family, the general public (Homonoff & Sciutto, 2019), and even clinicians (McCarty et al., 2017; Steinberg & Wetterneck, 2017). Given the serious negative effects OCD can have on individual sufferers' lives, there is a pressing need to identify causes of treatment-resistance and alternative treatment options.

Purpose

In this capstone, I will aim to:

- examine how CTEs contribute to the experience of illness and treatment in individuals with OCD,
- summarize what research has found within the past decade regarding CTEs and OCD,
- synthesize this research under the context of therapy and treatment-resistance, and
- explore schema therapy (ST) as a practical modality that has the potential to address CTEs and OCD via its unique change process.

Research Question

In this capstone I am asking: What does recent research have to say about the association between CTEs and OCD and the resulting implications for addressing treatment-resistance?

Significance of Capstone

Interpersonal trauma in OCD, especially in insecurely-attached individuals, holds particular salience in light of the current state of the world under the COVID-19 pandemic. Stress and significant life changes can lead to onset or exacerbation of symptoms in individuals with or predisposed to OCD (Imthon et al., 2020), and significantly higher mental health burdens in insecurely-attached individuals, particularly those with anxious tendencies, have been reported as a result of the pandemic (Moccia et al., 2020). Fear, stress, and isolation as a result of the pandemic can trigger insecure attachment tendencies, which are characterized by maladaptive forms of coping (Steele, 2020). Individuals with OCD have also relied more on maladaptive coping strategies (Rosa-Alcazar et al., 2021) and have experienced poorer responses to CBT/ERP (Storch et al., 2021) as a result of the pandemic. The navigation of attachment dynamics is a key consideration in the formation of a healthy therapeutic relationship (Egozi et al., 2021), and thus interpersonal traumas carried from childhood in individuals with OCD are likely to be key contributors to treatment resistance.

This capstone will primarily benefit clinicians managing treatment-resistant individuals that are searching for strategies to augment their treatment approaches, as well as clinicians treating and managing clients experiencing psychological distress as a result of the COVID-19 pandemic. Furthermore, it will also benefit individuals with or predisposed to OCD. The latter point is particularly salient for transitional age youth – vulnerable to developing OCD – who experience emotional turmoil, family conflict, and/or maltreatment (Wei et al., 2020). It opens an avenue for those who may have exhausted many treatment options and are having difficulties in obtaining more personalized recovery strategies. By proxy, it could also benefit the partners, families, and caregivers of individuals with OCD whose relationships have been strained due to

maladaptive coping, accommodation, and symptom management strategies. Lastly, this capstone contributes to the alleviation of stigma, guilt, and shame that individuals with OCD live under by shining a light on their experiences to show that their intrusive thoughts do not define who they are.

Personal Position Statement and Acknowledgements

There are two areas of potential bias due to my positioning in this research. First, I work ethically from an evidence-based best-practice standpoint. Suggesting novel treatment techniques and theoretical conceptualizations backed by little to no experimental evidence could represent an ethical conflict. I acknowledge that the following literature review and relevant application represent an exploratory investigation with the aim of (1) opening up new avenues in treatment research for treatment-resistant individuals and (2) being a clear advocate for research as it can inform evidence-based best-practice. Second, I have personal experiences with OCD and CBT with ERP. Thus, subjectivity and objectivity in this review represent a salient tension in interpreting studies and eliminating bias. Although I believe that personal experience most often enhances advocacy, I understand that at times there is the real potential of my work to be coloured and distorted by my analyses of my own experiences; this makes it ever more important to maintain self-awareness and to keep objectivity at the forefront of my mind throughout the process.

Outline of the Remainder of the Paper

In the next chapter, I will include an overview of interpersonal trauma in childhood and attachment theory. This will involve a brief exploration of putative pathways from CTEs to OCD and relevant developmental perspectives. Following that, studies examining interpersonal childhood trauma and attachment style in the context of OCD will be reviewed. The ensuing

discussion will involve a critical analysis of reviewed study limitations and future research directions. Lastly, I will introduce schema theory and emotion regulation and their relevance to treatment-resistance and OCD. In chapter three, I will draw from a case conceptualization to explore the practical application of ST for OCD.

Definition of Terms

Attachment. Attachment refers to the early emotional linkage that is formed with one's primary caregiver that subsequently forms the basis of one's personal emotion modulation and regulation strategies in adulthood (Cassidy, 2016).

Attachment style. Attachment styles are characterized by relational security or insecurity; insecurity may manifest as (a) attachment anxiety (e.g., over-reliance on maintaining contact with an attachment figure during times of stress) and/or (b) attachment avoidance (e.g., desire to avoid an attachment figure physically and/or psychologically during times of stress) (Fraley & Shaver, 2016).

Attachment trauma. Attachment trauma occurs when one's needs for safety and emotion regulation as a child are consistently and chronically unmet by one's primary caregiver; can result from neglectful, abusive, inconsistent, and/or fearful parenting (Cassidy, 2016).

Childhood traumatic experiences. Childhood traumatic experiences (CTEs) are adverse experiences in childhood, often perpetrated by caregivers, characterized by sexual/physical/emotional abuse and/or neglect (Tezel et al., 2015).

Depression. Depression is characterized by low mood, fatigue, diminished interest and pleasure in daily activities, significant changes in appetite, weight, sleep, and/or psychomotor patterns, difficulty thinking and/or concentrating, feelings of guilt and/or worthlessness, and suicidal ideation (APA, 2013).

Dimensionality. Rather than making a concrete distinction between "normality" and disordered (i.e., taking a categorical approach), dimensionality is a new diagnostic perspective that sees symptoms as existing on a spectrum of severity and thus allows for more nuance and inclusivity in diagnoses and research (APA, 2013).

Dissociation. A common experience in individuals with histories of trauma, dissociation is a condition characterized by marked feelings of detachment or alienation from one's body, thoughts, feelings, memories, and surrounding reality (APA, 2013).

Early maladaptive schemas (EMSs). Primarily the result of toxic childhood experiences originating in the nuclear family, EMSs are "self-defeating emotional and cognitive patterns that begin early in our development and repeat throughout life" (Young et al., 2003, p. 7).

Obsessive beliefs. Individuals with OCD are likely to present with at least one of three dysfunctional underlying beliefs: perfectionism and an intolerance of uncertainty, inflated responsibility and an overestimation of threats, and/or importance of and need to control thoughts (Barcaccia et al., 2015).

Obsessive-compulsive disorder (OCD). OCD is a disorder characterized by *obsessions* – distressing, intrusive thoughts, images, ideas, or impulses (e.g., maybe I'm a sexual deviant because I glanced at my sister's breasts) – and/or *compulsions* – behaviours or rituals used to neutralize, avoid, or cancel the distress caused by the obsession (e.g., asking your mother to reassure you that you did not engage in any incestual activity in the past) (APA, 2013).

Schema mode. A schema mode represents "the moment-to-moment emotional states and coping responses – adaptive and maladaptive – that we all experience"; given the multitude of schemas an individual may endorse at any given time, represents the set of schemas or schema operations that are currently activated (Young et al., 2003, p. 37).

Schema Therapy. Schema Therapy posits that, in order to move forward, it is an imperative for clients to identify unmet, core emotional needs and to learn how to fulfill them with practical strategies (Young et al., 2003).

Treatment-resistance. Treatment resistance occurs when an individual does not achieve a clinically meaningful treatment response to psychotherapy and/or pharmacotherapy (Hirchstritt et al., 2017).

Chapter 2: Literature Review

Introduction

As stated in chapter one, in this capstone I am asking: What does recent research have to say about the association between childhood maltreatment and OCD and the resulting implications for addressing treatment-resistance? In chapter one, OCD was defined and illustrated through the phenomenological experiences of Maryam and Eric. The importance in considering environmental and developmental influences, which include traumatic experiences in childhood, was discussed. Following that, roadblocks in OCD treatment were highlighted as an important and ongoing area of research. In this chapter, I will review the literature on childhood trauma and OCD with a primary focus on the outcomes of negative developmental experiences on coping, emotion regulation, interpersonal functioning, and treatment response.

Childhood Traumatic Experiences

Childhood traumatic experiences (CTEs) of an interpersonal nature, which may involve sexual abuse, physical abuse, emotional abuse, and/or neglect are common worldwide (Moody et al., 2018), and are associated with an increased risk in the development of psychological disorders (Cicchetti & Doyle, 2016; Fullana et al., 2020; McLaughlin et al., 2020; Mills et al.,

2019). Indeed, the vast majority of studies on the connection between CTEs and psychopathology have focused on interpersonal traumas (i.e., chronic, often inescapable experiences such as growing up in a dysfunctional family), rather than shock traumas (i.e., witnessing a fatal accident; Aafjes van-Doorn et al., 2020; Miller & Brock, 2017).

Perpetrated most often by caregivers, "the deleterious biological and psychological sequelae of child maltreatment not only often result in adverse consequences during childhood, but may also initiate a negative developmental cascade that continues through the life course" (Cicchetti & Doyle, 2016, p. 89). Social information processes biased by a hyper-focus on and prioritization of environmental threats, deficits in emotional responding (i.e., increased emotional reactivity, low emotional awareness, and poor emotional learning and self-regulation) and accelerated biological aging are key CTE sequelae that together set the stage for the development of psychopathology (McLaughlin et al., 2020).

Association with OCD. Rates of CTEs have been estimated in 34% of individuals with OCD (Murayama et al., 2020), and one study found a significant association between CTEs and OCD in children and adolescents (Barzilay et al., 2019). For children from families in which multiple members have diagnosed mental illnesses, Someshwar et al. (2020) found that CTEs were associated significantly with earlier OCD onset. Although yet to be elucidated empirically, it has been hypothesized that either (1) CTEs may be a causal factor, (2) individuals with OCD may carry a specific antecedent vulnerability to the effects of trauma (i.e., personality/temperamental factors), or (3) trauma and OCD development may be independent processes, yet confer reciprocal exacerbating effects (Piras & Spalletta, 2020).

Dykshoorn (2014) highlighted that, following a traumatic experience, children who are predisposed to anxiety and/or depression may be more vulnerable to the subsequent development

of OCD. Furthermore, children may developmentally carry a higher risk of OCD if their family environment does or did not endow them with sufficient emotion regulation and distress tolerance skills. Given the common assumption that OCD represents one response to the surpassing of a distress tolerance threshold, children raised in dysfunctional environments with unsupportive caregivers would thus carry less resilience to manage extreme distress, putting them at higher risk of developing OCD. Dykshoorn (2014, p. 522) explained that:

> If caregivers are unable to teach and model adequate anxiety coping and distress tolerance skills, children are left to learn coping skills themselves and thus a personal responsibility for control of possible negative outcomes is established. This may develop as maladaptive coping techniques such as obsessions and compulsions as a way to manage the distress felt about situations that seem uncontrollable.

Attachment Theory

Some CTEs may occur subtly, with less outwardly-visible traumas accumulating chronically over time in a more insidious manner. Importantly, "abuse and neglect could be hidden in many apparently well-functioning families and remain unexpressed in the victim's personal experience until the onset of a disorder in adulthood" (Farina et al., 2019, p. 4). According to attachment theory, the persistent pattern of co-regulation that unfolds between a child and their primary caregiver contributes to the cognitive and affective framework by which a child regulates emotions and relates to themselves, others, and the world throughout the course of development (Cassidy, 2016). The instillation of this relational framework may also occur more broadly via specific parenting practices related to emotion and/or the overall familial emotional climate (Morris et al., 2017). Throughout development this framework becomes ever more stable and ingrained, extending into adulthood (Kim et al., 2021).

