The Relationship Between Attachment Insecurity and OCD Symptom Severity: The Mediating Role of Fear of Compassion

by

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A thesis

presented to the University of Waterloo

in fulfillment of the

thesis requirement for the degree of

Master of Arts

in

Psychology

Waterloo, Ontario, Canada, 2023

Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

Obsessive-compulsive disorder (OCD) is characterized by distressing intrusive thoughts and compulsions implemented to neutralize the thoughts or mitigate potential harm. Attachment focused approaches to conceptualizing OCD are becoming more common, owing to the relationship between insecure attachment and OCD. However, the mechanism responsible for this relationship is unclear. Negative attachment experiences predict increased anxiety and fear of compassion (FOC) which can impede the expression and acceptance of affiliative emotions. FOC also mediates the relationship between attachment insecurity and emotional distress. Thus, we hypothesized that FOC may play a similar mediating role in the relationship between attachment insecurity and OCD. Two online survey studies were pre-registered and completed by undergraduate students. Study one (N=329) revealed that fear of self-compassion mediates the relationship between attachment anxiety and OCD symptom severity and that fear of receiving compassion mediates the relationship between attachment avoidance and OCD symptom severity. Contrary to our hypothesis, fear of expressing compassion was not a significant mediator. Study two (N=340) aimed to replicate and extend these findings in a new sample, while also controlling for depression. Consistent with our hypotheses, the results replicated. FOC is often related to beliefs that compassion will result in complacency. People with OCD may worry about becoming complacent in compulsions, which could ultimately result in being held responsible for harm. Our results suggest that FOC may be an important consideration when treating OCD, particularly among those with insecure attachment styles. Although cognitive-behavioural therapy (CBT) is the gold standard treatment for OCD, the efficacy is only about 50 percent. As such, research exploring adjunct treatment options and ways to incorporate attachment and compassion-focused approaches into case formulation is warranted.

Acknowledgements

I would like to thank my incredible research supervisor, Dr. Christine Purdon, for all her support and contributions to this research. This project would not have been possible without her guidance and expertise. I would also like to thank all the clinical psychology faculty and students at the University of Waterloo for their feedback following my research talks each year. My cohort and lab members also deserve an extra thank you. Your friendships and mentorship mean so much. Finally, I would like to extend an immense thank you to my family and friends, for their unwavering support and belief in me.

Table of Contents

Author's Declaration ii

Abstract iii

Acknowledgements iv

List of Figures vii

List of Tables viii

Part 1 Literature Review 1

Obsessive-Compulsive Disorder 1

Phenomenology of Obsessive-Compulsive Disorder 1

Models of Obsessive-Compulsive Disorder 2

Origins of Obsessive-Compulsive Disorder 4

Attachment Security 5

Compassion and Fear of Compassion 7

Defining Compassion 8

Three System Model of Affect Regulation 9

Fear of Compassion 11

Therapeutic Applications 13

Study Rationale 14

Part 2: Empirical Studies 17

Study 1 Method 17

Research Questions and Hypotheses 17

Procedure: 17

Participants: 17

Measures: 19

Data Analytic Approach....20
Study 1 Results....21
Preliminary Analyses....21
Attachment Anxiety, Fear of Self-Compassion, and OCD Symptom Severity....22
Attachment Avoidance, Fear of Expressing Compassion, and OCD Symptom Severity....24
Exploratory Analysis Examining Attachment Avoidance, Fear of Receiving Compassion, and OCD Symptom Severity....25
Study 1 Discussion....27
Study 2 Method....33
Research Questions and Hypotheses....33
Procedure....34
Participants....35
Measures....36
Data Analytic Approach....37
Study 2 Results....37
Preliminary Analyses....37
Attachment Anxiety, Fear of Self-Compassion, and OCD Symptom Severity....39
Attachment Avoidance, Fear of receiving Compassion, and OCD Symptom Severity....41
Early Experiences of Shame....43
Study 2 Discussion....44
General Discussion....49
Treatment Implications....50
Limitations and Future Directions....51
References....54

List of Figures

Figure 1. Mediation Model of Attachment Anxiety Predicting OCD Symptom Severity, Through Fear of Self-Compassion, When Controlling for Trait Self-Compassion.....24

Figure 2. Mediation Model of Attachment Avoidance Predicting OCD Symptom Severity, Through Fear of Receiving Compassion.....27

Figure 3. Mediation Model of Attachment Anxiety Predicting OCD Symptom Severity, Through Fear of Self-Compassion.....41

Figure 4. Mediation Model of Attachment Avoidance Predicting OCD Symptom Severity, Through Fear of Receiving Compassion Controlling for Depression and Trait Compassion.....43

Figure 5. Mediation Model of Early Shame Experiences Predicting OCD Symptom Severity, Through Fear of Receiving Compassion.....44

List of Tables

Table 1. Descriptive Statistics and Reliability Values.....21

Table 2. Bivariate Correlations Between Study Variables.....22

Table 3. Attachment Anxiety and Fear of Self-Compassion Predicting OCD Symptom Severity.....23

Table 4. Attachment Avoidance and Fear of Expressing Compassion Predicting OCD Symptom Severity.....25

Table 5. Attachment Avoidance and Fear of receiving Compassion Predicting OCD Symptom Severity.....26

Table 6. Descriptive Statistics and Reliability Values.....38

Table 7. Bivariate Correlations Between Study Variables.....39

Table 8. Attachment Anxiety and Fear of Self-Compassion Predicting OCD Symptom Severity.....40

Table 9. Attachment Avoidance and Fear of Receiving Compassion Predicting OCD Symptom Severity.....42

Part 1 Literature Review

Obsessive-Compulsive Disorder

Phenomenology of Obsessive-Compulsive Disorder

Obsessive-compulsive disorder (OCD) is characterized by both obsessions and compulsions (Abramowitz et al., 2009; Abramowitz & Jacoby, 2014; American Psychiatric Association, 2013). Obsessions are recurrent and intrusive thoughts or images that are unwanted and distressing, whereas compulsions are mental or physical actions that one feels driven to perform in response to the intrusive thoughts (American Psychiatric Association, 2013; Clark & Purdon, 1995; Salkovskis, 2003; Taylor et al., 2007).There are diverse presentations of obsessions and compulsions (McKay et al., 2004; Miguel et al., 2005), although certain themes emerge as most common. For example, obsessions about germs or contamination are often followed-up with washing or cleaning compulsions. People with OCD may also experience obsessions about symmetry and needing things to be "just right" and engage in organizing and arranging compulsions in response to these types of intrusive thoughts. Alternatively, checking compulsions such as checking that the doors are locked or that the stove is turned off are often implemented with the goal of preventing potential harm. Compulsions aimed at averting harm can also consist of activities like reassurance seeking or covert compulsions such as counting or repeating phrases mentally (American Psychiatric Association, 2013; De Silva, 2003; McKay et al., 2004). In addition to differences in the presentation of obsessions and compulsions between people, there is also variability in the content of obsessions and the types of compulsions, within people over time (Miguel et al., 2005). In other words, an individual's OCD symptoms can change over time, not only in severity but also in content.

Obsessions and compulsions are in fact common in the general population. For example, almost everyone experiences occasional intrusive and unwanted thoughts (Clark & Purdon, 1993; Purdon & Clark, 1993; Radomsky et al., 2014) that signal potential harm or danger (e.g., what if I checked the stove too quickly and it's still on? What if I brought home germs that will cause illness to my family?). Furthermore, over half of people with no pre-existing mental health conditions report engaging in repetitive behaviours such as washing and checking, despite recognizing the behaviours as excessive (Muris et al., 1997). With this said, people vary in how often these intrusive thoughts occur and the degree to which they feel driven to respond to them with compulsions (Clark & Purdon, 1993; Purdon & Clark, 1993). For approximately 2.3% of people (Ruscio et al., 2010), compulsive behaviours evoked by intrusive thoughts develop into OCD, characterized by complex and emotionally fraught routines that people feel compelled to do (Murray et al., 1996). Notably, people with OCD report reduced quality of life and functional impairment across several domains including social functioning and overall health (Macy et al., 2013; Jacoby et al., 2014). Overall, the prevalence and severity of OCD makes the disorder a substantial cause of distress and impairment at the individual and family level (Grover & Dutt, 2011; Vikas et al., 2011) and the disorder also has significant costs at the societal level such as economic burdens (DuPont et al., 1995). As such, understanding how and why a set of thoughts and behaviours that are common to all can become highly problematic for some is crucial.

Models of Obsessive-Compulsive Disorder

Many models exist that help to explain the development and persistence of obsessions and compulsions (Taylor et al., 2007). One widely accepted model is the cognitive model of OCD (Rachman, 1997; Salkovskis, 1985). According to (Salkovskis, 1985, 1989), intrusive thoughts are common in the general population, but what determines whether someone develops

OCD depends on the appraisals an individual makes in response to the intrusive thoughts. Certain beliefs are common among people who develop OCD including beliefs such as: failing to avert harm is equal to having caused harm and that control over one's thoughts is achievable and desirable (Salkovskis, 1985). Another common belief in OCD is that having a thought about an action is equal to performing the action, which is known as thought-action fusion (Rachman, 1993; Shafran et al., 1996). Additional beliefs common to those who develop OCD are over responsibility for potential harm, viewing uncertainty as intolerable, and perfectionism (O'Leary, 2007). These beliefs can lead to appraising intrusive thoughts as threatening, which can activate feelings of anxiety and discomfort (Salkovskis, 1985). According to Salkovskis (1985), compulsions are implemented to reduce distress, and become reinforced by temporarily relieving anxiety, while simultaneously preventing an individual from learning that their appraisals of the thoughts may be inaccurate.

An alternative theory to explain why some people develop OCD, while others do not, is that people with OCD have difficulty stopping behaviours geared at mitigating potential danger (Hindset al., 2012). Notably, people with OCD experience similar levels of initial threat perception to non-clinical controls but terminating compulsive behaviours once they begin is a unique challenge (Hinds et al., 2012). This finding can be conceptualized as a disturbance to the security motivation system (Hinds et al., 2012). When faced with a potential threat, the security motivation system is quickly activated to prevent harm (Szechtman & Woody, 2004, 2006). In comparison to the fear motivation system which prompts behaviours like escaping, the security motivation system promotes searching for information that confirms or disproves predictions about potential harm threats (Szechtman & Woody, 2004, 2006). This system promotes the protection of oneself and others, and it is biologically rooted and adaptive. However, resolving

this harm signal and de-activating the security-motivation system relies upon an internal "feeling of knowing" signal. Szechtman and Woody (2004), suggest that people with OCD are less able to generate this felt sense of knowing, and this contributes to the development and persistence of compulsive behaviours.

Origins of Obsessive-Compulsive Disorder

Both the cognitive (Shafran, 2005) and security motivation (Hinds et al., 2012; Woody et al., 2005) theories of OCD are empirically supported. However, it remains unclear how maladaptive appraisals of intrusive thoughts develop, or why some people have difficulty de-activating the security-motivation system or achieving a felt sense of knowing. In her review of the persistence of OCD, Purdon (2022) emphasized two potential origins: early attachment experiences and a tendency to connect obsessional content with one's sense of self (e.g., lack of trust in self; belief that having intrusive thoughts makes someone immoral). Recent efforts have sought to understand the role of early experiences such as parental criticism and maltreatment in the development of OCD, and there is growing evidence that an association exists (Pace et al., 2011; Ou et al., 2021). Additionally, research demonstrates that early experiences of warmth are crucial for fostering healthy attachment and feelings of safety (Steindl et al., 2021). Taken together, there is increasing support that models of OCD need to consider early developmental and interpersonal components in the development and persistence of OCD.

The need to consider interpersonal factors when conceptualizing OCD is further explicated by the findings that a central goal of compulsions among people with OCD is to avoid being held responsible for harm *by others* (Dean & Purdon, 2021). The goal of avoiding being held responsible for harm was in fact rated as substantially more important than a range of goals known to be associated with compulsions, including avoiding harm more generally (Dean &

Purdon, 2021). Pozza et al. (2021) also found that "need for approval from others" is a significant predictor of OCD over and above key causal factors. This makes sense given that early experiences of critical or over-protective parenting are vulnerability factors for the development of OCD (Rachman, 1976). These interpersonal and early developmental factors associated with OCD suggest that attachment security could be an important variable to consider for understanding the development and persistence of OCD. In particular, growing evidence suggests that a relationship exists between insecure attachment and OCD symptom severity. Specifically, in a recent meta-analysis by Van Leeuwen and colleagues (2020), a medium to large effect size emerged for the relationship.

Attachment Security

Attachment theory was initially developed by John Bowlby in 1969, and he explained how human beings have an innate need to feel safe and supported by other people during difficult times (Bowlby, 1963, 1973, 1980). This is evident through a child's need to stay in close physical proximity to a caregiver who can then support the child's ability to explore and learn. According to Bowlby, a person's attachment style develops depending on whether a child's physical and emotional needs were met consistently during early development. Additionally, based on their experimental research examining relationships between infants and their mothers, Ainsworth and colleagues conceptualized three different attachment styles: resistant-ambivalent attachment, avoidant attachment, and secure attachment (Ainsworth, 1978). Most infants are securely attached, and these infants show distress when their primary caregiver leaves but become quickly soothed upon their caregiver's return. Infants with an ambivalent attachment style display extreme distress when their primary caregiver leaves them, and they remain distressed upon their caregivers return. Ambivalently attached children also explore novel

environments less and cry more than securely attached children (Ainsworth, 1978). In contrast, avoidantly attached infants show little distress when their primary caregiver leaves and rarely seek comfort upon their caregiver's return. Avoidantly attached infants are also not hesitant to interact closely with a stranger (Ainsworth, 1978). Considering the origins of attachment theory is crucial because attachment style is quite stable over time. For example, in a 20-year longitudinal study, 72% of infants assessed using the Strange Situation at 12-months of age, remained in the same attachment style category 20 years later (Waters et al., 2000).

Although this initial work focused on attachment between infants and their caregivers, later work established similar attachment style patterns in adult relationships such as with romantic partners (Fraley & Shaver, 2000; Shaver & Hazan, 1987). Originally, theories of attachment conceptualized the construct as a categorical variable (i.e., anxious, avoidant, secure), but attachment is now largely recognized as a dimensional construct. Specifically, adult attachment is often represented by the two-dimensional model of attachment, where anxious and avoidant attachment styles are both insecure attachment styles that are not mutually exclusive (Fraley, 2019). According to this model, people scoring low on both anxious and avoidant attachment are securely attached. In adulthood, anxious attachment often presents as dependence on others (e.g., reassurance seeking) and sensitivity to rejection (Fraley, 2019). In contrast, avoidantly attached individuals often experience discomfort with vulnerability and a strong desire to act autonomously and "hide" emotions (Fraley, 2019).

It is important to recognize that although childhood experiences play a crucial role in shaping attachment, there are many additional factors that contribute to the development of adult attachment style. More recent literature grounded in social neuroscience suggests that adult attachment style develops from the interaction of past experiences in close relationships with

genetic, epigenetic, and personality factors (Vrtička & Vuilleumier, 2012). Although the origins and classification of adult attachment are still debated, many valid and reliable measures of adult attachment style exist (Brennan et al., 1998) and attachment style has consistently been found to be associated with a range of important outcomes. For example, attachment style predicts one's response to stressors; secure attachment is often marked by confidence in the face of stressors, whereas in the face of stress, anxious attachment is associated with the desire for external rules or authority on which to rely, and avoidant attachment is associated with a sense of vulnerability and weakness (e.g., Fraley, 2019).

Attachment style also has implications for a range of social and emotional processes including romantic behaviour, regulation of oneself, one's emotions, and one's interpersonal relationships, and overall family functioning (Vrtička & Vuilleumier, 2012). Additionally, insecure attachment is associated with psychopathology including both anxiety and depression (Shorey & Snyder, 2006). As mentioned previously, a medium to large effect size has also been established for the relationship between insecure attachment and OCD (van Leeuwen et al., 2020). Notably, people with OCD report lower attachment confidence and higher levels of attachment anxiety compared to healthy controls (Pozza et al., 2021). Although the relationship between attachment insecurity and OCD has now been established, the mechanism responsible for this relationship remains unclear. As such, exploring potential factors that explain this relationship is needed. One potential mediator that warrants attention is fear of compassion.

Compassion and Fear of Compassion

Gilbert and colleagues (2014) observed that insecure adult attachment predicts greater fear of self-compassion and fear of accepting compassion from others. It is possible that for someone who is highly self-critical or unable to accept compassion from themselves or others,

mistakes would be viewed as unbearable and isolating. This has implications in the context of OCD, where compulsive behaviours are often evoked to avoid being held responsible for harm by others, and perfectionistic standards are often employed (O'Leary, 2007). Additionally, avoidantly attached individuals often experience discomfort when others are distressed and are more fearful of expressing compassion (Gilbert et al., 2011). This often results when someone develops the belief that asking for help is a sign of weakness or that expressing compassion towards others is opening oneself up to being taken advantage of. Research also suggests that greater FOC is associated with increased levels of anxiety (Gilbert et al., 2011) and emotional distress (Joeng et al., 2017). Additionally, Merritt and Purdon (2020) found that people with OCD had significantly greater FOC compared to non-clinical controls. Preliminary findings also suggested that among people higher in fear of self-compassion, fear of expressing compassion towards others predicted greater OCD symptom severity, over and above the influence of depression (Merritt & Purdon, 2020). Finally, Joeng et al. (2017) found that FOC mediated the relationship between attachment insecurity and general emotional distress. As such, it is possible that FOC may play a similar role in mediating the relationship between attachment insecurity and the persistence of OCD.

Defining Compassion

Past research has recognized that people vary in their levels of self-compassion and fear of compassion (FOC). Gilbert and colleagues (2011) define compassion as sensitivity towards suffering, which includes empathetic understanding towards oneself and others and approaching situations non-judgmentally. Compassion is an affiliative emotion that evolved from the evolutionary social motivational system that serves to protect emotional wellbeing (Gilbert, 2014). The key components of compassion according to Gilbert and colleagues (2011) are

compassionate engagement and action, which involve acknowledging difficult situations and responding in ways that will alleviate suffering. Emotions often function to communicate our needs to ourselves and others, and we also draw on experiences of belonging, cooperation, and care to regulate emotions. Further, the ways people relate to and process their emotions are closely related to past experiences such as how emotions were responded to during childhood (e.g., validation vs dismissing) and modelling in relationships (e.g., parent's willingness to express emotions) (Tatnell et al., 2018). Thus, the development of trait levels of compassion and fear of compassion develop in similar ways.

Three System Model of Affect Regulation

Gilbert (2014) described a three-system model of affect regulation. According to this model, humans are primed to detect environmental threats. The threat-protection system functions to respond to threats which can be external factors such as physical danger or internal factors like self-criticism. By noticing threats and activating emotional responses such as anger, disgust, or anxiety, appropriate fight or flight responses can be employed to promote safety (Gilbert, 2014). Individual differences in the sensitivity of the threat system also exist, and early experiences play a crucial role in shaping how the threat-protection system functions (Gilbert, 2009). The drive system functions to activate and energize, and this system is characterized by striving and achievement. The positive feelings such as excitement and joy that accompany accomplishment motivate human beings to strive to accomplish new things. However, the threat and drive systems can interact in ways that motivate people to avoid all potential negative events (Gilbert, 2009). In such cases, feelings of rejection, inferiority, and self-criticism can arise when someone falls short of their goals. The soothing affect contentment system functions to promote security and comfort, and this system is closely related to attachment style (Gilbert, 2009). After

the threat or drive systems are activated, the soothing affect system eventually restores feelings of safety and plays a crucial role in tempering the activation of the threat system. Interestingly, the threat-protection system closely resembles the security motivation system (Szechtman & Woody, 2004) described earlier, where both systems function to confirm or disprove predictions about potential threats and restore homeostasis. In the context of OCD, the soothing affect system would contribute to achieving the "felt sense of knowing" that harm has been averted. However, when the threat and drive systems are overactive, and the soothing affect system is underactive, de-activating threat signals by achieving the felt sense of knowing would be particularly challenging.

Many people who experience an imbalance between the overactive threat and drive systems, and the underactive soothing affect system are overly self-critical (Gilbert et al., 2011). Additionally, it is possible that the soothing affect system is not easily accessible or "blocked" for people high in self-criticism (Gilbert et al., 2011). Although an imbalance between the threat, soothing, and drive systems can result from many factors including genetics and personality differences, early attachment experiences play a crucial role in determining how these three systems interact (Gilbert et al., 2011). For example, adverse early experiences can result in overactive drive and threat systems, and an underactive soothing affect system. This can occur following prolonged exposure to ongoing harsh parental criticism or a lack of parental warmth (Irons et al., 2006). For some people, receiving and expressing compassion can be experienced as aversive and feelings of compassion can ultimately activate the threat system. This often results from early experiences of invalidation (Naismith et al., 2019). As such, in addition to differences in trait levels of compassion between people because of environmental and personality factors, there are also differences in levels of FOC.

Fear of Compassion

FOC, and fear of positive emotions more broadly, can develop when associations form between positive emotions and negative outcomes. This can result from unpredictable internal or external experiences during early life (Gilbert et al., 2011). For example, if feelings of joy were consistently met with hostility from important attachment figures during childhood, a person may learn that joy is something to be feared. Aversion to positive emotions is also related to various mental illnesses. In the case of depression, feelings of happiness are often accompanied with beliefs that something bad will inevitably happen that will restore feelings of low mood (Gilbert et al., 2014). Additionally, among people with OCD, intrusive thoughts can occur out of the blue, sometimes during joyful or happy situations. Concern that intrusive thoughts will replace the joy or happiness with anxiety or shame can further contribute to the belief that positive emotions are fleeting and something to feared (Gilbert et al., 2011).

FOC can arise in the context of being expressed towards self, towards others, or received from others, and although all three have overlapping origins they are unique constructs. In particular, fear of receiving compassion and fear of self-compassion are closely related, with a correlation of approximately .51 (Gilbert et al., 2011). Interestingly, both fear of self-compassion and fear of receiving compassion can result in expressions of compassion triggering past memories of times when compassion was needed or desired but unavailable. As such, future experiences of compassion can contribute to feelings of loneliness (Gilbert et al., 2011). FOC is often fueled by beliefs that one is undeserving of compassion, or that compassion will result in complacency or weakness (Gilbert & Mascaro, 2017). Additionally, both fear of self-compassion and fear of receiving compassion are closely related to anxious attachment, whereas fear of expressing compassion is related to avoidant attachment (Gilbert et al., 2011). Avoidantly

attached individuals often experience discomfort when others are distressed and are more fearful of expressing compassion. Fear of expressing compassion often results when someone develops the belief that asking for help is a sign of weakness or submissiveness, and avoidantly attached individuals may be hesitant to express compassion because of this belief (Gilbert et al., 2011). The belief that expressing compassion is opening oneself up to being taken advantage of also fuels fear of expressing compassion. Notably, fear of expressing compassion is not significantly correlated with fear of receiving compassion or fear of self-compassion (Gilbert et al., 2011), which suggests unique underlying factors may be at play.