Resultantly, a child may develop either a predominantly *secure* or *insecure* attachment tendency depending on the quality of the co-regulation pattern with their primary caregiver and whether their needs for safety were consistently met; *attachment trauma*, also sometimes referred to as *cumulative developmental trauma*, occurs when these needs are not sufficiently met (Farina et al., 2019). Research has confirmed a positive correlation between insecure attachment and CTEs (MacDonald et al., 2015). An estimated 80% of attachment traumas are perpetrated by parents or other caregivers; furthermore, individuals under similar contexts and circumstances may respond differently (Farina et al., 2019) and "any event can be considered traumatic if the individual experiences it as such" (Dykshoorn, 2014, p. 521). As such, I will take a liberal definition of trauma in this paper, and attachment traumas henceforth will be considered synonymous with CTEs.

Attachment Style Characteristics. Whereas securely attached individuals are able to self-regulate emotions and navigate interpersonal relationships in a relatively adaptive manner, insecurely attached individuals experience significant deficits in these spheres (Cassidy, 2016). During times of conflict, insecurely attached individuals may avoid reliance upon others (i.e., an *avoidant* style), over-rely on others (i.e., an *anxious* style), or employ an unresolved, incoherent strategy (i.e., a *disorganized* style, at times resembling either avoidant and/or anxious styles); these tendencies are maladaptive, and they contribute to significant difficulties both intra- and interpersonally (Cassidy, 2016).

Attachment and Psychopathology. Although attachment theorists view psychopathology as a developmental construction, attachment traumas are not directly causal; rather, they "lay the foundation for disturbances in developmental processes which can eventuate in psychopathology" (Cicchetti & Doyle, 2016, p. 90). In other words, insecure individuals may

be more likely to respond negatively to stress and/or conflict, which renders them more vulnerable to psychopathological breakdowns (Cicchetti & Doyle, 2016). However, CTEs do not by default beget psychopathology, and the complex and intersecting mediating effects of genetic, environmental, temperamental, and resilience factors involved in determining whether an individual will or will not go on to develop psychopathology have yet to be elucidated by longitudinal studies (Cicchetti & Doyle, 2016; Piras & Spalletta, 2020; Sedighimornani et al., 2020).

OCD and Attachment Trauma. It has been hypothesized that "the pathogenesis of OCD symptomatology could be in part related to the types of attachments formed during critical periods early in life" (Woon et al., 2017, p. 251). The use of compulsive behaviours can be interpreted as maladaptive coping strategies through the lens of (a) avoidantly-attached individuals and their rigid self-reliance and (b) anxiously-attached individuals and their difficulty in learning from experience due to an inflexible focus on their primary caregivers (Cicchetti & Doyle, 2016; DeKlyen & Greenberg, 2016). DeKlyen and Greenberg (2016) also suggested that the restricted expression of negative emotions that characterizes avoidant attachment may predispose some individuals to OC symptoms. Lastly, the "lack of a clear strategy to cope with distress and the associated profound emotion dysregulation, combined with feelings of helplessness and vulnerability in the face of frightening situations" characteristic of disorganized attachment has been shown to confer a vulnerability for anxiety and depression (Kerns & Brumariu, 2016, pp. 358-359); this may extend to those predisposed to OCD. It is conceivable that compulsions could represent a reliable survival strategy for disorganized individuals experiencing intrusive thoughts and thus confer a risk for OCD.

Shared Dysfunctional Cognitive Processes. CTEs and OCD are characterized by several shared dysfunctional thought processes. Exaggerated threat appraisals, perfectionism, difficulties in suppressing unwanted thoughts, rumination, and self-devaluation in aversive situations are characteristic of both anxious attachment and OCD. On the other hand, high, unrealistic, and rigid personal standards of excellence, self-criticism, maladaptive perfectionism, intolerance of uncertainty, ambiguity, and personal weaknesses, and an overemphasis on the importance of maintaining control over undesirable thoughts (i.e., suppressing thoughts related to personal inadequacies and negative personal qualities) are characteristic of both avoidant attachment and OCD (Doron et al., 2015). Lastly, Ein-Dor et al. (2016) speculated that the non-integration of self representations characteristic of disorganized attachment, resulting in dissociation between attachment representations and negative consequences on cognition and affect regulation, could confer a vulnerability to OCD.

Potential Pathways from CTEs to OCD

Barcaccia et al. (2015) highlighted a model describing five potential pathways from CTEs to the development of OCD. First, certain family contexts may force children to take on developmentally inappropriate roles, such as having to take care of siblings/parents due to inadequate parenting. Later in life, they may feel a sense of failure and/or guilt when their high standards of conscientiousness/responsibility are not met. Second, certain children may internalize strict rules and high standards of conduct and thinking via parents or even teachers or religious representatives. Highly valuing morality, they may come to believe that, for example, randomly glancing at their cousin's crotch signifies a volitional desire to engage in incest. Third, overly anxious, fearful, and protective parents may hinder children from confronting danger or trying out new experiences. Resultantly, a child growing up in this atmosphere would be

particularly averse to the perceived threats that OCD brings forth. Fourth, a child may have been involved in a real incident during which their actions happened to be significantly linked to a negative outcome. Resultantly, they may come to carry inflated responsibility for their thoughts and actions. Lastly, a child may have wished misfortune on someone else and by coincidence the wish came true. For example, a child may be angry at a peer and wish that the peer would disappear; the peer then coincidentally gets into a terrible accident, and the child believes their wishes may have been a causal factor (Barcaccia et al., 2015).

The Formation of Obsessive Beliefs. Certain dysfunctional beliefs that form as a result of CTEs involving attachment figures may play a role in how OCD emerges and is maintained. Parents of individuals with OCD tend towards authoritarian parenting styles and employ punishments more in forms that threaten the parent-child relationship, such as withdrawing displays of affection or ignoring requests without explanation; such strategies reinforce in the child "high levels of self-conscious emotions and provide a breeding ground for obsessive beliefs" (Barcaccia et al., 2015, pp. 144-145). Furthermore, chronic criticism that targets children in vulnerable self-realms causes distress, leading to fear of future criticism, resulting in strategies to prevent distress which may take on obsessive-compulsive qualities; perception of criticism in fact predicts poorer treatment outcomes. Three belief domains – *responsibility/threat estimation*, *perfectionism/certainty*, and *importance/control of thoughts* – likely play a causal role in shaping OCD symptoms. Thus, it follows that certain contexts of upbringing that give rise to these specific beliefs may confer an increased risk and likelihood for developing OCD under times of stress (Barcaccia et al., 2015).

Three Main Obsessive Beliefs. According to the Obsessive Beliefs Questionnaire (OBQ-44) – which is intended to measure common beliefs in OCD – certain negative childhood

experiences can contribute to the development of certain obsessive beliefs which are grouped into three categories, as highlighted below (Barcaccia et al., 2015).

Perfectionism/Intolerance of Uncertainty. Both a need for *perfection* and an *intolerance of uncertainty* are instilled when a child is unable to express their own needs and often denies the pursuit of fulfilling them for the sake of others' needs. Furthermore, they may receive inconsistent reinforcement from parents, where at times an inappropriate response may follow a child's act or expression, along with parental overcontrol/criticism and/or high expectations/performance standards (Barcaccia et al., 2015). An example of this would be an individual who experiences overwhelming and chronic doubt that they actually locked the front door and compulsively checks the lock to reassure themselves that they didn't forget.

Inflated Responsibility/Overestimation of Threat. This belief may be instilled when parents' communicative style creates a "family atmosphere characterised by ongoing induction of fear" (Barcaccia et al., 2015, p. 144). Both *inflated responsibility* and the *overestimation of threat* are inculcated through early parental promotion of a sense of responsibility, as well as strict codes of conduct, or even shielding the child from responsibility. Children may also be held overly accountable by their parents for ensuring the welfare of other individuals (Barcaccia et al., 2015). An individual may be raised by fearful parents who constantly warn them to take extra care when handling dangerous tools. This individual may experience intrusive thoughts of accidentally stabbing their partner in the kitchen, thus perceiving themselves as dangerous, leading them to avoid touching knives while their partner is present.

Overimportance of and Need to Control Thoughts. This belief can be instilled through a family atmosphere that focuses on superstition, where children may come to believe that they can control events through thoughts and special gestures. In addition, individuals with this belief

may view immoral or ego-dystonic intrusive thoughts as evidence of a failing of their true self-internal morals or true values, leading them to believe that if they can focus on identifying and extinguishing all problematic thoughts, they can ensure that their moral compass and/or value system will not be compromised (Barcaccia et al., 2015). An example of this might involve a heterosexual individual raised in a homophobic environment. Experiencing a thought involving a homosexual act with a friend – which they may equate with actually being homosexual – leads them to compulsively reaffirm their heterosexuality through various actions, for example, by comparing their sexual arousal to heterosexual versus homosexual pornography.

Developmental Perspective

Although cognitive theories – which posit that intrusive thoughts are universal, but "stickier" in individuals vulnerable to OCD – have been effective in conceptualizing OCD, they have been criticized for insufficiently addressing developmental and interpersonal factors (Boysan & Cam, 2018; Doron et al., 2015). There is evidence that traditional CBT has no effect on attachment bonds (Challacombe et al., 2017), so different perspectives may be required for individuals with CTEs. Indeed, and particularly in the context of individuals with histories of childhood trauma, analyzing OCD through developmental and interpersonal lenses helps to illuminate in more detail its potential connection to CTEs. As highlighted by Rezvan et al. (2012):

> The profound long-term effects of OCD on many aspects of individual lives, together with the strong relationship between family atmosphere and OCD symptoms, highlights the potential to advance our understanding of this disabling disorder through exploring its association with family interactions. (p. 405)

Sensitive Self-Domains. In conceptualizing OCD from a psychodynamic perspective, Doron et al. (2015) built upon prevailing cognitive models, theorizing that the "transformation of intrusive thoughts into obsessions is moderated by the extent to which intrusive thoughts challenge core perceptions of the self" (p. 202). Referred to as *sensitive self-domains*, these perceptions function in defining self-worth and are instilled over time via parent-child dynamics. Individuals with a sense of incompetence or fragility in any of these self-domains would thus carry vulnerability to OCD development. For example, an individual who highly values morality may experience an intrusive thought involving incest with a cousin. Such an intrusive thought could damage that individual's self-worth, and resulting maladaptive internal efforts to repair the self-damage and compensate for any perceived self-deficits would constitute the beginning of an OCD cycle (Doron et al., 2015).

Influence of Attachment Trauma. Attachment trauma plays an important role in this model. Indeed, an insecure attachment style could make an individual less capable of coping with an experience that challenges a sensitive self-domain, making them more vulnerable to developing OCD. The influence of attachment, as conceptualized by Doron et al. (2015), comes into effect during the *repair attempt* stage, at which the activation of an insecure attachment representation would cause a cascade of dysfunctional responses (i.e., engaging in compulsions) and further triggering of obsessive beliefs, creating a positive feedback loop.

Attachment Anxiety Versus Avoidance. An individual with an anxious attachment style may react with catastrophizing and an exaggeration of the negative consequences of what the intrusive thought means, leading to rumination and the hyperactivation of relevant fears, such as being abandoned for being a "bad" person. On the other hand, an avoidantly-attached individual may react with thought suppression; over time however these defenses would tend to collapse

under the high emotional-cognitive load, causing an overwhelming flood of unwanted thoughts, negative self-representations, and self-criticism (Doron et al., 2015).