In sum, early negative attachment experiences predict FOC in adulthood (Matos, Duarte, Duarte, et al., 2017; Miron et al., 2016) and insecure attachment is associated with greater FOC (Gilbert, 2014). Additionally, the relationship between early shame memories and emotional distress is exacerbated for people high in FOC (Matos, Duarte, Duarte, et al., 2017). Negative early attachment experiences can also influence affect regulation abilities, which can impair the expression and acceptance of affiliative emotions such as compassion. FOC can then inhibit access to the soothing affect system, which can prevent feelings of safety across social environments (Richter et al., 2009). Impairments in the soothing affect system have also been linked to insecure attachment, loneliness, and psychopathology such as depression and eating disorders (Gilbert, 2009). Increasing research also suggests that cultivating compassion for oneself and others in therapy can improve therapeutic outcomes (Gilbert et al., 2011). Ultimately, Gilbert argues that cultivating secure attachment through affiliative relationships needs to be a central treatment target for internalizing disorders such as depression.

Therapeutic Applications

Taken together, the existing literature suggests that considering attachment style and FOC in the treatment of OCD may be important, given their relationship with the development and persistence of OCD. However, to date, there have been few studies of these relationships. Currently, cognitive-behavioural therapy is the "gold standard" treatment for OCD (Öst et al., 2015); however, its effectiveness is only around 50% (Fisher & Wells, 2005), and when successful, the average reduction in symptoms is still less than 50% (McKay et al., 2015). When considering pharmacological and psychological treatments, refractory OCD is still observed in approximately 30% of people with OCD (Hood et al., 2001). (Gilbert, 2009) explains that people high in shame and self-criticism, which both correlate with FOC (Naismith et al., 2019), are particularly vulnerable to poor therapeutic outcomes. Often, clients high in self-criticism will logically understand the alternative thoughts discussed throughout the course of therapy but feelings of safeness and warmth will be blunted by shame which can impair cognitive change (Gilbert, 2009). Although Gilbert and colleagues (2009) did not examine OCD specifically, considering shame and self-criticism in the context of OCD is crucial because a recent systematic review and meta-analysis established that feelings of shame are significantly positively associated with OCD (Laving et al., 2022). Research by Visvalingam and colleagues (2022) also suggests that compulsions may be employed to reduce or neutralize feelings of shame, in addition to anxiety. Research also suggests that compassion-focused therapy can decrease FOC and feelings of shame (Goldin & Jazaieri, 2017). If FOC mediates the relationship between attachment insecurity and OCD symptom severity, evidence will be gained for the importance of considering adjunct treatment approaches, such as compassion focused therapy, when treating OCD. This is a crucial area of further exploration as there is preliminary evidence that

compassion-focused therapy may be effective in treating treatment resistant OCD (Hood et al., 2001).

There is also growing evidence that attachment security is an important consideration in psychotherapy. Notably, secure attachment style is associated with a stronger therapeutic alliance, which is a crucial factor in predicting successful therapeutic outcomes (Diener & Monroe, 2011). Secure attachment is also a predictor of improved treatment outcomes for psychopathology generally (Daniel, 2006) and for people with OCD (Tibi et al., 2020). Attachment-based compassion therapy is a recent extension of compassion-focused therapy which frames the theoretical approach explicitly within an attachment framework (Collado-Navarro et al., 2021). Although attachment is a key theoretical underpinning of compassion-focused therapy, this framework draws on attachment as the foundation (García-Campayo et al., 2016). Early findings are promising, demonstrating improved wellbeing in healthy controls (Navarro-Gil et al., 2020) and patients with fibromyalgia (Montero-Marín et al., 2018). Given the burgeoning literature suggesting that attachment security and FOC are important considerations for understanding and treating OCD, this research sought to establish whether FOC is one mechanism by which attachment insecurity is related to OCD symptom severity.

Study Rationale

Although the relationship between attachment insecurity and OCD has now been established (Van Leeuwen et al., 2020), the mechanism responsible for this relationship remains unclear. By understanding why attachment insecurity predicts OCD symptom severity we can begin to develop appropriate evidence-based interventions to target the culprits underlying the OCD system. This is particularly important because attachment style tends to be quite stable over time (Waters et al., 2000), and to my knowledge, little research has demonstrated consistent

success in modifying attachment style through therapeutic intervention. As such, focusing on variables explaining the relationship may offer more promise as an avenue to intervene.

Past research suggests that fostering self-compassion can improve symptoms of psychopathology (Millard et al., 2023; Thomason & Moghaddam, 2021), and recent work has demonstrated that compassion-focused therapy can be an effective treatment for treatment-resistant OCD (Patel et al., 2022; Petrocchi et al., 2021). In addition to the role of FOC in maintaining psychopathology, it is also important to consider the potential impact of FOC on the therapeutic relationship. Insecurely attached individuals are particularly vulnerable to FOC (Gilbert et al., 2014) and weaker therapeutic alliances, which can impact therapy outcomes (Mikulincer et al., 2013). Thus, targeting FOC in therapy may be crucial for fostering positive therapeutic rapport, and in turn, improving treatment outcomes for people with OCD, particularly among those high in attachment insecurity.

People high in attachment anxiety often worry about rejection and display a high degree of dependence on others, whereas avoidantly attached individuals often feel uncomfortable being vulnerable and strive to solve problems independently (Fraley, 2019). As such, both interpersonal styles can fuel fear of compassion (Gilbert et al., 2014). Anxiously attached individuals may worry that expressing compassion to themselves could result in loss of their self-critical voice, which could in-turn result in others seeing their flaws and rejecting them. Avoidantly attached individuals may see accepting compassion from others as a sign of weakness, or they may worry that expressions of compassion from others are disingenuous. In both cases, people with OCD may worry that if they accept kindness, they will no longer try hard enough to avert harm, which could ultimately result in them being blamed for something bad happening. Alternatively, avoidantly attached individuals may worry that expressing compassion

to others will result in others becoming dependent on them or open them up to being taken advantage of. In the context of OCD, obsessions and compulsions often involve accommodations by loved ones (Wu et al., 2016). For example, people with OCD often involve family members in compulsions (e.g., reassurance seeking, creating strict rules that must be followed). For avoidantly attached people with OCD, it is possible that fear of expressing compassion fuels OCD symptom severity because of concerns that showing compassion to loved ones may "let them off the hook" from fulfilling their part of compulsions. We posit that if FOC mediates the relationship between attachment insecurity and OCD symptom severity, targeting FOC in the treatment of OCD may be one way to decrease OCD symptom severity among those high in attachment insecurity. Understanding the type of attachment insecurity and the kinds of fear of compassion that are fueling OCD symptom severity is also important because the constructs are unique with different developmental trajectories and different treatment targets.

Part 2: Empirical Studies

Study 1 Method

Research Questions and Hypotheses

Study one sought to examine whether fear of self-compassion and fear of expressing compassion to others mediate the relationship between attachment insecurity and OCD symptom severity. We hypothesized that fear of self-compassion would mediate the relationship between anxious attachment and the severity of OCD symptoms and fear of expressing compassion would mediate the relationship between avoidant attachment and OCD symptoms. Given the associations between FOC and trait levels of compassion (Gilbert et al., 2011), this research also examined whether FOC remained a significant mediator when controlling for trait levels of compassion.

Procedure:

An online study was administered using Qualtrics™ and participants were recruited through the University of Waterloo Research Experiences Group participant pool. All undergraduate students enrolled in psychology courses were eligible to participate. Participants completed a series of questionnaires examining OCD symptom severity, attachment security, trait levels of compassion and FOC. Prior to data collection, this study was pre-registered on Open Science Framework (March 7th, 2022).

Participants:

The total number of survey completions was 398. The study included two attention check questions (i.e., “please select strongly disagree for this question”), and we excluded 52 participants for failing at least one of the two attention checks. Participants who completed less than 50% of the study or who skipped any of the scales or subscales in their entirety were also

excluded (n = 14). The data appear normal, with skew and kurtosis within acceptable limits (|skew| < 3; |kurtosis| < 10) for all variables (Kline, 1998). Data were first screened for univariate outliers. Univariate outliers were defined as datapoints three standard deviations (SD) or further from the mean and discontinuous from the distribution. Outliers were adjusted to exactly 3 SD from the mean. There was one univariate outlier on the Dimensional Obsessive-Compulsive Scale, which was adjusted to 3 SD above the mean. There were two univariate outliers on the Fear of Self-Compassion Scale. These two values were adjusted to exactly 3 SD above the mean. There was also one outlier on The Compassionate Engagement and Action Scale for expressing compassion to others. This value was adjusted to exactly 3 SD below the mean. Finally, there was one outlier on the avoidance scale of the Attachment Style Questionnaire, which was adjusted to exactly 3 SD below the mean. Next, multivariate outliers were screened for using Mahalanobis' distance. There were three multivariate outliers at the p = .001 level (k = 9) and these three participants were excluded from the analysis. The final sample included N = 329 participants with an average age of 20.39 (SD =3.47). There were very few missing data in the final sample because participants were prompted to respond to any missed items throughout the survey. Participants who skipped items on a scale did not have a total score calculated for that scale and were excluded from analyses involving the impacted scale. This was a rare occurrence, impacting one participant for both the attachment anxiety and avoidance subscales. In the sample, 74.5% of participants identified as a woman or transwoman, 21.0% identified as a man or transman, 3.3% of participants identified with another gender identity and 1.2% of participants preferred not to answer. Approximately 75.1% of participants reported being heterosexual, and the most frequent ethnicity reported by the sample was white/Caucasian (40.1%) followed by East Asian (20.7%) and South Asian (19.1%).

Measures:

Attachment Style Questionnaire (ASQ; Feeney et al., 1994). The ASQ examines five dimensions of attachment including attachment confidence, preoccupation with relationships, discomfort with closeness, need for approval, and putting relationships as secondary. This scale allows for attachment style to be examined generally, rather than in specific relationships (e.g., romantic, parent/child). This scale shows adequate test-retest reliability over a 10-week period, as well as convergent and divergent validity. Confirmatory factor analysis (Karantzas et al., 2010) revealed that the items can be divided into attachment avoidance and anxiety. The scale was scored in this way to remain consistent with past research on anxious and avoidant attachment dimensions. Cronbach's alpha for attachment anxiety was .87 (*M*=63.69, *SD*=12.71). Cronbach's alpha for attachment avoidance was .88 (*M*=71.66, *SD*=13.57). An important note is that because of an error in the wording of item 38 in study one, this item was not included when calculating scores of attachment anxiety.

Fears of Compassion Scale (FOCS; Gilbert et al., 2011). The FOCS examine fear of expressing compassion towards oneself (15 items), receiving compassion from others (13 items), and expressing compassion for others (10 items). All items have strong face validity, and items are rated on a five-point Likert scale ranging from 0 (don't agree at all) to 4 (completely agree). Cronbach's alpha for FOC to self was .93 (*M*=17.09, *SD*=12.09), and Cronbach's alpha for FOC from others was .89 (*M*=16.67, *SD*=9.70). Finally, Cronbach's alpha for FOC towards others was .86 (*M*=18.34, *SD*=7.56).

Compassionate Engagement and Action Scale (CEAS; Gilbert et al., 2017). All three scales of the CEAS were used to assess the degree to which people are compassionate towards themselves and others during times of distress, as well as the participant's willingness to accept

compassion from others. The scale examines sensitivity towards suffering, sympathy, non-judgmental views, empathy, distress tolerance, and care for wellbeing (Gilbert et al., 2017). All 36 items were rated on a 10-point scale from 1 (never) to 10 (always), and the scale has robust psychometric properties (Gilbert et al., 2017). Cronbach's alpha for self-compassion was .85 (*M*=62.12, *SD*=13.72) and for compassion from others was .93 (*M*=63.36, *SD*=15.66). Finally, Cronbach's alpha in study one for compassion for others was .91 (*M*=77.00, *SD*=12.75).

Dimensional Obsessive-Compulsive Scale (DOCS; Abramowitz et al., 2010). The DOCS was used to examine obsessive-compulsive disorder symptom severity in a non-clinical sample of undergraduate students. Participants completed four subscales which examined fears and compulsions related to contamination, harm, unacceptable thoughts, and symmetry. This 20-item scale examines the amount of time a participant spends thinking about these thoughts and engaging in related behaviours, as well as the amount of avoidance, distress, and impairment resulting in each of these domains. All items were rated on a 5-point scale from 0 (no distress, disruption, avoidance) to 4 (extreme distress, disruption, avoidance). This scale exhibits strong convergent, discriminant, and criterion validity, as well as robust reliability. Cronbach's alpha in this study was .91 (*M*=17.62, *SD*=11.24).

Data Analytic Approach

Data collection for study one took place from March 7th, 2022, to April 5th, 2022. All analyses were conducted using SPSS version 28. All pre-registered analyses were conducted. For each analysis, we first used the causal steps approach to mediation (Baron & Kenny, 1986) to explore the relationships between attachment security (e.g., anxious or avoidant), FOC (to self, to others, or from others), and OCD symptom severity. A mediation analysis was then completed using PROCESS (95% CI, 5000 bootstrap samples). Although cross-sectional research cannot

establish a true causal mechanism, mediation allows us to explore a theoretical model that may be compatible. With this said, it is reasonable to suggest that attachment precedes FOC and OCD, given that attachment style develops, at least in part, from the relationship between an infant and their caregivers (Bowlby, 1963, 1973, 1980) and remains quite stable over time (Waters et al., 2000).

Study 1 Results

Preliminary Analyses

Prior to completing the pre-registered analyses, descriptive statistics and correlations were calculated to better understand the data. Descriptive statistics are presented in Table 1 and correlations are presented in Table 2.

Table 1.

Descriptive Statistics and Reliability Values

	N	***M***	***SD***	**Skewness**		**Kurtosis**		**Reliability**
				Statistic	**Std. Error**	**Statistic**	**Std. Error**	**α**
DOCS	329	17.62	11.24	.68	.13	.04	.27	.92
FOC For Others	329	18.34	7.56	.06	.13	-.20	.27	.86
FOC From Others	329	16.67	9.70	.44	.13	-.36	.27	.89
FOC to Self	329	17.09	12.09	.53	.13	-.49	.27	.93
Compassion to Self	329	62.12	13.72	-.21	.13	-.34	.27	.85
Compassion to Others	329	77.00	12.75	-.42	.13	-.33	.27	.91
Compassion From Others	329	63.36	15.66	-.22	.13	-.13	.27	.93
Attach Avoid	328	71.66	13.57	-.14	.14	.06	.27	.88
Attach Anxiety	328	63.69	12.71	-.24	.14	.06	.27	.87

Table 2.

Bivariate Correlations Between Study Variables

	FOC For Others	FOC From Others	FOC to Self	Compassion to Self	Compassion to Others	Compassion From Others	Attach Avoid	Attach Anxiety
DOCS	**.15****	**.35****	**.34****	-.05	.10	-.06	**.26****	**.39****
FOC For Others		**.37****	**.32****	.05	**-.18****	-.05	**.31****	.09
FOC From Others			**.74****	**-.20****	**-.16****	**-.35****	**.70****	**.59****
FOC to Self				**-.24****	**-.15****	**-.25****	**.56****	**.57****
Compassion to Self					**.29****	**.36****	**-.25****	**-.35****
Compassion to Others						**.45****	**-.24****	.04
Compassion From Others							**-.46****	**-.29****
Attach Avoid								**.54****

** Correlation significant at the .01 level (two tailed test).

Attachment Anxiety, Fear of Self-Compassion, and OCD Symptom Severity

Regression Analysis. We first used the causal steps approach to mediation to examine the relationships between attachment anxiety, fear of self-compassion, and OCD symptom severity (Baron & Kenny, 1986). Although this method has been largely supplanted, the framework provided an effective means to explore the data before completing formal mediation analyses using Hayes PROCESS. All the analyses were significant. Attachment anxiety significantly predicted OCD symptom severity (B = .34, SE = .05, β = .39, $t(326) = 7.54$, $p <$ .001), and explained 14.8% of the variance. Attachment anxiety also significantly predicted fear of self-compassion (B = .54, SE = .04, β = .57, $t(326) = 12.52$, $p < .001$). Finally, fear of self-compassion significantly predicted OCD symptom severity (B = .32, SE = .05, β = .34, $t(327) =$

6.63 $p < .001$), and explained 11.8% of the variance. The relationship between fear of self-compassion and OCD symptom severity remains significant, even when controlling for attachment anxiety ($B = .17$, $SE = .06$, $\beta = .19$, $t(325) = 3.02$ $p = .003$). The results of the model examining fear of compassion and attachment anxiety as predictors of OCD symptom severity are presented in Table 3.

Table 3.

Attachment Anxiety and Fear of Self-Compassion Predicting OCD Symptom Severity

Predictors	*B*	*SE*	β	*t*	*p*	R^2	*F*
Attachment Anxiety	.25	.06	.28	4.55	<.001	.17	$F(2, 325) = 33.66$,
Fear of self-compassion	.17	.06	.19	3.02	.003		$p < .001$

Note. *B* = Raw regression coefficient; *SE* = Standard error of *B;* β = Standardized coefficient

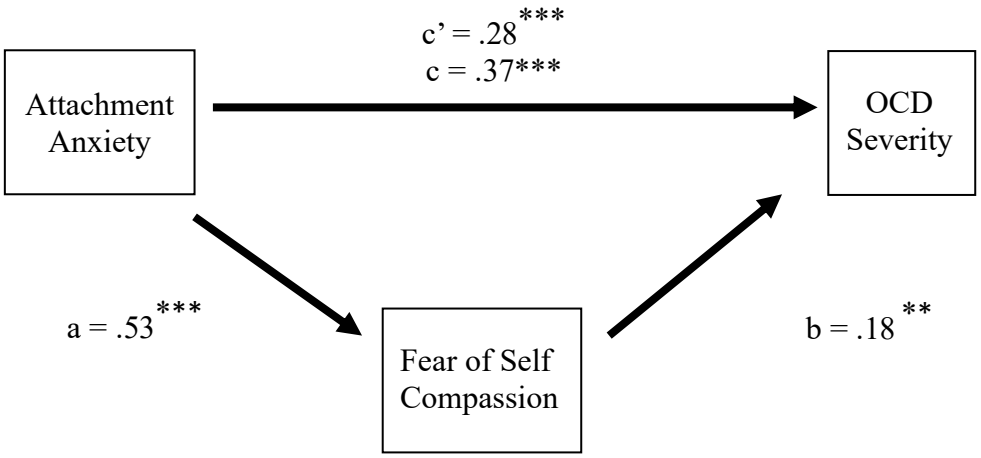
Mediation Analysis. A mediation analysis was completed using Hayes PROCESS (95% CI, 5000 bootstrap samples) to explore whether fear of self-compassion explained the relationship between attachment anxiety and OCD symptom severity. The results revealed that fear of self-compassion significantly partially mediates the relationship between attachment anxiety and OCD symptom severity, indicated by an indirect effect with a CI that does not cross zero (*ab* = .09, 95% CI [.03, .16]). In other words, the relationship between attachment anxiety and OCD symptom severity is explained, in part, by fear of self-compassion. At the same time, the direct effect between attachment anxiety and OCD symptom severity was also significant.

A second mediation analysis was then completed to explore whether fear of self-compassion explained the relationship between attachment anxiety and OCD symptom severity, when controlling for trait self-compassion. A path diagram of all the standardized direct and indirect effects is presented in Figure 1. The results revealed that fear of self-compassion mediates the relationship between attachment anxiety and OCD symptom severity, even when controlling for trait self-compassion, indicated by an indirect effect with a CI that does not cross

zero (*ab* = .09, 95% CI [.03, .16]). This suggests that the mediating effect of fear of compassion is a unique mediator, over and above the influence of trait self-compassion.

Figure 1.

Mediation Model of Attachment Anxiety Predicting OCD Symptom Severity, Through Fear of Self-Compassion, When Controlling for Trait Self-Compassion



*$p < .05$, ** $p < .01$, *** $p < .001$

Attachment Avoidance, Fear of Expressing Compassion, and OCD Symptom Severity

Regression Analysis. Again, we used the causal steps approach to mediation (Baron & Kenny, 1986) to explore the relationships between attachment avoidance, fear of expressing compassion, and OCD symptom severity (Baron & Kenny, 1986). All the bivariate analyses were significant. Attachment avoidance significantly predicted OCD symptom severity (*B* = .21, *SE* =.04, β = .26, $t(326) = 4.76$, $p < .001$), and explained 6.5% of the variance. Attachment avoidance also significantly predicted fear of expressing compassion (*B* = .17, *SE* =.03, β = .31, $t(326) = 5.77$, $p < .001$). Finally, fear of expressing compassion significantly predicted OCD symptom severity (*B* = .23, *SE* =.08, β = .15, $t(327) = 2.78$ $p = .006$), and explained 2.3% of the variance. The relationship between fear of expressing compassion and OCD symptom severity is

no longer significant when controlling for attachment avoidance (*B* = .12, *SE* =.08, β = .08, *t*(325) =1.45 *p* = .147). The results of the model examining fear of expressing compassion and attachment avoidance predicting OCD symptom severity are presented in Table 4.

Table 4.

Attachment Avoidance and Fear of Expressing Compassion Predicting OCD Symptom Severity

Predictors	*B*	*SE*	β	*t*	*p*	R^2	*F*
Attachment Avoidance	.19	.05	.23	4.10	<.001	.07	$F(2, 325) = 12.44$,
Fear of Expressing Compassion	.12	.08	.08	1.45	.147		$p < .001$

Note. B = Raw regression coefficient; *SE* = Standard error of *B; β* = Standardized coefficient

Mediation Analysis. Although the relationship between fear of expressing compassion to others and OCD symptom severity was non-significant when controlling for attachment avoidance, a mediation analysis was still completed because this analysis was pre-registered. Based on Hayes (2018) guidelines, a mediation analysis was completed using PROCESS (95% CI, 5000 bootstrap samples). The results revealed that fear of expressing compassion does not significantly mediate the relationship between attachment avoidance and OCD symptom severity, indicated by an indirect effect with a CI that includes zero (*ab* = .02, 95% CI [-.006, .05]). This result remained non-significant when controlling for trait compassion to others (*ab* = .02, 95% CI [-.001, .05]).

Exploratory Analysis Examining Attachment Avoidance, Fear of Receiving Compassion, and OCD Symptom Severity

Justification. Given that fear of expressing compassion was a non-significant mediator, the mechanism explaining the relationship between attachment avoidance and OCD symptom severity remained unclear. However, past research suggests that avoidantly attached individuals often view asking for help as a sign of weakness. This can result following exposure to harsh

parental criticism, which can prevent children from learning that compassion is valuable (Gilbert et al., 2011). Initially, we hypothesized that this would fuel fear of expressing compassion towards others. However, it is possible that this belief is internalized and contributes to fear of receiving compassion from others. In other words, avoidant attachment style could lead to discomfort receiving compassion, which in turn could predict OCD symptom severity.