Childhood Trauma and OCD: Literature Review

The literature review below first includes an examination of CTEs and their association with (1) OCD in general, (2) OCD severity, and (3) OCD subtype (i.e., symptom dimension). Additionally, I will highlight studies that included sibling comparisons in their sample, and compared the effects of indirect versus directly experienced trauma. Next, I will review studies examining insecure attachment styles in OCD. Included with this will be a review on several adolescent studies investigating developmental trauma. Lastly, I will review research examining potential mediators of the link between CTEs and OCD, including cognitive and affective factors, as well as OCD-relevant self-concepts.

CTEs associated with OCD. Several recent studies have examined the relationship between CTEs and OCD. In a sample of adolescents, half of which were clinically diagnosed with OCD, Dagdelen (2020) found that levels of emotional abuse, physical abuse, emotional neglect, and sexual abuse were significantly higher in an OCD group. Similarly, Boger, Ehring, Berberich, and Werner (2020) found that levels of emotional abuse, emotional neglect, and sexual abuse in childhood were significantly higher in those who met criteria for OCD; indeed, emotional neglect and emotional abuse were reported in 76.5% and 55.9%, respectively, of individuals with OCD. Contrary to the findings of Dagdelen (2020), Boger, Ehring, Berberich, and Werner (2020) did not find significantly higher levels of childhood physical abuse in individuals with OCD.

In a sample split into treatment resistant and responder groups, Semiz et al. (2014) reported significantly higher levels of CTEs in the treatment resistant group – with emotional

neglect showing the most significant association – but found no significant difference in sexual abuse severity between the two groups. In a study involving 626 patients and 638 of their respective siblings, sexual abuse was reported significantly more frequently in the OCD versus non-OCD group, a correlation that was reported over three times as often in the sibling OCD group versus the sibling non-OCD group, and the sibling OCD group also endorsed higher levels of emotional abuse (Renkema et al., 2020). Lastly, and contrary to all findings above, Ivarsson et al. (2016) did not find any CTEs to be significantly associated with OCD in a sample of adolescents; they concluded that CTEs were associated with the presence of depression rather than OCD.

CTEs and OCD Severity. Dagdelen (2020) found no correlation between OCD severity and level of any type of abuse. Similarly, in a study in which 55.6% of individuals reported CTEs, Kart and Turkcapar (2019) did not find any significant relationship between CTEs and OCD severity. On the contrary, other studies found overall CTE severity (Boger, Ehring, Schwarzkopf, & Werner, 2020) and emotional abuse severity specifically (Boger, Ehring, Berberich, & Werner, 2020) to be significantly predictive of OCD symptom severity. In a large cross-sectional study including 7,054 adolescents, Barzilay et al. (2019) found both physical and sexual abuse to be most strongly associated with OCD, with sexual abuse in particular showing the strongest association. Furthermore, the associations with all types of CTEs were stronger in both females and prepubescents (Barzilay et al., 2019). In partial contrast, Semiz et al. (2014) found that OCD severity was significantly associated with severity of all types of CTEs except for sexual abuse. Lastly, Renkema et al. (2020) found a stronger association between sexual and emotional abuse and OCD severity than that found between neglect and OCD severity.

CTEs and OCD Subtype. With respect to OCD subtypes, CTEs in one study were most highly associated with sexual, religious, and harm obsessions (Dagdelen, 2020). Ay and Erbay (2018) also found taboo/unacceptable thoughts to be significantly higher in a high-CTE group versus a low-CTE group. Similarly, Despotes et al. (2021) reported a relationship of CTEs specific only to the OCD symptom dimensions of taboo/unacceptable thoughts and symmetry/completeness. Furthermore, posttraumatic cognitions were found to be direct mediators of unacceptable thoughts (Despotes et al., 2021). Barzilay et al. (2019) found the strongest correlation between unacceptable thoughts and CTEs, as well as higher rates of repeating/checking and symmetry-related obsessions and compulsions in prepubertal youths with OCD. In another study, although religious obsessions were reported significantly more frequently in a treatment-resistant group versus a responder group, Semiz et al. (2014) did not report any significant association between religious content and CTE severity. Lastly, Kart and Turkcapar (2019) found harm obsessions to be significantly higher in a CTE group versus a non-CTE group, but not after controlling for depression and anxiety.

Sibling Comparison Study. In a study involving 626 patients and 638 of their respective siblings, Renkema et al. (2020) found a stronger association between sexual and emotional abuse and OCD severity than between neglect and OCD severity. In addition, sexual abuse was reported significantly more in the OCD versus non-OCD group, a correlation that was reported over three times as often in the sibling OCD group versus the sibling non-OCD group. The OCD sibling group also endorsed higher levels of emotional abuse (Renkema et al., 2020).

Direct Versus Indirect Trauma Exposure. Pinciotti et al. (2021) examined the association between indirectly (i.e., hearing about another's sexual abuse) versus directly (i.e., being sexually abused) experienced trauma and OCD symptoms. They highlighted the

importance of examining *just right* compulsions in this context, which are behaviours employed to restore a sense of lost control when perfection, control, and/or certainty regarding obsessions are unobtainable. The sample included 122 undergraduate students, of which 94.3% reported past trauma. They found a significant relationship between indirectly experienced sexual abuse and OCD symptoms but, unexpectedly, they found that directly experienced sexual abuse did not correlate significantly with OCD. Indirect sexual trauma was also found to only marginally correlate with contamination obsessions. Unlike that found in indirectly experienced CTEs, they did not find any observable pattern of association between OCD and any directly experienced traumas (Pinciotti et al., 2021).

Meta-Analyses. In a meta-analysis that included 24 articles and 4,557 participants between 1980 and 2015, Miller and Brock (2017) reported physical abuse, emotional abuse, and neglect to be significantly correlated with OCD across nine studies, and sexual abuse to be significantly correlated with OCD across ten studies. They also reported a small but significant correlation between past trauma and OCD severity; similar to the findings of Barzilay et al. (2019), this association was found to be higher in female participants (Miller & Brock, 2017). Furthermore, both Miller and Brock (2017) found CTEs to be significantly more correlated with compulsion severity than obsession severity, which was also reported by Ay and Erbay (2018). In a more recent meta-analysis that included 10 studies and 1,611 participants between 2011 and 2020, Ou et al. (2021) reported a small but significant correlation between CTEs and OCD severity, where only emotional abuse showed significant correlation with total OCD severity, and sexual abuse emerging as significantly correlated with obsessions but not compulsions.

Attachment Styles in OCD. In one study, Asad & Dawood (2015) found both anxious and avoidant attachment styles to be predictive of only sexual and religious obsessions, with

avoidant attachment emerging as a significant predictor of sexual obsessions. Furthermore, control-type compulsions were also predictive of both anxious and avoidant attachment styles (Asad & Dawood, 2015). In another study comparing insecure attachment styles in OCD, major depressive disorder, and generalized anxiety disorder (GAD), Dadashzadeh et al. (2018) found the OCD group to be significantly more insecurely attached than the healthy control group; specifically, anxious attachment styles were twice as frequent in the OCD group. However, no differences in avoidant attachment were found between the groups (Dadashzadeh et al., 2018).

Similarly, Boger, Ehring, Schwarzkopf, and Werner (2020) found anxious – but not avoidant – attachment to be a significant predictor of OCD severity. These results are in concordance with a study by Doron et al. (2012) which compared attachment insecurities between OCD, GAD, and control groups. They found, finding anxious attachment to be significantly higher in the OCD group compared to the other groups, even after controlling for depression (Doron et al., 2012). In concordance with Dadashzadeh et al. (2018), no significant differences in avoidant attachment were found across groups (Doron et al., 2012). Boysan & Cam (2018) examined anxious, avoidant, and disorganized attachment styles in OCD. In line with other studies examined here, they found that both anxious and avoidant attachment styles were significantly predictive of OCD (Boysan & Cam, 2018). Furthermore, all insecure attachment styles – particularly disorganized and anxious-preoccupied – were predictive of OCD symptom severity (Boysan & Cam, 2018). On the contrary, Tibi et al. (2020) found the anxious-preoccupied style to be significantly associated with lower levels of OCD symptom severity.

Adolescent Studies. In a study involving 221 female children aged 10-12 years, Rezvan et al. (2012) investigated the association between OCD symptom severity and both insecure attachment styles and the specific attachment-relevant relational aspects of trust, communication,

and alienation. Lower levels of both communication and trust, and increased levels of alienation are characteristic of a risk for the development of attachment insecurities. They found that lower levels of attachment security were significantly predictive of increased OCD severity. These correlations remained significant even after controlling for depression (Rezvan et al., 2012). Similarly, in a study involving 109 individuals aged 19-23 years, Brumariu et al. (2013) examined whether the quality of both mother-child attachment relationships and peer relationships would be poorer in an anxiety disorder group, which in the study included individuals with OCD. Individuals in the anxiety disorder group showed significantly higher levels of insecurity/disorganization as well as significantly higher levels of disorientation in their interactions with their mothers than the other two groups. Furthermore, individuals in the anxiety group showed significantly higher dysfunction in peer relationships than the control group (Brumariu et al., 2013).

Meta-Analysis. Van Leeuwen et al. (2020) conducted a meta-analysis of 16 studies published before May 2019 examining the relationship between insecure attachment and OCD. Their aim was (1) to examine the role of potential moderators of the relationship between attachment and OCD and (2) to identify which insecure attachment style(s) were associated with OCD (van Leeuwen et al., 2020). Six of the studies reviewed in this capstone – those of Asad & Dawood (2015), Boysan & Cam (2018), Doron et al. (2009), Doron et al. (2012), Seah et al. (2018), and Tibi et al. (2017) – were included in the meta-analysis. The association between anxious attachment and OCD showed a medium to large effect size, while that between avoidant attachment and OCD showed only a medium effect size.

Mediators in the CTE-OCD Relationship. Several recent studies have examined affective and cognitive factors that may link CTEs with OCD Additionally, specific self-concepts have been implicated in the link between CTEs and OCD.

Cognitive and Affective Factors. Cognitive and affective factors implicated in the link between CTEs and OCD include obsessive beliefs and attachment style.

Obsessive Beliefs as Mediators. Doron et al. (2009) investigated whether the contribution of CTEs to OCD symptoms is mediated by obsessive beliefs. They reported this mediation to be significant for both anxious and avoidant attachment styles, with anxious attachment showing a stronger effect; the association remained significant even after controlling for depression (Doron et al., 2009). Boysan & Cam (2018) examined whether the specific obsessive belief, *overestimation of threat/inflated responsibility*, would be a significant mediator between attachment and OCD. They reported that the *overestimation of threat/inflated responsibility* belief conferred both direct and indirect cognitive vulnerability factors for OCD through insecure attachment (Boysan & Cam, 2018).

Attachment Style as a Mediator. In an American study, Yarbro et al. (2013) examined whether inadequate parental care would be positively associated with obsessive beliefs in offspring, and they also examined whether insecure attachment styles would mediate this association. Anxious attachment was significantly correlated with both *responsibility/threat estimation* and *perfectionism/uncertainty*, while avoidant attachment was significantly correlated only with *perfectionism/uncertainty*. With respect to mediation, attachment anxiety was found to be a partial mediator of the association between inadequate parental care and both obsessive beliefs. However, no significant mediation by avoidant attachment on the association between inadequate parental care and *perfectionism/uncertainty* was reported (Yarbro et al., 2013).