Regression Analysis. The causal steps approach to mediation explored the relationships between attachment avoidance, fear of receiving compassion, and OCD symptom severity (Baron & Kenny, 1986). All the analyses were significant. Attachment avoidance significantly predicted OCD symptom severity (B = .21, SE =.04, β = .26, $t(326) = 4.76$, $p < .001$), and explained 6.5% of the variance. Attachment avoidance also significantly predicted fear of receiving compassion (B = .50, SE =.03, β = .70, $t(326) = 17.51$ $p < .001$). Finally, fear of receiving compassion significantly predicted OCD symptom severity (B = .40, SE =.06, β = .35, $t(327) = 6.68$ $p < .001$), and explained 12.0% of the variance. The relationship between fear of receiving compassion and OCD symptom remains significant when controlling for attachment avoidance (B = .38, SE =.08, β = .33, $t(325) = 4.53$ $p <.001$. The results of the model examining fear of receiving compassion and attachment avoidance as predictors of OCD symptom severity are presented in Table 5.

Table 5.

Attachment Avoidance and Fear of receiving Compassion Predicting OCD Symptom Severity

Predictors	*B*	*SE*	β	*t*	*p*	R^2	*F*
Attachment Avoidance	.02	.06	.03	0.37	.715	.12	$F(2, 325) = 22.28$,
Fear of receiving compassion	.38	.08	.33	4.53	<.001		$p < .001$

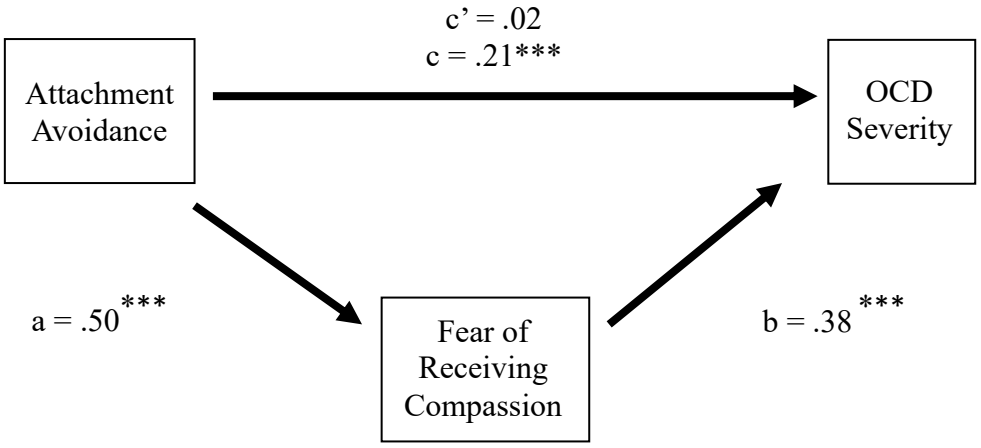
Note. B = Raw regression coefficient; SE = Standard error of B; β = Standardized coefficient

Mediation Analysis. A mediation analysis was then completed using PROCESS (95% CI, 5000 bootstrap samples) to explore whether fear of receiving compassion explained the

relationship between attachment avoidance and OCD symptom severity. A path diagram of all the standardized direct and indirect effects is presented in Figure 2. The results revealed that fear of receiving compassion significantly mediates the relationship between attachment avoidance and OCD symptom severity, indicated by an indirect effect with a CI that does not cross zero (*ab* = .19, 95% CI [.11, .27]).

Figure 2.

Mediation Model of Attachment Avoidance Predicting OCD Symptom Severity, Through Fear of Receiving Compassion



*$p < .05$, ** $p < .01$, *** $p < .001$

Study 1 Discussion

The purpose of this study was to explore potential variables that may explain the relationship between attachment insecurity and OCD symptom severity. The results of this study provide preliminary evidence that the relationship between attachment anxiety and OCD symptom severity is explained, at least in part, by fear of self-compassion. Fear of self-compassion can develop for a variety of reasons, but one predictor is a lack of early relationships characterized by consistency and warmth (Gilbert et al., 2011). People high in FOC often worry

that being compassionate towards themselves will result in complacency. In the context of OCD, this could be particularly threatening because people may worry that they will become complacent in their compulsions, which could result in their intrusive thoughts or images coming true. Additionally, growing literature points to the need to consider interpersonal factors when conceptualizing OCD. For example, a central reason for engaging in compulsions for people with OCD is to avoid being held responsible for harm *by others*, (Dean & Purdon, 2021) and "need for approval from others" is a significant predictor of OCD (Pozza et al., 2021). Given the association between anxious attachment and OCD, and the propensity for anxiously attached individuals to worry about rejection, it makes sense that compulsion goals are often related to others' perceptions. In sum, one potential mechanism that may explain the relationship between anxious attachment and OCD symptom severity is that anxious attachment increases vulnerability to fear of self-compassion. Fear of self-compassion is often fueled by beliefs that one is undeserving of compassion and that compassion is a sign of weakness (Gilbert et al., 2011). For anxiously attached individuals, in addition to worry that showing oneself compassion could result in compulsions not being performed properly, it is likely there are additional concerns that failing to avert harm could result in being blamed by others and ultimately rejected. These worries continue to fuel the OCD system. This conceptualization also helps us understand why FOC was significantly associated with OCD symptoms, but trait self-compassion was not. It appears that in the context of OCD, worries are related to the *implications* of showing compassion to oneself, rather than the *act* of showing oneself compassion. This could be something that distinguishes the role of compassion in OCD from other forms of internalizing psychopathology.

In contrast to our hypothesis, fear of expressing compassion did not significantly mediate the relationship between attachment avoidance and OCD symptom severity. This hypothesis was based on existing literature suggesting that compulsions often involve loved ones and that expectations placed on family members to adequately perform compulsions can be high, as can the degree of family accommodation (Wu et al., 2016). We know that avoidantly attached individuals often lacked adults who modelled healthy emotion processing during childhood (Rholes et al., 2006). Additionally, avoidantly attached adults often had early experiences where both positive and negative emotions were dismissed by caregivers (Mikulincer et al., 2013). This can prevent people from learning the benefits of expressing compassion. We predicted that fear of expressing compassion would mediate the relationship between avoidant attachment and OCD symptom severity because of concerns that showing compassion to loved ones may "let them off the hook" from fulfilling their part of compulsions. However, this was not the case. There are a few reasons this relationship may not have emerged. First, our sample was a non-clinical sample of undergraduate students who were approximately normally distributed on OCD symptoms. As such, only a small portion of our sample had clinically significant OCD symptoms. It is possible that for fear of expressing compassion to mediate the relationship between avoidant attachment and OCD symptoms, people need to have clinically significant distress and impairment related to compulsions or that the compulsions must involve others. The role of fear of expressing compassion could also depend on the stage of life of participants. For example, the variable may be more influential for people living with a partner or at home with family, rather than for those living independently or with roommates.

Notably, the association between FOC for others and OCD symptom severity was quite low in our sample, whereas fear of receiving compassion was the FOC subscale with the largest

association with OCD. We had no pre-registered hypotheses related to FOC from others; however, attachment avoidance was still of interest given the significant association with OCD symptom severity and the aforementioned theoretical grounds. We know that avoidantly attached individuals often learn that asking for help is a sign of weakness (Mikulincer et al., 2013). Given the results of this study, we began to wonder whether this belief may be more of an internal process that results in fear of receiving compassion from others, rather than generalizing to expressions of compassion towards others. For example, expressions of compassion may trigger memories of times when compassion was needed but unavailable, which can be aversive (Gilbert et al., 2011). Experiences of harsh parental criticism that are characteristic of the development of avoidant attachment (Ruhl et al., 2015) are also associated with fear of receiving compassion (Çevik & Tanhan, 2020; Gilbert et al., 2011), possibly because failure to receive compassion during childhood can prevent someone from developing a positive association with the feeling. Based on this, we performed an exploratory analysis to examine whether fear of receiving compassion mediates the relationship between avoidant attachment and OCD symptom severity. This analysis revealed that this mediation model was significant, even when controlling for trait-levels of compassion. As such, this study provides preliminary evidence that avoidant attachment may fuel fear of receiving compassion from others, which in turn fuels OCD symptom severity.

These findings fit with existing literature that avoidant attachment is related to OCD symptom severity (Van Leeuwen et al., 2020). Our research extends this by exploring fear of receiving compassion as a potential variable that explains the relationship. Avoidant attachment is characterized by deactivation of the attachment system and avoidance of close relationships (Van Leeuwen et al., 2020). Past research suggests that avoidantly attached individuals may be missing relational templates from early childhood that are characterized by compassion, and this

can fuel fear of compassion or beliefs that one is undeserving of compassion (Naismith et al., 2019). As such, expressions of compassion from others could be aversive because of both novelty and past learning that receiving compassion is a sign of weakness or over-dependency on others. Like our model examining fear of self-compassion mediating the relationship between attachment anxiety and OCD symptom severity, it is possible that concerns are present that accepting compassion could result in complacency in compulsions and something bad happening. However, we hypothesize the root of this fear is different for avoidant attachment compared to anxious attachment. Unlike anxiously attached individuals, avoidantly attached individuals are prone to 'hiding' their emotions and processing information on a rational rather than emotional level (Fraley, 2019). Interestingly, these factors are also common among people with OCD (Van Leeuwen et al., 2020). Avoidantly attached individuals often set very high expectations for themselves (e.g., unrealistic standards for thought control) (Van Leeuwen et al., 2020), which is another factor that could make avoidantly attached individuals susceptible to OCD symptoms. In comparison to anxiously attached individuals who worry that decreasing their standards could result in interpersonal repercussions and being held responsible for harm by others, avoidantly attached individuals may fear the distressing emotions and self-criticism that could result. Specifically, avoidantly attached people with OCD may worry that if they accept compassion and become lazy in their compulsions, they will let themselves down and be faced with painful emotions.

Alternatively, it is possible that thought control and perfectionism are particularly important for avoidantly attached people high in fear of receiving compassion because following a mistake, the soothing affect system is not activated. This inactivation may be because of lack of affiliation or because fear of receiving compassion prevents expressions of compassion and care

from being perceived as comforting. That is, expressions of compassions from others do not activate the soothing affect system in the same way as in securely attached individuals, which prevents soothing affect following mistakes and reinforces beliefs that one is unable to cope with mistakes or intrusive thoughts.

When something difficult occurs, such as experiencing distressing thoughts or perceived failure, human beings are wired for affiliation (Gilbert, 2009). The process of affiliating and receiving care from others activates the soothing affect system (Gilbert, 2009). However, for avoidantly attached individuals, support seeking can be extremely difficult (Collins & Feeney, 2000). Avoidantly attached individuals may also lack experiences where interactions with close others activated the soothing affect system. As a result, it makes sense that fear of receiving compassion would be high for these individuals. Additionally, speaking about the failure or distress rather than hiding or avoiding it, which are often the urges associated with shame, can decrease feelings of shame (Rizvi et al., 2011). Given that avoidantly attached individuals often feel discomfort with vulnerability (Fraley, 2019), opportunities to reduce shame through affiliation may be avoided, or fear of receiving compassion could prevent affiliation from significantly reducing feelings of shame. Shame and OCD are closely related (Laving et al., 2022), and it is possible that for avoidantly attached individuals high in fear of receiving compassion, targeting feelings of shame may be a particularly important treatment target.

Limitations and Future Directions

A key limitation of this work is that the specificity of the model remains unclear. Specifically, it is unknown whether the mediating role of FOC is specific to OCD, or whether attachment and FOC may be transdiagnostic risk factors. Including depressive symptoms in

future models will be important to clarifying this. Specifically, future work should collect data regarding current and past symptoms of depression.