Self-Concepts. As described by Doron et al. (2015), core self-concepts appeared to hold relevance for OCD. It has been suggested that maladaptive self-concepts may contribute to treatment non-response, dropout, and/or relapse (Jaeger et al., 2021). Important core self-concepts examined here are self-ambivalence, the feared self, and clarity of self-concept.

Self-Ambivalence. Seah et al. (2018) examined attachment anxiety and self-ambivalence as vulnerabilities for OCD. They explained that:

> Individuals who experience ambivalent patterns of attachment in childhood, characterized by concurrent experiences of rejection and validation, are susceptible to developing uncertainty about their self-worth, particularly around their moral virtue and lovability … unwanted, ego-dystonic intrusions that challenge one's self-worth are likely to cause distress, especially when they threaten the individual's strict standards of moral perfectionism (pp. 40-41).

Such childhood experiences have been linked to self-ambivalence and confer a vulnerability to OCD. Indeed, in an Australian sample of 439 individuals, Seah et al. (2018) found significant positive correlations between attachment anxiety, self-ambivalence, OCD, and obsessive beliefs, with the strongest association emerging as that between self-ambivalence and obsessive beliefs. Self-ambivalence was found to exert a significant mediating effect on the relationships between both anxious attachment and OCD severity, and obsessive beliefs and OCD severity, although the effect was only indirect in both cases, suggesting that further, unexamined vulnerability structures are involved (Seah et al., 2018).

Self-Concept Clarity. A disrupted sense of identity may be one mechanism by which CTEs lead to the development of OCD (Hayward et al., 2020). Disrupted identity can be conceptualized as a lack of clarity of self-concept (i.e., being significantly unclear on whether

one is an inherently good or evil person); thus, Hayward et al. (2020) examined whether lower self-concept clarity would be predicted by CTEs and, in turn, be predictive of increased OCD symptoms. Furthermore, they examined whether self-concept clarity would mediate the association between CTEs and OCD. In a sample of 382 individuals in the U.S., it was found that CTEs were associated with lower self-concept clarity and higher levels of OCD, with self-concept clarity explaining 39% of variance in OCD symptoms (Hayward et al., 2020).

Fear of Self. A recent concept in OCD, the *feared self* is characterized by pathological self-doubt fueled by fears of who one might secretly be or become (Aardema et al., 2021; Doron, 2020). For example, a cisgender individual may fear that they are going to become, or may already secretly be, transgender. Doron (2020) hypothesized that this pathological stance towards one's identity may be exacerbated by insecure attachment, which would hinder adaptive regulatory processes, allowing cascades of dysfunctional beliefs to culminate in OCD symptomology; high levels of attachment security would thus represent a protective factor to individuals with self-vulnerabilities to OCD.

In one study, Doron (2020) found that the three-way interaction between avoidant attachment, anxious attachment, and fear of self was significantly associated with OCD symptoms. Furthermore, attachment security was also found to be associated with lower OCD symptoms in individuals with high levels of fear of self. In addition, for individuals with high fear of self, OCD symptoms were significantly more severe for individuals high in avoidant attachment compared to those low in avoidant attachment and individuals high in anxious attachment compared to those low in anxious attachment (Doron, 2020).

Discussion: The Relationship Between Childhood Traumatic Experiences and OCD

Although it is clear that CTEs play a role in OCD, researchers have yet to elucidate how significant or directly linked that role may be. In a systematic review including 128 studies on OCD risk factors between 1981 and 2015, Brander et al. (2016) reported that no study could show causality of CTEs on OCD conclusively. Hindering further investigative attempts, data from all studies were too insufficient or heterogeneous to conduct a meta-analysis (Brander et al., 2016). Furthermore, it does not appear that any specific form of childhood trauma is uniquely associated with OCD. Other than associations with overall CTEs, there was no observable pattern in studies reviewed here, where results were often contradictory. One explanation for null findings regarding specific CTEs which are known to be correlated with OCD in past research, such as sexual abuse, is that relatively small sample sizes can often lead to marginal findings that are reflective of a "lack of power rather than true null findings" (Pinciotti et al., 2021, p. 7). Indeed, future research may benefit from larger samples that could eliminate the statistical limitations that come with small sample sizes.

In a more recent umbrella review of systematic reviews and meta-analyses on risk factors for OCD – which ultimately included 46 individual studies – Fullana et al. (2020) concluded that "rather than 'a few' risk or protective factors with large effects, large sets of common 'variants' of small effects account for the risk for … obsessive-compulsive disorders" (p. 1305). In other words, it is likely the additive effect of many various risk factors – including CTEs – that confer a risk of OCD (Fullana et al., 2020). However, Fullana et al. (2020) also reported that of all factors, trauma seemed to have the largest effect on risk of OCD. Also, it may be that the severity and duration of the CTE – and not the specific type of trauma – are more important factors to consider (Kart & Turkcapar, 2019). Lastly, Brander et al. (2016) emphasized that it

"currently remains unclear whether [the] amount of life events or the degree of negative impact of single events have the better explanatory value for [an] increased risk for OCD" (p. 51).

Examining experiential avoidance and deficits in mindfulness, Kroska et al. (2018) were able to establish some degree of temporal precedence in a study that included parallel adolescent and young adult samples, where they found that CTEs played a much more significant role in the older cohort's current OCD symptoms and maladaptive behaviours. This aligns with the findings of Tibi et al. (2020), who asserted that CTEs contributed to a less favourable course of illness in individuals with OCD. However, the picture becomes more complicated when one considers that "[b]ecause OCD has a diversity of aetiologies including early onset with neurodevelopmental factors and late onset with cognitive factors, there might be large individual differences in tolerances of and responses to traumatic experiences" (Murayama et al., 2020, p. 5). Such is the state of our current understanding of the relationship between CTEs and OCD.

CTEs and OCD Subtype. It appears that there is a significant relationship between CTEs and taboo/unacceptable thought-type obsessions specifically. The findings of Despotes et al. (2021) led them to suggest that posttraumatic cognitions may be most relevant to the taboo/unacceptable thoughts dimension than other symptom dimensions in OCD. Similarly, Ay and Erbay (2018) highlighted the absence of research examining whether taboo/unacceptable thought obsessions may be specific outcomes of OCD that is preceded by CTEs. The specific area of autogenous obsessions is particularly important from a treatment perspective because they come with the greatest stigma and shame, and thus may be associated with poorer treatment outcomes (Pinciotti et al., 2021).

Along these lines, "OCD may need to be de-constructed into more homogenous dimensions before contributing processes can be understood" (Ivarsson et al., 2016, p. 271), as

the marked heterogeneity in symptoms across OCD symptom dimensions may be associated with significantly distinct environmental risk factors (Brander et al., 2016). Some obsessional content, especially involving scrupulosity, would likely vary significantly across cultures due to traditional and religious differences that exist between geographic locations (Semiz et al., 2014). As such, obsessional content contingent on cultural atmosphere – especially in the spheres of sexual and religious norms – may explain why narrow/localized studies from different geographic regions (i.e., Turkey versus the USA) report such disparate results. Future research could benefit from studies that encapsulate broader geographic areas.

Attachment Styles and OCD. As with CTEs, it is clear that there is an association between insecure attachment and OCD. Both attachment anxiety and avoidance have been implicated in OCD, but future studies could benefit from the inclusion of disorganized attachment measures given that it carries significant links with CTEs and emotion regulation deficits (Stevenson et al., 2019). Although disorganized attachment has been associated with significantly poorer treatment outcomes in OCD (Tibi et al., 2019), it's inclusion in OCD-CTE research has been sparse. Examining disorganized attachment may also help illuminate how more pure avoidance differs from disorganized individuals with avoidant tendencies in OCD (Boysan & Cam, 2018). Furthermore, many studies used different instruments to measure attachment styles. As such, there were significant inconsistencies in reporting which makes it difficult to compare results. Many of these instruments measure adult attachment style, which also injects potential error into results given that environmental changes (i.e., new relationships) can reduce the stability of attachment representations over the course of development. Thus, the link between OCD and attachment styles could reflect to a significant degree the confounding influence of negative life events over the span of development (Doron et al., 2012).

Limitations and Complicating Factors. In the reviewed studies, there were significant limitations and complicating factors, which will be discussed below. The use of cross-sectional data and small/non-inclusive samples represented near universal limitations. Differential methods of diagnosing OCD (i.e., categorically versus dimensionally) and comorbid depression represent complicating factors.

Cross-Sectional Data. The vast majority of studies included in the literature review above were cross-sectional, meaning that they are unable to make definitive conclusions about temporal precedence. In other words, they were only able to show that CTEs and OCD were correlated with one another, not whether CTEs are a causal factor in the development of OCD. In addition, studies examining whether individual traits – such as attachment style and/or EMS – and OCD are unable to provide conclusive evidence for whether certain attachment styles and/or EMSs lead to OCD or whether OCD contributes to the development of certain attachment styles and/or EMSs (Boysan & Cam, 2018; Khosravani et al., 2019).

The ability to infer temporal precedence is also an important criterion for drawing conclusions involving the effects of mediating variables, which was not possible in the studies reviewed here (Boger, Ehring, Schwarzkopf, & Werner, 2020). Lastly, cross-sectional designs prevent researchers from being able to empirically measure the progression of obsessive-compulsive symptoms as well as clinical changes and treatment response over time (Dagdelen, 2020). Future studies would benefit from longitudinal designs, which would allow researchers to make causal inferences and "may mitigate the problems with mood-state dependent and recall biases associated with retrospective self-report measures" (Pilkington et al., 2020, p. 12). Not only that, but OCD symptoms are notorious for waxing and waning across the lifespan, so

longitudinal designs would make attempts at capturing accurate clinical pictures more effective (Dettore et al., 2021).

Generalizability. Ojserkis et al. (2020) highlighted issues with the extrapolation of data from geographically-narrow samples. They reported that the CTE group in their study consisted of significantly more Hispanic individuals, who have a higher risk of childhood maltreatment; such results speak to the importance in comparing studies across samples drawn from populations faced with vastly different socioeconomic or other psychosocial factors (Ojserkis et al., 2020). Instead of population cohorts, other studies used small samples of university students, inpatient samples with relatively high symptom severity, or samples with restricted age ranges, all of which signify poor representativeness and limit the generalizability of the results (Brander et al., 2016).

Regarding OCD Dimensionality. There is some contention surrounding the appropriateness of studying OCD as a dimensional rather than categorical disorder; in other words, whether it is valid to examine obsessive-compulsive symptoms on a spectrum rather than excluding individuals who don't meet a cut-off diagnostic score. Doron et al. (2009) highlighted research supporting the validity of studying OCD-related phenomena in nonclinical subjects, arguing that OCD, including obsessive beliefs, are dimensional rather than categorical, and that such an approach aligns with prevailing cognitive models of OCD (i.e., that intrusive thoughts are a universal phenomenon). Additionally, Barzilay et al. (2019) showed that the relationship between CTEs and OCD is significant "even in a community sample with subclinical level symptoms (not meeting DSM criteria)" (p. 7).