Although our sample was adequately powered, these findings need to be replicated to be more confident in the findings. It will be especially important for future work to examine fear of receiving compassion as a mediator of the relationship between attachment avoidance and OCD symptom severity because this analysis was exploratory and not pre-registered in this study.

Future work should also examine these relationships in a clinical sample of people with OCD. Notably, it will be important to explore whether fear of expressing compassion explains the relationship between attachment avoidance and OCD symptom severity among people with clinically significant levels of OCD. It would also be interesting to compare fear of expressing compassion between different clinical populations (e.g., anxious controls, people with depression, etc.).

Study 2 Method

Research Questions and Hypotheses

Study two aimed to replicate and extend the findings from study one. Based on results from study one, we hypothesized that fear of self-compassion would mediate the relationship between anxious attachment and OCD symptom severity and that fear of receiving compassion would mediate the relationship between avoidant attachment and OCD symptom severity. These two analyses were selected and pre-registered based on our theoretical understanding of the relationships between attachment and fear of compassion. Given the associations between FOC and depression (Gilbert et al., 2014), this research also tested whether FOC remained a significant mediator when controlling for trait levels of both compassion and depression, as hypothesized. The final objective of this research was to extend the findings from study one to

consider early experiences of shame and trait feelings of shame in adulthood. Past research suggests that early experiences play a crucial role in the development and persistence of OCD (e.g., Irons et al., 2006); however, to our knowledge, no research has examined the relationship between experiences of feeling shamed during childhood and the development of OCD. Given the relationships between feelings of shame, fear of compassion (Gilbert et al., 2011), and OCD (Laving et al., 2022), the final aim of this study was to establish whether early experiences of being shamed (i.e., feeling unvalued, threatened, or a need to submit) were associated with FOC and OCD symptom severity. The purpose of this analysis was to establish whether a relationship exists between early shame experiences and OCD, which is a crucial consideration when thinking about the developmental trajectory of the disorder. Additionally, this analysis aimed to determine whether investing in a qualitative interview study to explore the relationship between early experiences of shame and OCD was warranted. Compassion-focused therapy targets shame and self-criticism (Beaumont & Hollins Martin, 2015; Gilbert, 2014; Millard et al., 2023; Thomason & Moghaddam, 2021), and better understanding how shame is implicated in OCD is also important to justify the integration of compassion-focused approaches when treating OCD. We hypothesized that there would be significant associations between both early shame experiences and trait levels of shame in adulthood; with fear of receiving, expressing, and self-compassion; anxious and avoidant attachment, and OCD symptom severity.

Procedure

A replication and extension study was administered online using Qualtrics™ and participants were again recruited through the University of Waterloo Research Experiences Group participant pool. In addition to the measures completed in study one, participants completed additional measures of depression, early shame experiences, and trait levels of guilt and shame. Participants

who completed study one were ineligible to complete study two. This is because of the overlap in measures between studies and the goal of having two independent samples. Prior to data collection, this study was also pre-registered on Open Science Framework (September 22nd, 2022).

Participants

The total number of unique survey completions was 406. The study included two attention check questions (i.e., "please select strongly disagree for this question"), and we excluded 56 participants for failing at least one of the two attention checks. Remaining participants who completed less than 50% of the study or who skipped any of the scales or subscales in their entirety were also excluded (n = 10). The results appear normal, with skew and kurtosis within acceptable limits (|skew| < 3; |kurtosis| < 10) for all variables (Kline, 1998). Data were first screened for univariate outliers. Univariate outliers were defined as datapoints three standard deviations (SD) or further from the mean and discontinuous from the distribution. Outliers were adjusted to exactly 3 SD from the mean. There were four outliers on the trait levels of expressing compassion to others scale, adjusted to exactly 3 SD below the mean, and there was also one outlier on the DOCS, adjusted to exactly 3 SD above the mean. Finally, multivariate outliers were screened for using Mahalanobis' distance. There were no multivariate outliers at the p = .001 level. The final sample included N = 340 participants with an average age of 20.41 (SD = 4.37). There were very few missing data in the final sample because participants were prompted to respond to any missed items throughout the survey. Participants who skipped items on a scale did not have a total score calculated for that scale and were excluded from analyses involving the impacted scale. The number of participants with missing data ranged from zero to five across the various scales (see Table 6). In the sample, 76.8% of participants identified as a woman or

transwoman,18.8% identified as a man or transman, 3.5 % identified as another gender identity and 0.9% of participants preferred not to answer. In terms of sexuality, 69.7% of the sample reported being heterosexual, and the most frequent ethnicity reported by the sample was white/Caucasian (42.9%) followed by East Asian (22.1%) and South Asian (18.8%).

Measures

All measures from study one were also included in study two. On the ASQ (Feeney et al., 1994), Cronbach's alpha for attachment anxiety was .89 (*M*=67.35 *SD*=14.42) and .88 for attachment avoidance (*M*=73.21 *SD*=15.03). Cronbach's alpha for FOC to self was .95 (*M*=18.23 *SD*=14.48), for FOC from others was .92 (*M*=17.67 *SD*=11.00), and for FOC towards others was .87 (*M*=18.34 *SD*=8.25). Cronbach's alpha for self-compassion was .87 (*M*=62.53 *SD*=15.01), for compassion from others was .94 (*M*=60.69 *SD*=17.16), and for compassion for others was .88 (*M*=75.80 *SD*=13.83). Finally, Cronbach's alpha for the DOCS (Abramowitz et al., 2010) was .91 (*M*=15.66 *SD*=10.80).

Depression Anxiety and Stress Scales (DASS; Lovibond & Lovibond, 1996). The depression subscale of the DASS was administered to examine symptoms of negative affectivity related to depression. The depression subscale consists of 14 items that examine a range of depressive symptoms including anhedonia, feeling blue, lack of interest or motivation, and pessimistic views. Participants rate how much an item fits for them over the last week, on a scale from 0 (did not apply to me at all) to 3 (applied to me very much or most of the time), where higher scores indicate greater depressive symptoms. The DASS exhibits strong convergent and divergent validity. Cronbach's alpha in our sample was .95 (*M*=12.32, *SD*=10.53).

Early Life Events Scale (ELES; Gilbert et al., 2003). The ELES examines one's recall of early family experiences and the associated emotions. The scale contains three subscales

including feeling unvalued, submissive, and threatened during childhood. Individual subscale scores or a total score can be calculated, and items are rated on a 5-point Likert scale from 1 (completely untrue) to 5 (very true). The total score can be interpreted as a measure of early shame experiences (e.g., Farr et al., 2021). The scale has medium correlations with expected constructs, and Cronbach's alpha in our sample was .95 (*M*=39.60, *SD*=15.10).

Personal Feelings Questionnaire 2 Brief (PFQ; Rice et al., 2018). The PFQ-2 Brief is a seven-item scale that examines the frequency with which people experience feelings of shame and guilt. This scale was adapted from the PFQ-2 (Harder & Greenwald, 1999). Participants rate three items related to guilt and four items related to shame on a scale from 0 (never experience) to 4 (constantly or almost constantly experience), and scores on these scales capture trait levels of shame and guilt-proneness. The 7-item scale shows a good model fit and strong convergent validity, and the psychometric properties were superior to the original PFQ-2 despite the scale being shorter. Cronbach's alpha for the guilt scale in our sample was .78 (M=5.56, SD=2.58), and for the shame scale was .81 (*M*=6.76, *SD*=3.54).

Data Analytic Approach

Data collection took place from September 23rd, 2022, to January 20th, 2022. All analyses were performed separately for study one and study two, but the same data analysis approach as study one was used. All pre-registered analyses were conducted.

Study 2 Results

Preliminary Analyses

Prior to completing the pre-registered analyses, descriptive statistics and correlations were calculated to better understand the data. Descriptive statistics are presented in Table 6 and

correlations are presented in Table 7. Bivariate correlations revealed significant correlations in the hypothesized directions between all variables of interest.

Table 6.

Descriptive Statistics and Reliability Values

	N	***M***	***SD***	**Skewness**		**Kurtosis**		**Reliability**
				Statistic	**Std. Error**	**Statistic**	**Std. Error**	**α**
DOCS	340	15.66	10.80	.73	.13	.09	.26	.91
FOC For Others	340	18.34	8.25	.25	.13	-.41	.26	.87
FOC From Others	340	17.67	11.00	.27	.13	-.78	.26	.92
FOC to Self	337	18.23	14.48	.60	.13	-.54	.27	.95
Compassion to Self	340	62.53	15.01	-.10	.13	-.39	.26	.87
Compassion to Others	340	75.80	13.83	-.62	.13	.43	.26	.88
Compassion From Others	339	60.69	17.16	-.37	.13	.04	.26	.94
Attach Avoid	336	73.21	15.03	-.31	.13	-.05	.27	.88
Attach Anxiety	336	67.35	14.42	-.25	.13	-.21	.27	.89
Trait Guilt	339	5.56	2.58	.00	.13	-.09	.26	.78
Trait Shame	339	6.76	3.54	.38	.13	-.11	.26	.81
Early Shame	335	39.60	15.10	.35	.13	-.84	.27	.95
Depression		12.32	10.53	.93	.13	.14	.26	.95

Table 7.

Bivariate Correlations Between Study Variables

	Trait shame	Early shame	Depression	Attach avoid	Attach anxiety	DOCS	FOC to others	FOC from others	FOC to self	Compassion to self	Compassion to others	Compassion from others
Trait guilt	**.63****	**.26****	**.54****	**.37****	**.59****	**.44****	**.20****	**.46****	**.50****	**-.30****	.05	**-.11***
Trait shame		**.37****	**.65****	**.44****	**.66****	**.49****	**.21****	**.53****	**.57****	**-.38****	.003	**-.23****
Early shame			**.25****	**.40****	**.38****	**.19****	**.25****	**.42****	**.41****	**-.16****	-.02	**-.27****
Depression				**.41****	**.61****	**.44****	**.21****	**.51****	**.58****	**-.29****	.06	**-.23****
Attach avoid					**.60****	**.24****	**.49****	**.69****	**.52****	**-.28****	**-.23****	**-.42****
Attach anxiety						**.43****	**.31****	**.62****	**.60****	**-.34****	**.04**	**-.27****
DOCS							**.25****	**.36****	**.39****	**-.11***	.02	-.06
FOC to others								**.56****	**.37****	-.05	**-.26****	**-.14****
FOC from others									**.71****	**-.21****	**-.14***	**-.31****
FOC to self										**-.32****	-.07	**-.18****
Compassion to self											**.35****	**.34****
Compassion to others												**.32****

**Correlation is significant at the 0.01 level (2-tailed) *Correlation is significant at the 0.05 level (2-tailed)

Attachment Anxiety, Fear of Self-Compassion, and OCD Symptom Severity

Regression Analysis. Once again, we first used the causal steps approach to mediation to examine the relationships between attachment anxiety, fear of self-compassion, and OCD symptom severity (Baron & Kenny, 1986). All the analyses were significant. Attachment anxiety significantly predicted OCD symptom severity (B =.32, SE = .04, β = .43, t(334) =8.71, $p <$ .001), and explained 18.5% of the variance. Attachment anxiety also significantly predicted fear of self-compassion (B = .60, SE = .04, β = .60, t(331) = 13.59, $p <$ .001) and explained 35.8% of the variance. Finally, fear of self-compassion significantly predicted OCD symptom severity (B

= .29, *SE* = .04, β = .39, *t*(335) = 7.71 *p* < .001), and explained 15.1% of the variance. The relationship between fear of self-compassion and OCD symptom severity remains significant, even when controlling for attachment anxiety (*B* = .15, *SE* =.05, β =.20, *t*(330) = 3.30 *p* = .001). The results of the model examining fear of compassion and attachment anxiety as predictors of OCD symptom severity are presented in Table 8.