The value in examining nonclinical OCD symptoms in the general population is important because the data obtained from such studies is useful for designing preventative

strategies – which are so far lacking – and intervening early on in the course of OCD (Chandrashekhar et al., 2021; Hofer et al., 2018). Indeed, Destree et al. (2020) noted that "OCD seems to be defined by a slow progression from sub-clinical to clinical OCD, with several years preceding its onset" (p. 192). In individuals presenting with sub-clinical OCD symptoms, CTEs are an important risk marker for identifying vulnerable individuals for whom symptoms may worsen progressively (Destree et al., 2020; Miller & Brock, 2017).

Regardless, many of the studies in this review worked under the assumption that the same environmental risk factors operate at both the clinical and sub-clinical level – which may not be the case – suggesting that caution is required when comparing results from clinical and non-clinical populations (Brander et al., 2016). Brander et al. (2016) also highlighted that:

> The extensive use of – generally small – patient samples recruited from specialist clinics is also likely to introduce biases because these patients tend to be complex, comorbid cases with long illness duration and thus the results may not be generalizable to the broader population of OCD patients. Similarly, patients recruited from specialist clinics may have a greater chance of having both the risk factor and OCD, compared to OCD patients or controls from the general population, resulting in spurious associations. (p. 58)

Van Leeuwen et al. (2020) reported no significant differences in effect size between clinically-diagnosed individuals and those not meeting the diagnostic cut-off, which supports a dimensional rather than categorical conception of OCD by suggesting that the association remains even in subclinical OCD populations (van Leeuwen et al., 2020).

Comorbid Depression in OCD. OCD has a high comorbidity (Remmerswaal et al., 2020), with depression being the most common (Tibi et al., 2017). Indeed, it has been estimated that over half of individuals with OCD may present with co-occurring depression (Palmer et al.,

2019). Comorbid depression presents significant confounding factors in the relationship between CTEs and OCD; when controlled for, the CTE-OCD association is often rendered insignificant (Boger, Ehring, Berberich, & Werner, 2020). Accordingly, Boger, Ehring, Berberich, and Werner (2020) speculated that "it is possible that this association [between CTEs and OCD] is only mediated by these symptoms, mirroring similar findings in other anxiety and affective disorders" (pp. 7-8). Ivarsson et al. (2016), who did not find any significant association between CTEs and OCD, suggested that CTEs in individuals with OCD are likely reflective of the effect of comorbid depression, as reflected in elevated levels of CTEs in their study's OCD-depression group. Controlling for depression and perhaps even sub-clinical depressive symptoms in CTE-OCD research should be a crucial consideration when constructing study methods.

Individuals with depression have been found to be significantly more insecurely attached than individuals with OCD (Dadashzadeh et al., 2018), and Kart and Turkcapar (2019) found both higher depression levels in the CTE group compared to the non-CTE group in their study. Similarly, in a four-year naturalistic study – in which individuals with OCD were assessed at baseline, two-years, and four-years – Tibi et al. (2017) found that comorbid depression was a functional consequence of OCD. In other words, the stress that incapacitating OCD symptoms exert on individuals leads to the development of depression. Furthermore, they found that insecurely attached individuals were more likely to develop depression following the experience of elevated OCD symptoms (Tibi et al., 2017). Depression is clearly an important confounding variable in the link between CTEs and OCD and, given recent evidence confirming that OCD and depression are notably discrete disorders (Moore & Howell, 2017), future research would benefit from studies comparing OCD, depression, and comorbid OCD-depression groups in individuals with CTEs to parse apart differences.

Future Directions in Research. In the following section, I will discuss several avenues of research that may potentially shed light on areas of CTEs and OCD previously unexplored. These avenues include the link between dissociation and OCD, attachment security as a protective factor, and more robust research designs that could allow conclusions about causation.

Dissociation. It has been argued that the symptoms characteristic of CTEs are markedly different from other types of traumas. Significant distinctions have been identified between post-traumatic stress disorder (PTSD) and its dissociative subtype – unofficially referred to as complex-PTSD (C-PTSD), a common outcome of CTEs – in the DSM-5, suggesting that it may represent a unique disorder with its own pathogenic cognitive and affective processes (Farina et al., 2019). Of importance, Farina et al. (2019) noted that these pathogenic processes, in some cases, emerge only during the activation of attachment-specific memories. Accordingly, they hypothesized that "in individuals with early adverse relational experiences and attachment trauma, the [disorder] becomes functionally evident and clinically symptomatic [only] when the system is overloaded by affective and cognitive attachment-related stimuli" (Farina et al., 2019, p. 7). Dissociation is an important factor to consider as it can inhibit effective treatment by preventing patients from being cognizant of the in-session experience (Boger, Ehring, Schwarzkopf, & Werner, 2020).

Dissociation-OCD Links. The link between dissociation and OCD has been examined in several studies. Semiz et al. (2014) found dissociation to confer the most significant mediating role in the link between CTEs and OCD. They posited that dissociation could (1) be a marker of more severe OCD symptoms, (2) represent a defense mechanism (i.e., a strategy to avoid negative affect resulting from exposure to aversive stimuli), and/or (3) overlap significantly with OCD in the sense that trauma-related flashbacks – dissociative phenomena – may be

indistinguishable from intrusive thoughts characteristic of OCD (Semiz et al., 2014). Furthermore, they hypothesized that:

> [T]he dissociative and obsessive's inability to attend to new facts, respond to the changes in the environment, and assimilate/accommodate peripheral information into pre-existing schemas about the self and the world may explain some of their clinical overlap in perception, cognition, and behavior (Semiz et al., 2014, p. 1293).

Yildirim and Boysan (2019) described a theoretical integration of OCD and dissociation based on significant overlap in symptomology and features between the two phenomena. They identified (1) symptomatic heterogeneity, (2) intrusiveness, (3) ubiquity in the general population, (4) function as defense mechanism in response to heightened stress, while ultimately becoming counterproductive at high levels, (5) significant links to developmental trauma, (6) interpersonal aspects as central to aetiological accounts, (7) pronounced deficits in memory and attention, and (8) transdiagnostic characteristics as common to both disorders. Dubbed *obsessional dissociation*, this integration is characterized by "fragmentation and dysfunction in [the] normal integration of conscious awareness, memory process, emotional regulation, motor and behavioral control … in reaction to the intense mental engagement in intrusive obsessional thoughts" (Yildirim & Boysan, 2019, p. 24).

There is thus emerging evidence of a dissociative subtype of OCD, where obsession-induced dissociation would be the factor which distinguishes whether an individual would or would not go on to develop OCD (Yildirim & Boysan, 2019). The idea of fragmentation and dysfunction in core mental and physical processes echoes the problems in attachment and self-concepts – such as self-concept clarity, self-ambivalence, and the feared self – some individuals with CTEs and OCD experience. In this case, it could be that, contrary to Yildirim and Boysan's

(2019) assertion of obsession-induced dissociation, dissociation as a result of CTEs instead induces OCD. Given the specificity of dissociation to developmental trauma, and strong overlap between OCD and dissociation, one can speculate that there are likely important connections to be discovered between these three phenomena. How significant the role of CTEs may be in the fomentation of these processes is as yet undetermined; thus, it is a fruitful area for future researchers to explore.

Post-Traumatic OCD: A New Subtype? Dykshoorn (2014) highlighted the opposing functions PTSD and OCD take on, where a decrease in the presence/severity of one disorder – in individuals with comorbid PTSD and OCD – had an opposing effect on the other disorder (i.e., a decrease in OCD symptoms through treatment led to an increase in PTSD symptoms, and vice versa). It was therefore argued that instead of merely replacing PTSD symptoms, OCD symptoms might be used to cope with, reduce, and avoid the symptoms and memories associated with the trauma. In this way, OCD and PTSD are intrinsically connected and may exist on the same continuum (Dykshoorn, 2014). Of relevance to treatment, Despotes et al. (2021) asserted that, "[i]f the development and maintenance of comorbid OCD/PTSD could be explained by cognitive constructs that the two disorders have in common, such cognitions might provide a target of intervention for new treatments that would be more effective in treating OCD/PTSD comorbidity" (p. 7).

Given such, several researchers have theorized the existence of a post-traumatic subtype of OCD. Along with obsessive beliefs, as discussed above, past studies have highlighted the relevance of *disgust* and *betrayal* in conceptually linking OCD and PTSD. For example, intense feelings of disgust are common amongst survivors of childhood sexual abuse; these feelings of disgust may begin to generalize to other life experiences and manifest in compulsive, ritualistic

hand washing and showering. Furthermore, critical betrayal events – which may constitute trauma, even if not life threatening – have been reported by sufferers as significant to the development of their OCD. An example of a betrayal would be a parent disclosing confidential information about their child that leads to a child's harm. In both cases above, there is an obvious link between the outcome and the original trauma (Dykshoorn, 2014). Further research could benefit from examining obsessive beliefs, feelings of disgust, and experiences of betrayal in individuals with OCD to further elucidate potential links to CTEs and perhaps determine if such a subtype of OCD is associated uniquely with any specific OCD symptom dimension(s).

Attachment Security as a Protective Factor. Contrary to attachment insecurity, a secure attachment style could confer a buffer against the development of OCD by permitting better access to adaptive inner representations of safety. Doron et al. (2015) highlighted that:

> "For people who have chronic or contextually heightened mental access to the sense of attachment security, these aversive experiences and the intrusion of unwanted thoughts will result in the activation of effective distress-regulation strategies that dissipate the thoughts, reaffirm the challenged self, and restore well-being". (p. 204)

Furthermore, attachment security has been associated with more favourable treatment outcomes, and securely-attached individuals have better access to close friendships during times of stress (Tibi et al., 2020). Targeting attachment insecurities in OCD treatment by promoting increased security could thus improve the likelihood of positive outcomes in individuals with CTEs. From a family systems perspective, Hofer et al. (2020) suggested that it may be beneficial for researchers to examine whether fostering parental emotional warmth can be effective in alleviating or preventing OCD in young individuals with CTEs as well.

In Search of Causation, not just Association. As mentioned above, no study reviewed here could conclusively show causation in the link between CTEs and OCD. Although it is unrealistic to seek true proof of causation due to an inability to sufficiently control for both environmental and genetic factors, Brander et al. (2016) proposed a roadmap for researchers to better identify associations and reduce/control potential confounds.

First, researchers should employ broad-spectrum, longitudinal population-based case control or cohort studies. By focusing on a broad range of risk factors rather than a particular candidate factor, as well as employing prospective data, researchers can better understand how all pieces fit into the CTE-OCD link. Second, family-based quasi-experimental studies would allow some genetic and shared environmental factors to be controlled for. Third, twin studies would allow for the control of both genetic and shared environmental variables. If it is difficult to locate sufficient numbers of twins with OCD to populate research samples, it may be possible to work from the dimensional lens, which would broaden potential sample candidates by allowing the inclusion of sub-clinical individuals. Lastly, Brander et al. (2016) emphasized that a combination of all three study methods would be the most optimal path towards determining causation.

Developmental Perspectives: OCD as a Relational Survival Function. Although uncommon in contemporary OCD research, the viewpoints from psychoanalysis (Brandchaft, 2001), contemporary self-psychology, and intersubjective systems theory (Joelson, 2017) aid in understanding potential associations between OCD and CTEs. Rather than analyzing obsessional content at face value, these viewpoints have been helpful in understanding the symbolic, deeper-level function of obsessional thinking with respect to the potential loss or change of an individual's predominant/familiar attachment representation (Brandchaft, 2001). There is

evidence that individuals with OCD experience cognitive deficits in the realm of adaptive behaviours in social contexts (i.e., decreased capacity in regulating one's emotional response to others, or decreased ability to share others' experiences and emotions; Jansen et al., 2020), which could be interpreted as maladaptive cognitive responses to CTEs.