Table 8.

Attachment Anxiety and Fear of Self-Compassion Predicting OCD Symptom Severity

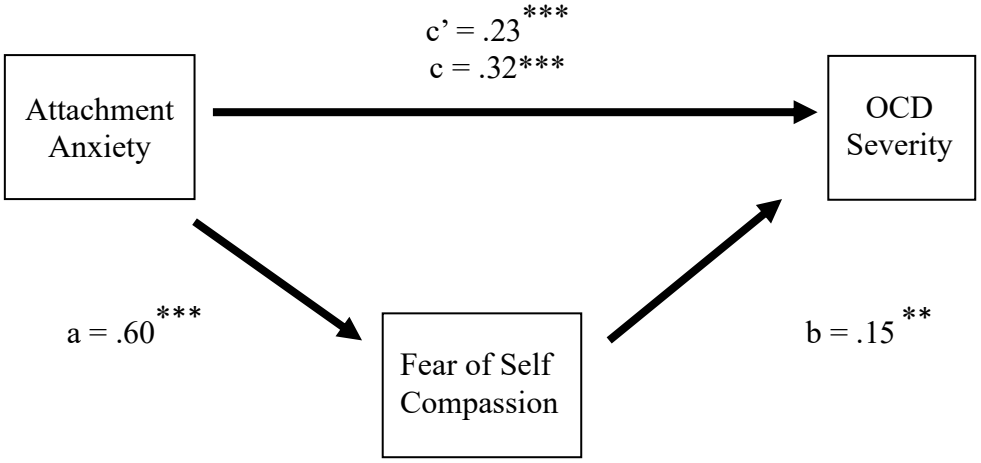
Predictors	*B*	*SE*	β	*t*	*p*	R^2	*F*
Fear of self-compassion	.15	.05	.20	3.30	.001	.21	$F(2, 330) = 43.86$,
Attachment Anxiety	.23	.05	.31	5.05	<.001		$p < .001$

Note. B = Raw regression coefficient; *SE* = Standard error of *B; β* = Standardized coefficient

Mediation Analysis. A mediation analysis was completed using PROCESS (95% CI, 5000 bootstrap samples) to explore whether fear of self-compassion explained the relationship between attachment anxiety and OCD symptom severity. A path diagram of all the standardized direct and indirect effects is presented in Figure 3**.** The results revealed that fear of self-compassion significantly partially mediates the relationship between attachment anxiety and OCD symptom severity, indicated by an indirect effect with a CI that does not cross zero (*ab* = .09, 95% CI [.03, .16])**.**

Figure 3.

Mediation Model of Attachment Anxiety Predicting OCD Symptom Severity, Through Fear of Self-Compassion



*$p < .05$, ** $p < .01$, *** $p < .001$

A mediation analysis was then completed using PROCESS (95% CI, 5000 bootstrap samples) to explore whether fear of self-compassion explained the relationship between attachment anxiety and OCD symptom severity, when controlling for trait self-compassion and depression. The results revealed that fear of self-compassion does not significantly mediate the relationship between attachment anxiety and OCD symptom severity when controlling for trait self-compassion and depression, indicated by an indirect effect with a CI that crosses zero (*ab* = .04, 95% CI [-.007, .08]).

Attachment Avoidance, Fear of receiving Compassion, and OCD Symptom Severity

Regression Analysis. We first used the causal steps approach to mediation to examine the relationships between attachment avoidance, fear of receiving compassion, and OCD symptom severity (Baron & Kenny, 1986). All the analyses were significant. Attachment avoidance significantly predicted OCD symptom severity (*B* = .17, *SE* =.04, β = .24, *t*(334) =

4.54, $p < .001$), and explained 5.8% of the variance. Attachment avoidance also significantly predicted fear of receiving compassion ($B = .51$, $SE = .03$, $\beta = .69$, $t(334) = 17.48$, $p < .001$) and explained 47.8% of the variance. Finally, fear of receiving compassion significantly predicted OCD symptom severity ($B = .36$, $SE = .05$, $\beta = .36$, $t(338) = 7.14$, $p < .001$), and explained 13.1% of the variance. The relationship between fear of receiving compassion and OCD symptom remains significant when controlling for attachment avoidance ($B = .36$, $SE = .07$, $\beta = .37$, $t(333) = 5.24$ $p < .001$). The results of the model examining fear of receiving compassion and attachment avoidance as predictors of OCD symptom severity are presented in Table 9.

Table 9.

Attachment Avoidance and Fear of Receiving Compassion Predicting OCD Symptom Severity

Predictors	*B*	*SE*	β	*t*	*p*	R^2	*F*
Fear of receiving compassion	.36	.07	.37	5.24	<.001		$F(2,333) = 24.87$,
Attachment Avoidance	-.01	.05	-.02	-.21	.831	.13	$p < .001$.

Note. B = Raw regression coefficient; SE = Standard error of B; β = Standardized coefficient

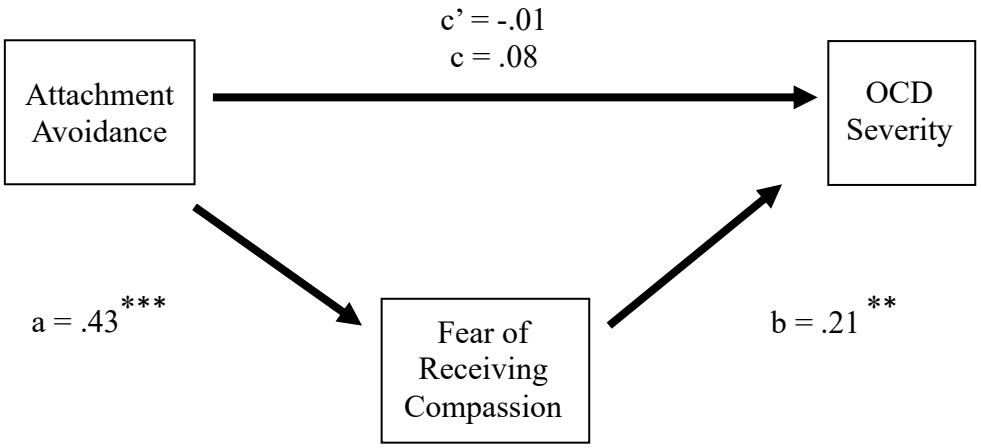
Mediation Analysis. A mediation analysis was completed using PROCESS (95% CI, 5000 bootstrap samples) to explore whether fear of receiving compassion explained the relationship between attachment avoidance and OCD symptom severity. The results revealed that fear of receiving compassion significantly mediates the relationship between attachment avoidance and OCD symptom severity, indicated by an indirect effect with a CI that does not cross zero ($ab = .18$, 95% CI [.11, .26]).

Given significant mediation, we then completed our pre-registered analysis to examine whether fear of receiving compassion explained the relationship between attachment avoidance and OCD symptom severity, when controlling compassion from others and depression. A path diagram of all the standardized direct and indirect effects is presented in Figure 4. The results revealed that fear of receiving compassion remains a significant mediator when the covariates

are added, indicated by an indirect effect with a CI that does not cross zero (*ab* = .09, 95% CI [.03, .15])

Figure 4.

Mediation Model of Attachment Avoidance Predicting OCD Symptom Severity, Through Fear of Receiving Compassion Controlling for Depression and Trait Compassion



*$p < .05$, ** $p < .01$, *** $p < .001$

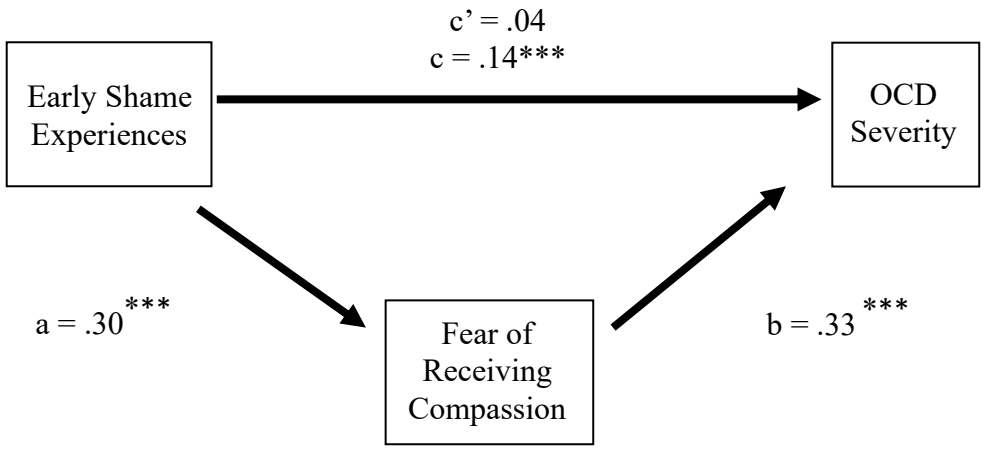
Early Experiences of Shame

The final pre-registered analysis examined the relationship between early shame experiences, attachment, FOC, and OCD. As hypothesized, trait levels of shame and early shame experiences were significantly associated with all study variables of interest including attachment anxiety and avoidance, OCD symptom severity, and FOC to others, from others, and towards oneself. All correlations are presented in table 7. To further understand the nature of this relationship, an exploratory analysis was performed to examine whether fear of receiving compassion mediates the relationship between early shame experiences and OCD symptom severity. The results revealed that fear of receiving compassion significantly mediates the relationship between early shame experiences and OCD symptom severity, indicated by an

indirect effect with a CI that does not cross zero (*ab* = .10, 95% CI [.06, .15]). A path diagram of direct and indirect effects is presented in Figure 5. These data should be interpreted with caution as this analysis was not pre-registered. Future studies should aim to replicate this finding.

Figure 5.

Mediation Model of Early Shame Experiences Predicting OCD Symptom Severity, Through Fear of Receiving Compassion



*$p < .05$, ** $p < .01$, *** $p < .001$

Study 2 Discussion

The purpose of this study was to replicate and extend the findings from study one. Our first research question examined whether fear of self-compassion explains the relationship between attachment anxiety and OCD symptom severity, even when controlling for depressive symptoms. Although the findings from study one replicated when examining whether fear of self-compassion mediated the relationship between attachment anxiety and OCD symptoms, the model was no longer significant when we controlled for depression. One possible reason for this could be that attachment anxiety and fear of self-compassion may be transdiagnostic processes that are not unique to OCD. This fits with existing literature that fear of self-compassion is associated with a range of mental health conditions including depression, anxiety, eating

disorders, and overall distress (Athanasakou et al., 2020; Joeng et al., 2017; Kelly et al., 2013). However, the transdiagnostic nature of attachment and FOC is just one of many possible reasons that could explain the shared variance between attachment anxiety and depressive symptoms. Little extant research examined the relationship between fear of self-compassion and OCD specifically. Notably, our results suggest that fear of self-compassion and attachment anxiety are moderately correlated with OCD symptom severity. As such, these findings still point to the importance of targeting fear of self-compassion and attachment anxiety when treating OCD.

Our second research question examined whether fear of receiving compassion explains the relationship between attachment avoidance and OCD symptom severity when controlling for depressive symptoms and compassion from others. Consistent with our hypothesis, this model was significant. This suggests that FOC explains unique variance in the relationship between attachment avoidance and OCD symptom severity, over and above the influence of depression. As such, avoidant attachment and fear of receiving compassion may be particularly important targets for the treatment of OCD, and they may be uniquely implicated in the disorder. Given this study was a replication, we also have increasing confidence that the relationship exists. Past research examining fear of receiving compassion and OCD symptom severity is scarce; however, these findings suggest that considering fear of receiving compassion may be important when conceptualizing and treating OCD.