The Individual in Context. Joelson (2017) argued for the "inseparability of individual and context"; that is, "one's experience of self is inextricably tied to one's relationships with others" (p. 1). Accordingly, she asserted that:

> An obsessional style is a repeated complex strategy that the individual engages in situations that are felt to be dangerous in an effort to self-organize and to safely negotiate attachments. Such a strategy involves rigid patterns of self and interactive regulation that the individual co-creates in the context of challenging intersubjective events. (Joelson, 2017, p. 10)

In other words, OCD represents a survival strategy – albeit maladaptive – in the face of the perceived loss or jeopardization of the interpersonal regulatory dynamics with which an individual equates with survival.

State Entrapment System. In a similar vein, Brandchaft (2001) described obsessional thinking as a *state-entrapment system* that serves a protective function in interpersonal situations, particularly ones that could potentially shift one's predominant affective regulatory tendencies. Ultimately, such a scenario would hypothetically imperil the only relational dynamics an individual has ever known and, accordingly, alienate them both physically and symbolically from their parent figure(s). In this conceptualization, the inner world of an individual is illuminated as a space where "exhausting obsessive ruminations cannot be relinquished because they carry the unrecognized proxies for the insecure attachments of childhood"; thus, "[w]hen

the child attempts to throw off shackles of abuse or accommodation, enveloping and spiraling obsessional ruminative states appear" (Brandchaft, 2001, pp. 263-266).

Attachment Perspective. A study by Ein-Dor et al. (2016) paralleled the perspectives of Brandchaft (2001) and Joelson (2017) through an attachment theory lens. Fear of losing contact with significant others is characteristic of anxiously-attached individuals (Ein-Dor et al., 2016). Indeed, Ein-Dor et al. (2016) suggested that OCD may represent an extreme case of anxiously-attached individuals' tendency to hyper-activate their attachment systems, leading them to continuously monitor their surroundings for threats and harbour a constant fear of being alienated from the people close to them as a result of others' actions or even their own. As suggested in the literature review above, OCD may represent a disorder that is unique to – or at least more severe in – anxiously-attached individuals (Ein-Dor et al., 2016).

Relevance to Treatment Outcomes. This conceptualization of OCD has important implications for understanding treatment resistance in individuals with CTEs. In therapeutic relationships, especially those focused on repairing relational bonds that were damaged in childhood, deeply-entrenched beliefs about oneself, others, and the world often constitute a major form of resistance to change (Young, 2003). Accordingly, a roadblock in OCD treatment through a psychodynamic lens is revealed: the more an individual's maladaptive pattern of relating is interrupted, the more the protective mechanism of OCD may activate to paradoxically hinder the process of healing (Brandchaft, 2001). From this viewpoint, a tension between childhood trauma and OCD may arise in the treatment context, meaning both may have to be addressed in parallel (Despotes et al., 2021; Dykshoorn, 2014).

Prefacing The Next Chapter: Psychotherapy Targeting both OCD and Childhood Trauma

The purpose of this section is to preface my recommendation for the application of Schema Therapy (ST) in individuals with OCD and histories of CTEs. ST "expands on traditional cognitive-behavioral therapy by placing much greater emphasis on exploring the childhood and adolescent origins of psychological problems, on emotive techniques, on the therapist-patient relationship, and on maladaptive coping styles" (Young et al., 2003, p. 5). Indeed, ST for OCD cases complicated by CTEs has been recommended explicitly in several studies reviewed above (Basile, de Sanctis, et al., 2018; Dettore et al., 2021; Tibi et al., 2020; van Leeuwen et al., 2020). A key component of schema theory are *early maladaptive schemas* (EMSs) and *schema modes*, which are a primary focus of ST's change mechanism. Below, I will describe schema theory, its connection to CTEs, OCD, and deficits in emotion regulation. In chapter three, I will examine the application of ST to individuals presenting primarily with OCD.

Schema Theory. Drawing from CBT, Object Relations Theory, Gestalt Therapy, Transactional Analysis, Mentalization-Based Therapy, Dialectical Behaviour Therapy, Positive Psychology (Bach et al., 2018), and Attachment Theory (Arntz et al., 2021), ST is an integrative, multi-modal approach. As highlighted by Bach et al. (2018), schema theory posits that dysfunctional cognitive schemas caused by CTEs underly psychopathology and that *limited re-parenting* on the part of the therapist facilitates corrective emotional experiences that fulfill and heal the hurt, vulnerable, and needy "child" within each client. Below, I will describe the key components of schema theory, and their relevance to OCD as explored by recent research.

Key Concepts and Organization. Cognitive schemas, which develop early in life, are defined as "any broad organizing principle for making sense of one's life experience", and they may be adaptive/positive or maladaptive/negative (Young et al., 2003, p. 7). CTEs can result in

the development of EMSs, which contribute not only to difficulties in emotion regulation and interpersonal functioning (Desatnik et al., 2021), but also have been found to significantly mediate the pathway from CTEs to the development of subsequent psychopathology (Aafjes van-Doorn et al., 2020; van Wijk-Herbrink et al., 2018). Indeed, EMS development is intrinsically connected to coregulation patterns with one's primary caregivers, where they may even be transmitted transgenerationally (i.e., a child inheriting their mother's EMS environmentally; Zeynel & Uzer, 2020). For example, a neglected child may internalize the belief that no one can be trustworthy, contributing to a negative cognitive blueprint for how they view themselves, others, and the world, which would ultimately confer a vulnerability to the development of a psychological disorder (Aafjes van-Doorn et al., 2020).

In addition to EMSs, *schema domains* and *schema modes* are important aspects of schema theory. For a detailed categorization of schema domains, EMSs, and schema modes, see Tables 1.1 and 1.2 in the appendix. EMSs are grouped into *schema domains,* which represent distinct yet universal, higher-level relational needs (Young et al., 2003). *Schema modes* are the coping responses employed as a result of EMSs; they represent the "momentary emotional-cognitive-behavioral *state* of the person, whereas EMSs are more *trait* like" (Arntz et al., 2021, p. 3). Thus, a schema mode would represent a behavioural response to the activation of an EMS (i.e., the activation of memories, emotions, bodily sensations, and thoughts associated with the EMS; Young et al., 2003). Young et al. (2003) explained that:

> The reason that we differentiate schemas from coping styles is that each patient utilizes different coping styles in different situations at different stages of their lives to cope with the same schema. Thus, the coping styles for a given schema do not necessarily remain stable for an individual over time, whereas the schema itself does. Furthermore, different

> patients use widely varying, even opposite, behaviors to cope with the same schema. (p. 33)

For example, "perfectionism … can be a result of surrendering to a schema of *unrelenting standards* or overcompensation for a *failure* schema" (Arntz et al., 2021, p. 3). Analogous to the acute stress response, coping styles in schema theory are referred to as *overcompensation/inversion* in place of the "fight" response, *avoidance* in place of the "flight" response, and *surrender/resignation* in place of the "freeze" response (Arntz et al., 2021; Young et al., 2003).

CTEs and EMSs. According to schema theory, chronic CTEs are the primary contributors to EMS development. Correlations have been found between all types of CTEs and EMSs, and different CTEs are associated with different EMSs (Pilkington et al., 2020). For example, emotional and physical neglect seem to be "primarily associated with schemas relating to lovability, capacity to trust, connectedness, and emotional expression" (Pilkington et al., 2020, p. 11). Furthermore, EMSs may mediate the link between CTEs and maladaptive interpersonal styles in adulthood (Tezel et al., 2015). For example, an individual may chronically avoid communication with others as a result of EMSs associated with CTEs. Lastly, insecure attachment has been associated uniquely with schema domains (Kaya & Aydin, 2020; Lukac & Popelkova, 2020), EMSs (Lukac & Popelkova, 2020), and schema modes (Cain, 2018).

EMSs associated with OCD. Several studies in the past decade have examined EMSs in individuals with OCD. From a brief review of research, it appears that the schema domain of disconnection/rejection in addition to EMSs of defectiveness/shame, failure, social isolation/alienation, dependence/incompetence, self-sacrifice, vulnerability to harm, negativity/pessimism and unrelenting standards may be particularly relevant to OCD (Basile et

al., 2017; Kim et al., 2014; Kizilagac & Cerit, 2019; Kwak & Lee, 2015; Shariatzadeh et al., 2017; Thiel et al., 2014; Yoosefi et al., 2016). Unique associations have also been found that differentiate EMSs in individuals with OCD and those with anxiety disorders (Yoosefi et al., 2016), panic disorder (Kwak & Lee, 2015), and bipolar disorder and schizophrenia (Khosravani et al., 2019). Research examining which EMSs may be associated with treatment outcomes in OCD is sparse and inconclusive (Thiel et al., 2014; Wilhelm et al., 2015). Thus, further studies like these are needed to develop OCD-tailored ST treatment protocols and heuristics.

Schema Therapy Rationale. ST was primarily developed for those who were failed by traditional CBT. Cognitive-behavioural theory assumes that individuals (1) are motivated to solve problems and comply with treatment, (2) are readily able to observe and record thoughts and feelings, (3) can achieve schema change via top-down rather than bottom-up treatment approaches, (4) can engage sufficiently in collaborative relationships with therapists, and (5) present with problems that are clear-cut and readily discernible. In reality, these assumptions often lead to an insufficient capturing of individuals' clinical pictures. CBT/ERP can be quite effective in the short-term; however, once these processes have abated, many individuals retain dysfunctional schemas developed throughout life that leave them vulnerable to falling back into OCD cycles. Schema therapists:

> begin at the core level – schemas – and gradually link these schemas to more accessible cognitions, such as automatic thoughts and cognitive distortions. In contrast, cognitive therapists begin with surface-level cognitions such as automatic thoughts and address core beliefs later, if the patient remains in treatment once the symptoms have been alleviated (Young et al., 2003, pp. 50-51).

In other words, while CBT aims for top-down change, ST aims for bottom-up change (Young et al., 2003). Woon et al. (2017) argued that a "psychodynamically informed treatment strategies improve insight, level of functioning, strengthen the therapeutic alliance, and provide symptomatic relief, complementing other treatment modalities" (p. 253). Thus, ST may be an ideal approach when treating individuals with OCD and CTEs.

Emotion Regulation. Emotion regulation is an important factor in psychopathology and resultant prognoses (Cludius et al., 2020B; Ford & Gross, 2019; Gratz et al., 2015). For example, an individual with insufficient ability to self-regulate their emotions may manage to find short-term relief from their symptoms through CBT, only to fall back into an obsessional cycle during an unforeseen life crisis (Taylor et al., 2017). Emotion regulation plays significant roles in CTEs, OCD, and ST; thus, I argue that it represents a crucial point of intersection between the three that is worth exploring as a primary area of focus in treatment with the ultimate aim of improving outcomes. Below, I will elaborate the shared relationships between emotion regulation and CTEs, OCD, and ST.

Emotion Regulation and CTEs. Early childhood experiences as they relate to attachment are intrinsically linked to emotion regulation (Desatnik et al., 2021; Fassbinder et al., 2016; Pilkington et al., 2020), and dysfunctional emotion regulation strategies in adulthood have been connected to insecure attachment in infancy (Girme et al., 2020). Furthermore, insecure attachment and emotional dysregulation both have been linked to neural deficits in specific shared brain regions (Mikulincer & Shaver, 2019). Faustino and Vasco (2020) argued that EMSs and internal working models "share the notion of a mental structure that stands for thematically related contents between representations of the *self-self* or *self-others* that assign meaning to events and guide human behaviour" (p. 805). The therapist as a secure base for clients is central

to the viewpoint of ST, with the ultimate aim of promoting new coping skills focused on better emotion regulation and reduced capitulation to maladaptive schemas that resulted from CTEs (Young et al., 2003).

Emotion Regulation in OCD. Deficits in emotion regulation are common in OCD. These deficits have been evidenced by alterations in gray matter shape and volume in relevant brain regions (Goncalves et al., 2016), impairments in brain functioning (Fontenelle, 2018; Paul et al., 2016; Pico-Perez et al., 2018; Snyder et al., 2015), comparisons of OCD-affected and -unaffected siblings (Thorsen et al., 2018), marked affect intolerance (i.e., non-acceptance of emotional responses and states) and emotion suppression efforts (Cludius et al., 2020A; Ferreira et al., 2020; Jaso et al., 2019; Shaw et al., 2021), low levels of self-compassion (Eichholz et al., 2020; Leeuwerik et al., 2020) and emotional self-awareness (Fergus & Bardeen, 2014; Stern et al., 2014; Yazici & Yazici, 2019), and a lack of adaptive coping skills (Berman et al., 2018; Ferreira et al., 2021; Moritz et al., 2018). Behaviourally, compulsions are likely maladaptive regulatory strategies that serve to reduce negative emotions when anxiety-provoking stimuli become intolerable (Oktay, 2019). Furthermore, with respect to quality of life, the emotional domain has been found to be affected more negatively than work, social, and family functioning domains in individuals with OCD (Coluccia et al., 2016).

Emotion Regulation and Treatment Planning. It is important to consider emotion regulation in OCD treatment planning (McKenzie, Donovan, Mathieu, et al., 2020; McKenzie, Donovan, Zimmer-Gembeck et al., 2020). Indeed, in individuals with both CTEs and OCD, it may be crucial to endorse a primacy of affect over cognition early on in treatment. This parallels the ideas of Young et al. (2003), who highlighted the prioritizing focus on emotion over cognition in ST:

> The fact that the emotional and cognitive aspects of traumatic experience are located in different brain systems may explain why schemas are not changeable by simple cognitive methods … the cognitive components of a schema often develop later, after the emotions and bodily sensations are already stored in the amygdala systems. Many schemas develop in a preverbal stage: They originate before the child has acquired language. Preverbal schemas come into being when the child is so young that all that is stored are the memories, emotions, and bodily sensations. The cognitions are added later, as the child begins to think and speak in words … [t]hus, emotions have primacy over cognitions in working with many schemas. (p. 29)

Thus, where traditional CBT/ERP is ineffective at addressing CTEs, ST confronts this issue effectively with its experiential component (Dadomo et al., 2016; Fassbinder & Arntz, 2019).

Chapter Summary

This chapter began with a discussion on CTEs and attachment trauma and their potential associations with OCD. Developmental perspectives are helpful in illuminating these associations. Next, literature within the past five to 10 years examining these associations was reviewed. In addition to the associations between OCD, CTEs, and attachment trauma, studies examining potential mediators in this relationship – including cognitive, affective, and self-concept factors – were reviewed. In conclusion, it was found that, although significant associations were found between OCD, CTEs, and attachment trauma, evidence was generally insufficient to elucidate these associations in greater detail. Studies were limited by the use of cross-sectional data, restricted generalizability, differential diagnostic perspectives, and the existence of comorbid depression. Fruitful areas of future research such as the link between dissociation and OCD and attachment security as a protective factor were discussed along with

suggestions for creating more robust studies. In addition, less-common developmental perspectives were examined to help explain how CTEs may contribute to OCD treatment resistance. Lastly, I included an examination of ST and schema theory and their relevance to both CTEs, OCD, and emotion regulation as a preface for an exploration into its real-world application in chapter three.

Chapter 3: Schema Therapy for Developmental Trauma and OCD

Summary

It has been shown that there are significant associations between CTEs and OCD, and that the presence of CTEs in individuals with OCD likely contributes to poor treatment outcomes (Sunde et al., 2019). CTEs often instill negative views of the self, others, and the world that, along with OCD, result in complex cognitive, affective, and behavioural problems (Young et al., 2003). The unique experiences of individuals with a history of CTEs have compelled researchers to investigate ways to address treatment resistance in OCD (see for example, Doron et al., 2015). Accordingly, it is important to examine treatment options – beyond the standard cognitive and behavioural focuses of CBT/ERP – that address developmental and interpersonal spheres in individuals' experiences with OCD with the aim of improving outcomes and ultimately quality of life.

Recommendations

In this chapter, I will recommend Schema Therapy (ST) as a modality for treating individuals with OCD who have a history of CTEs. To illuminate what this process may look like, I will explore a typical ST protocol for OCD by describing a case conceptualization from recent literature. After that, I will highlight what recent research has to say about the efficacy of

ST for OCD, and point out some potential future areas of research to be explored. Next, I will highlight some crucial ethical considerations in OCD treatment in general, as well as in the provision of ST for OCD. Lastly, I will conclude with a brief summary of what I discovered in writing this capstone.

What Would an ST Treatment Regimen for OCD Look Like? In this section, I will describe what an ST regimen for OCD might look like. Luppino et al. (2018), Tenore et al. (2018), and Basile, Luppino, et al. (2018) collaborated in a three-part study in which an OCD case was conceptualized and addressed from an ST perspective; the case described therein will be highlighted here. In line with past research on the relevance of guilt in OCD, they focused on how *deontological guilt* – which is internally-focused and reflects one's perceived violation of one's own internal moral rules – arises as a result of CTEs and is fueled by underlying EMSs. For individuals with OCD, childhood experiences are frequently characterized by guilt and a need for acceptance from significant others (Basile, de Sanctis, et al., 2018; Khosravani et al., 2020). Basile, de Sanctis, et al. (2018) highlighted the potential relevance of the guilt-related EMSs of social isolation/alienation, punitiveness, failure, unrelenting standards, negativism/pessimism, and vulnerability to harm to individuals with OCD. Additionally, ST has been identified as a particularly effective tool for addressing and remedying guilt (Mojallal et al., 2021).

Case Description & Treatment Objectives. Luppino et al. (2018) described Mark, a young heterosexual man with obsessions that he may be secretly homosexual. Where in those without OCD these thoughts may occur in passing and be given little attention, in Mark they become catastrophic and all-consuming. In addition to the thoughts running counter to Mark's identity, his fears are also largely driven by early experiences that lead him to believe he might

be “confronted by expressions of angry contempt” from his parents if the thoughts are true, which for him is subjectively “a source of profound suffering” (Luppino et al., 2018, p. 2270). Mark’s resultant efforts to escape the thoughts and therefore avoid perceived suffering forms the basis of the pathology. Broadly, the objectives of treatment are to (1) interrupt the processes underlying the maintenance of symptoms and (2) aim to reduce the client’s vulnerability which, in Mark’s case, is a heightened sensitivity to deontological guilt (Luppino et al., 2018). By treatment end, it is hoped that Mark will have learned to sufficiently engage his Healthy Adult mode, which moderates, nurtures, and heals the other dysfunctional modes. In ST, there are typically two phases: the Assessment/Education phase and the Change Phase (Young et al., 2003), which will be described below.

Phase 1 of 2: Assessment and Education. In the first phase, “the therapist helps patients identify their schemas, understand the origins of their schemas in childhood or adolescence, and relate their schemas to their current problems” (Young et al., 2003, p. 62). Regarding OCD in this phase, Luppino et al. (2018) explained that this additionally involves gaining a “clear understanding of the mechanisms of functioning of the disorder, the determinants of the patient’s behavior, the factors responsible for the maintenance of the symptomatology, [and in Mark’s case] the experiences that contribute to the structuring of the sensitivity … to guilt and his … predisposition to feeling morally contemptible” (p. 2271). Given that schema modes represent the behavioural manifestations of EMSs, treatment focuses on the coping functions and how the alternation of different modes fuels OCD symptoms (Tenore et al., 2018).

Schema and Cognitive Theories Applied in Parallel. In conceptualizing Mark’s case, it is helpful to create an integrative visual representation of the parallel processes occurring according to (1) the Child and Parental modes according to Schema Theory, (2) the timeline/chain of events

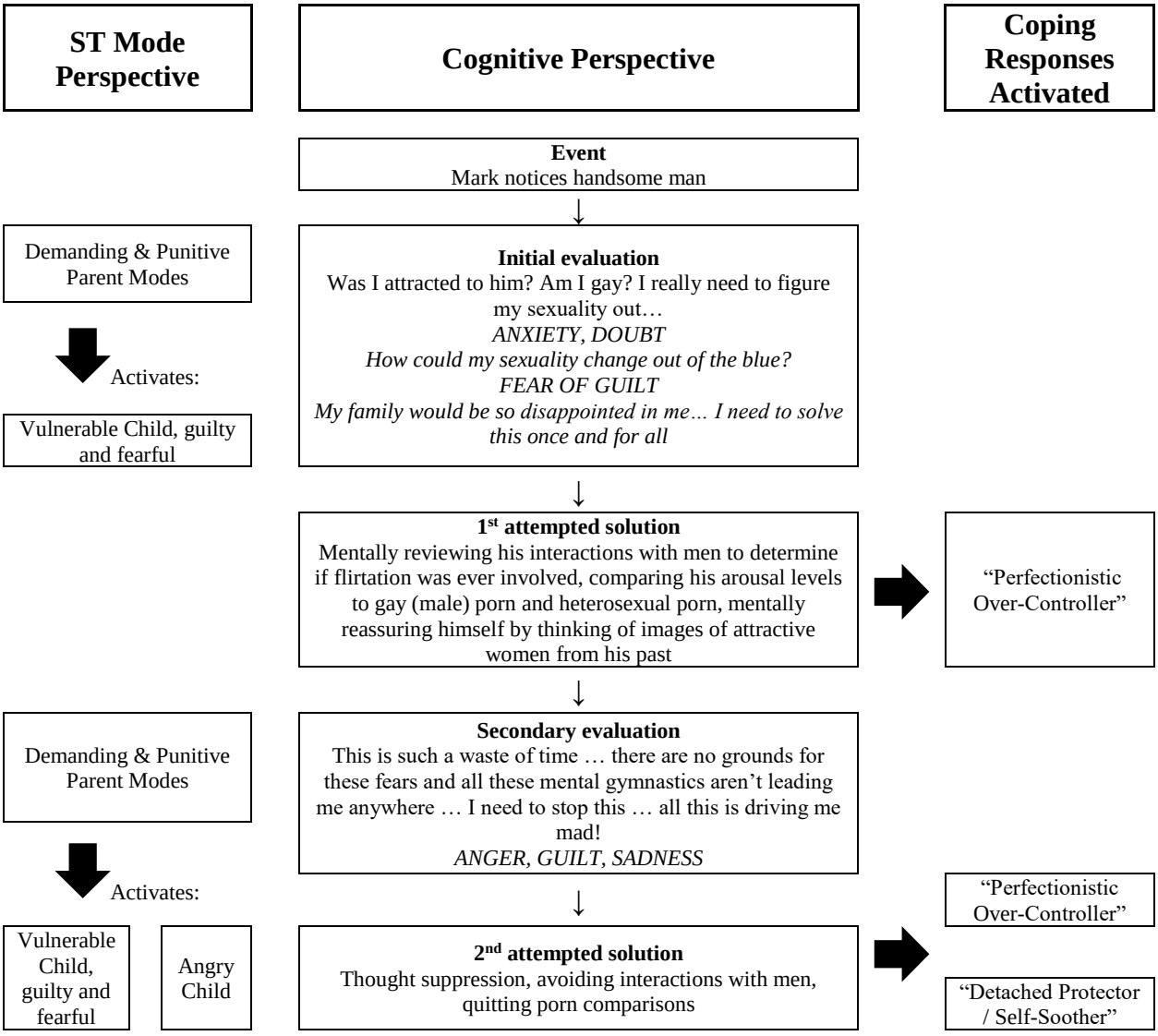
and corresponding cognitive processes that fuel OCD, and (3) the corresponding Coping modes that are activated (Tenore et al., 2018). This visual representation is detailed in Figure 1.