Attachment insecurity and OCD are both associated with shame proneness (Laving et al., 2022), and Matos et al. (2017) found that FOC mediates the relationship between early shame memories and emotional distress. Additionally, we know that early experiences of warmth and safeness are crucial for fostering healthy attachment and feelings of safe affect (Steindl et al., 2021). As such, it is possible that exposure to shaming language (e.g., critical and punitive

parenting) is also a predictor for the development of OCD. Our studies built on past research (Dean & Purdon, 2021; Pozza et al., 2021) suggesting that there is an interpersonal component to OCD, by explicating a potential mechanism that explains the relationship between early shame and OCD. Cognitive models of OCD often conceptualize compulsions as a way to temporarily relieve anxiety (Shafran, 2005). However, this conceptualization fails to explain why concerns about being held responsible for harm by others and a need for approval from others are common compulsion goals. Although fear of receiving compassion helps to explain why attachment avoidance is related to OCD symptom severity, it remains unclear how these findings can be specifically integrated into existing cognitive models of OCD. Given the close ties between trait feelings of shame and FOC (Matos, Duarte, & Pinto-Gouveia, 2017), and that shame can be decreased through compassion-focused therapy (Beaumont & Hollins Martin, 2015; Gilbert, 2014; Millard et al., 2023; Thomason & Moghaddam, 2021), considering shame in the context of OCD and compassion-focused interventions is important. Notably, it is possible that shame could be an emotion driving and maintaining OCD symptoms. In other words, it is possible that for people high in attachment insecurity and FOC, targeting shame rather than anxiety in treatment may provide a more effective avenue for intervention. Study two found that trait levels of shame were significantly associated with OCD symptom severity, which is consistent with past research that suggests feelings of shame are closely related to OCD (Laving et al., 2022; Visvalingam et al., 2022). This is an important consideration because currently there is little focus on shame in first line OCD treatment approaches. Research has begun to explore the role of guilt sensitivity and fear of guilt in OCD (Chiang & Purdon, 2019; Hellberg et al., 2023), and the significant correlations between guilt proneness, shame proneness, and early shame experiences revealed in this study suggest that guilt and shame are closely related. However, the action urges associated

with shame can lead to coping in ways that are counterproductive (Rizvi et al., 2011). Future research will need to better delineate the independent roles of shame and guilt in predicting and maintaining OCD symptoms; however, we predict that considering shame will be particularly important given the interpersonal origins of the emotion. A qualitative interview study may be necessary to adequately explore the nuanced differences between the constructs.

Study two also examined the relationships between early memories of feeling shamed and trait levels of shame in adulthood with all study variables. Early experiences of feeling shamed were significantly associated with FOC, which is consistent with past research (Çevik & Tanhan, 2020; Gilbert et al., 2011; Gilbert & Irons, 2009; Naismith et al., 2019; Steindl et al., 2021). Trait levels of shame and early memories of feeling shamed (i.e., threatened, a need to submit, and unvalued) were also significantly associated with OCD symptom severity. Although past research had examined the relationship between early experiences such as external criticism and maltreatment and OCD (Pace et al., 2011; Ou et al., 2021), no research had examined the role of shame *memories* during childhood in predicting OCD. This is a crucial distinction because it is possible that the influence of early experiences on the development of fear of compassion and OCD depends on the meaning people attach to the events. By examining shame memories rather than objective events experienced (e.g., number of adverse childhood experiences), we can better understand the impact of early experiences on the development of OCD in adulthood.

It is possible that the way early experiences are recalled vary between people depending on a range of individual difference variables including age at the time of the events, temperament, and culture. For one child, the experience of being sent to their room for making a mess could be unpleasant and bring up emotions like anger (e.g., “my mom is being unfair”),

guilt ("I should have cleaned up my toys. I will be sure to next time"), or sadness ("I'm disappointed in myself for forgetting to clean up"), but the memory would be stored among many other memories and the situation would likely have little impact on the child moving forward. However, for some children, this experience could activate shame (e.g., "I am a bad kid"); become associated with strong emotions (e.g., I can't cope with getting in trouble), or over-generalized (e.g., I cannot ever make mistakes). For these children, the experience of being sent to their room may be interpreted as far more threatening. As such, fear of compassion and fear of mistakes could still develop in the absence of "objective" harsh parental criticism or maltreatment. This study begins to explore how recalled memories of early events are related to attachment, fear of compassion, and OCD. However, this avenue of research requires further exploration.

Limitations and Future Directions

Although we established that fear of receiving compassion remains a significant mediator when controlling for depression, it is unclear whether this relationship is specific to OCD, or if a similar pattern is observed across all anxiety disorders. As such, future research should compare attachment security and FOC between people with other anxiety disorders and depression, and people with OCD. Alternatively, collecting data that allows for researchers to control for other types of anxiety could allow OCD to be examined independently from other anxiety disorders (e.g., social anxiety, generalized anxiety, post-traumatic stress disorder).

The analyses exploring early memories of feeling shamed and trait feelings of shame should be considered preliminary and require replication. The association between early experiences of being threatened, overpowered, and unvalued and OCD symptoms severity was small. It will be important to explore this relationship in community and clinical samples, to

better understand the impact of early experiences on attachment, FOC, and OCD. Additionally, shame is a broad construct with many points of connection to OCD such as shame about obsessions, shame about compulsions, and shame about having a mental illness generally (Weingarden & Renshaw, 2015). To target shame in the treatment of OCD through an attachment and compassion-focused framework it will be crucial to understand how shame is being activated in people with OCD. This could be examined qualitatively through interviews or using a daily diary study.

General Discussion

The purpose of this research was to examine whether fear of compassion mediates the relationship between attachment insecurity and OCD symptom severity. Study one sought to determine whether fear of self-compassion mediates the relationship between attachment anxiety and OCD symptom severity, and whether fear of expressing compassion mediates the relationship between attachment avoidance and OCD symptom severity. This study provided preliminary evidence that fear of self-compassion significantly mediates the relationship between attachment anxiety and OCD symptom severity, and that fear of receiving compassion significantly mediates the relationship between attachment avoidance and OCD symptom severity. Fear of expressing compassion was not a significant mediator. Based on the results of study one we completed a replication and extension study examining whether FOC remains a significant mediator when controlling for trait levels of depression. Finally, study two examined the influence of early childhood experiences and feelings of shame in predicting fear of compassion, attachment insecurity, and OCD. The results replicated the findings from study one and revealed that fear of receiving compassion mediates the relationship between attachment avoidance and OCD symptom severity, even when controlling for depression. Taken together,

there is growing support that fear of compassion and attachment each play a role in the development and persistence of OCD. As such, these may be important factors to consider in the treatment of OCD.

Treatment Implications

The most efficacious OCD treatment consists of medication and cognitive behavioural therapy with exposure and response prevention. However, refractory OCD is still observed in 30% of people receiving this gold standard treatment (Hood et al., 2001). As such, understanding what prevents some clients from responding to treatment is crucial. We know that insecurely attached individuals often develop FOC (Gilbert et al., 2011). These two studies established that fear of receiving compassion and fear of self-compassion are both moderately associated with OCD symptom severity. As such, targeting FOC in the treatment of OCD may be important.

Therapeutic alliance is a significant transdiagnostic predictor of therapeutic outcomes, and it is closely related to attachment style (Diener & Monroe, 2011). Fear of compassion could interfere with the therapeutic alliance, specifically if expressions of compassion from a therapist, such as validation, are perceived as threatening. As such, there could be value in decreasing fear of compassion before starting exposure and cognitive restructuring in therapy. Alternatively, if a client is not responding to treatment, that could be a sign that exploring attachment and fear of compassion may be necessary. Given that fear of compassion explains the relationship between attachment insecurity and OCD symptom severity, targeting FOC rather than attachment style is a reasonable point of intervention, especially because attachment tends to be quite stable over time (Waters et al., 2000). In sum, it is possible that the reason people high in attachment insecurity are unable to benefit from CBT is because the OCD system is being maintained by

fear of compassion, which not only impacts the therapeutic relationship but can prevent someone from letting go of shame and self-criticism as well.

Fear of compassion is closely related to both shame and self-criticism (Gilbert & Irons, 2009). This makes sense given that people high in fear of compassion often endorse concerns that accepting compassion will result in loss of their self-criticism (Gilbert et al., 2011). As mentioned previously, current models of OCD tend to focus on anxiety, but we know that many other emotions can be implicated in OCD such as shame, disgust, and guilt. It is possible that for some clients, compulsions are performed to reduce feelings of shame, in addition to anxiety. For these clients, exploring the origins or shame (i.e., early shame experiences), and how these shape attachment and fear of compassion will be particularly important. By exploring emotions in addition to anxiety in the cognitive model of OCD, we may better capture the diversity of experiences of people living with OCD. Further research should examine the qualitative experience of shame among people with OCD, and explore in-vivo experiences of shame before, during, and after compulsions.

Limitations and Future Directions

The cross-sectional nature of data collection in both studies is a significant limitation. As such, we suggest that these findings be interpreted as correlational evidence that may be compatible with the underlying theoretical models suggested above. The psychological processes of interest in this study are hard to manipulate in an experimentally valid way, but easy to measure. As such, we have grounds to use a measurement-of-mediation design for this analysis (Spencer et al., 2005). Future research could strive to manipulate fear of compassion experimentally by drawing on compassion-focused interventions.

Another limitation of cross-sectional research is the possibility for confounds. For example, we know that FOC is associated with treatment ambivalence and negative treatment expectations (Merritt & Purdon, 2021). As such, it is possible that people scoring higher in fear of compassion are less likely seek treatment, which could also result in greater OCD symptom severity among people higher in FOC. As such, future research will need to control for past and present treatment.

Additionally, fear of receiving compassion and fear of self-compassion were highly correlated with each other in both samples. Given this, we examined the Fear of Compassion Scale using exploratory factor analysis, to determine whether fear of self-compassion and fear of receiving compassion were tapping the same underlying construct. However, this was not the case. As such, we moved forward with our separate pre-registered analyses. Attachment anxiety and avoidance were also strongly correlated in both samples. Based on our theoretical understanding and past research, we opted to pre-register and conduct analyses examining specific subscales of attachment and FOC independently. The purpose of this was to minimize the risk of a false positive result by only testing specific combinations of variables. However, it is possible that these patterns are general across attachment insecurity and FOC. As such, the results should be interpreted with the caveat that further research is needed to establish the specificity of these models.

Finally, both samples consisted of university undergraduate students. This limits the generalizability of our findings for two reasons. First, the average age of our sample was 20.39 years for study one and 20.41 years for study two. As such, our sample does not adequately capture a normal distribution of ages. This is a limitation because OCD onset is often bimodal: occurring either during childhood (approximately age 11) or in adulthood (approximately age 23)

(Roessner et al., 2022). As such, future research will need to examine a community sample to accurately capture late-onset OCD (e.g., post-partum representation) Additionally, it has been long-established that people from low socioeconomic status backgrounds are underrepresented in post-secondary education (Walpole, 2003). This could be particularly important in the context of our study given the focus on attachment and early experiences. For example, it is possible that the association between early experiences of feeling threatened, unvalued, and overpowered and OCD symptom severity would look different in a community sample compared to a student sample.

Despite these limitations, the results from these two studies suggest that fear of compassion is one potential mechanism that explains the relationship between attachment insecurity and OCD symptom severity. Explaining the relationship between attachment insecurity and OCD symptom severity is crucial to understanding how OCD develops and why symptoms are maintained. Finally, this research highlights the importance of considering attachment and FOC when treating OCD.

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