Following the triggering event, Mark experiences a flood of thoughts which come with numerous distressing emotions based around what the thoughts might mean about himself and his relationships with his parents. According to schema theory, this process begins with the activation of the Demanding Parent mode, which represents internalized pressures of unrelenting high standards and expectations and the Punitive Parent mode, an internalized threat of punishment which signals "a threat to the continuity of the relationship [with his parents]" (Tenore et al., 2018, p. 2283). The subsequent activation of the Vulnerable Child mode, which becomes the vessel for all the negative emotions instilled by the Parent modes, leads Mark to compulsive rituals in an attempt to solve his problem. The Perfectionistic Over-Controller coping mode is then activated to pursue control and perfection to "prevent the threat of punishment of possible errors … and counterbalance feelings of vulnerability" (Tenore et al., 2018, p. 2284).

Further downstream temporally from the initial triggering event, Mark continues to ruminate on the cascade of events that have transpired, which are further fueled by the Parent modes and eventually activate the Angry Child mode in addition to the Vulnerable Child. The Angry Child emerges in response to the "costs of the disturbance, caused by the strictness of the Parent mode[s]" after initial attempts to solve the problem and eliminate the doubt are unsuccessful (Tenore et al., 2018, p. 2284). As time goes on and the obsessive cycle continues, the Detached Protector/Self-Soother mode emerges – in response to further failed attempts at solving the problem – to help Mark to withdraw "psychologically from the pain … by emotionally detaching, abusing substances, self-stimulating, avoiding people, or utilizing other forms of escape" (Young et al., 2003, pp. 43-44).

Figure 1

Schema Therapy Mode Model: Schema and Cognitive Theories in Parallel



Note. Adapted from Tenore et al. (2018)

Phase 2 of 2: Change. In this phase, "the therapist blends cognitive, experiential, behavioral, and interpersonal strategies to heal schemas and replace maladaptive coping styles with healthier forms of behavior" (Young et al., 2003, p. 62). With respect to OCD, the ST therapist must work in parallel with experiential techniques "to explore and to manage early-life

factors that might have sensitized patients towards actual obsessive pathology" and cognitive techniques to address OCD symptoms (Basile, Luppino, et al., 2018, p. 2297). These techniques involve Imagery with Rescripting (ImRS), Chair Modes Work, and Risk Acceptance.

Imagery with Rescripting & Chair Modes Work. ImRS is a technique which involves the client, with eyes closed, recalling specific contexts based in memory and/or imagination. It is a versatile technique that can help clients to (1) identify a safe mental place where they can feel protected, (2) recall significant incidents that connect early experiences to current problems, (3) experience healing and fulfillment of needs that went unmet as a result of those experiences, and (4) strengthen the Healthy Adult mode (Basile, Luppino, et al., 2018). Chair Modes Work is used in parallel with ImRS with the initial goal of identifying schema modes. Through dialogue facilitated by the therapist, the client speaks with their "modes" as if they were sitting in a chair beside them, learning to (1) set boundaries for Parent modes, (2) strengthen the Healthy Adult mode, and (3) show compassion and care for the Child modes (Basile, Luppino, et al., 2018).

Cognitive Aspect: Risk Acceptance. Of the many cognitive approaches, Basile, Luppino, et al. (2018) recommend the route of risk acceptance. This is a pertinent approach given that treatment paradigms in OCD have shifted dramatically over the past decade from one of anxiety *reduction* through disconfirming thoughts to one of anxiety *tolerance* and *acceptance* (Abramowitz et al., 2018). Used in combination with experiential techniques, "[r]isk acceptance, the awareness that life implies taking risks and making mistakes, which are ineluctable and not necessarily related to the individual self-worth and moral value, are the key aspects that need to be addressed within therapy and which must be internalized by the Healthy Adult mode" (Basile, Luppino, et al., 2018, p. 2305). Through acceptance, Mark would learn that avoiding harm and guilt at all costs is impossible, and that the only way forward is to accept the possibility that what

he fears might happen. An example of this might involve Mark learning to accept that he can never know his true sexuality with 100% certainty, and part of living comes with the risk that it may be different than he thought it was.

Efficacy of Schema Therapy. Given that the application of ST as a treatment for Axis I disorders is relatively new, there is a paucity of studies examining its efficacy for OCD. The majority of recent studies have focused on Axis II disorders or other Axis I disorders (Peeters et al., 2021; Taylor et al., 2017). However, exploratory studies have reported ST to be significantly more effective than CBT (Aflakian et al., 2020) and more effective at improving emotion regulation abilities (Sij et al., 2018). Furthermore, Thiel et al. (2016) reported a 50% success rate for CBT-treatment non-responders to ST. Although at this point in time there is sufficient evidence that CTEs significantly interfere with improvement in OCD (Sunde et al., 2019), "it is possible that cognitive processing and/or behavioral features or circumstances also interfere with therapy outcome" (Gross et al., 2012, p. 175). Thus, future research may benefit from fleshing these details out further.

The Future of Schema Theory. Although researchers have primarily relied on Young's five-domain model of schema theory, emerging empirical evidence has shown that there is still space for substantial theoretical reformulations. For example, both four-schema- (Bach et al., 2017) and seven-schema domain models have been recently validated (Arntz et al., 2021). Future research on OCD and EMSs could benefit from keeping up to date with evolutions in schema theory and incorporating updated reformulations into studies. Furthermore, it may be beneficial for researchers to focus on the new EMS, *lack of a coherent identity* (Arntz et al., 2021), and its relation to identity-based or autogenous obsessions in OCD. Lastly, a newer and unexplored concept of an emotional, rather than cognitive, schema model involving an emotion-focused ST

may provide meaningful insights previously undetectable by pure ST (Khosravani et al., 2020), and is thus a potentially fruitful area of research. By doing so, important new schema models in OCD treatment may be realized which would ultimately expand treatment options if clinicians and clients decide to take the ST route.

Ethical Considerations and Cautions. OCD treatment is an area of specialization in which ethical considerations are particularly salient. CBT/ERP is a systematic approach that at times runs counterintuitive to standard talk therapy; thus, a lack of knowledge and competence on the part of a professional clinician can result in client harm (McKay et al., 2021; Sookman et al., 2021). Significant harm can occur when OCD is not recognized as OCD. For example, well-intentioned exploration of gender identity nuances in Eric's case or possible repressed pedophilic desires in Maryam's case could be harmful; in cases like Mark's, many clinicians may be unable to detect the difference between healthy questioning of sexuality and sexual orientation obsessions (Glazier et al., 2015). A lack of understanding of the processes driving OCD clients' presenting problems – for which specific obsessional themes are merely symbolic representations of core beliefs or even totally irrelevant – can damage rapport, hinder treatment, and perpetuate/exacerbate client suffering (McKay et al., 2021).

A such, it is imperative that clinicians maintain self-awareness on their own limitations and refer clients out appropriately. Engaging in any psychodynamic or non-CBT-based approaches for OCD is unethical until their efficacy has been verified empirically by research (McKay et al., 2021). Although ST appears to be effective in handling treatment-resistant OCD, it is crucial that any clinician employing this approach understands in which therapeutic scenarios the cognitive component should eclipse the psychodynamic component, and vice versa (Taylor et al., 2017). In nearly all cases, I recommend referral to a specialist for clients primarily

requesting OCD treatment. For OCD specialists, ST should be practiced only under consistent supervision, substantial training/accreditation, and clear, ongoing client consent (Peeters et al., 2021).

Conclusions

In writing this capstone, I hoped to shed some light on an explanation for why individuals with OCD may relapse or even fail to achieve gains in treatment altogether. Although psychological well-being is far too complex to be explained by single factors, it is clear that CTEs exert significant, measurable effects on individuals' lives. For those predisposed to OCD, trauma is an important factor in the course and prognosis of their condition. While CBT has improved the lives of many, still many others are left wondering what other options remain. ST is a promising modality that has the real potential to both treat OCD from an ethical, CBT-informed perspective and heal the wounds that lie deeper beneath. Moving forward, I encourage clinicians, where possible, to aim to assess and understand their clients presenting with OCD through a developmentally-sensitive lens. In this way, we can provide additional avenues of liberation for clients imprisoned by OCD.

Perhaps inadvertently through mourning his mother's passing, when Stevens (2015), sang "[e]verything I feel returns to you somehow" (track 7), he touched on a core aspect of the human condition: We feel the ripples of the frameworks our primary caregivers leave us with throughout our lives. When these experiences are chronically traumatic, we carry seemingly inescapable pain, rarely feel safety, and come to feel trapped in perplexing patterns of sorrow; however, our schemas are far from immutable. With the help of ST, we are given the opportunity to live in radically new and fulfilling ways. Mark might come to transform self-punishment into self-compassion, Eric to live authentically shame-free and no longer feel socially isolated and

alienated, and Maryam to repair the wounds that distance herself from her child and lead her to believe she is untrustworthy and defective. As asserted so poignantly by van der Kolk (2014) “[p]eople can learn to control and change their behavior, but only if they feel safe enough to experiment with new solutions” (p. 351).

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Appendix

Table 1.1

Organization of Schema Domains and Corresponding EMSs

Schema Domains	EMSs
Disconnection & rejection	Emotional deprivation
	Mistrust/abuse
	Abandonment
	Social isolation/alienation
	Defectiveness/shame
Impaired autonomy & performance	Dependence/incompetence
	Failure
	Vulnerability to harm & illness
	Enmeshment
Other-directedness	Subjugation
	Self-sacrifice
	Approval seeking
Overvigilance & inhibition	Negativity/pessimism
	Emotional inhibition
	Unrelenting standards
	Punitiveness
Impaired limits	Entitlement/grandiosity
	Insufficient self-control/self-discipline
Incoherence and uprootedness	Lack of a coherent identity
	Lack of a meaningful world
Lack of mutual cooperation	Unfairness

Note. Adapted from Arntz et al. (2021), Bach et al. (2018), and Young et al. (2003)

Table 1.2

Organization of schema modes

Healthy Adult Mode	
Child Modes	Happy Child
	Angry Child
	Vulnerable Child
	Impulsive/Undisciplined Child
Dysfunctional Parent Modes	Demanding Parent
	Punitive Parent
Dysfunctional Coping Modes	Detached Protector
	Compliant Surrenderer
	Over-Compensator

Note. Young et al. (2003)