Graduate Student Journal of Psychology
Spring 2026 - Vol. 26

Attachment Style as a Partial Mediator Between Self-Reported Obsessive-Compulsive and Depressive Symptoms

Joel Bates, & Kulbir Barik
Institute of Psychiatry, Psychology and Neuroscience, King's College London, Institue, London, UK

Associations between obsessive-compulsive disorder (OCD) and depression are unclear; some individuals' depression and low mood improve once OCD symptoms reduce, while others' depressive symptoms persist. The present study sought to replicate findings that identified a moderating role of attachment style on the relationship between OCD and depression. The present study also tested a novel conceptualisation via which chronic mental distress associated with OCD may be associated with greater insecure attachment, making individuals vulnerable to persisting depressive symptoms . Participants who self-reported a formal or self-identified OCD diagnosis completed validated psychometric measures. Moderation and mediation analyses were conducted to examine the role of self-reported attachment style scores in the relationship between obsessive-compulsive (OC) and depressive symptoms in a non-clinical sample. Contrary to findings from clinical samples, attachment style scores did not significantly moderate the relationship between OC and depressive symptoms. There was a significant indirect effect of attachment style scores on the relationship between OC and depressive symptoms, with greater OC symptom severity being associated with greater insecure attachment scores and greater depressive symptoms. Further research is warranted to better understand how attachment style-related therapies or interventions may benefit individuals with OCD by safeguarding or improving attachment security and, by extension, alleviating depressive symptoms.

Keywords: obsessive-compulsive disorder, depression, attachment style, affective disorders, personality factors

Obsessive-compulsive disorder (OCD) is a serious mental health condition associated with intense anxiety, unwanted or intrusive thoughts, beliefs, or images, as well as compulsive or ritualistic behaviours aimed at alleviating this anxiety (Bisby et al., 2025). The condition is considered chronic (Tibi et al., 2017) and, when left untreated, can significantly reduce a person's quality of life (Masellis et al., 2003). Additionally, OCD is commonly associated with many other neuropsychiatric disorders, including mood disorders, anxiety disorders, neurodevelopmental disorders, and other obsessive-compulsive related disorders generally and depression and low mood being the most commonly associated among adults with OCD (Sharma et al., 2021).

Depression, a state involving hopelessness, low mood, fatigue and an array of cognitive, social, behavioural and biological symptoms/markers (Bernard, 2018). Depression is associated with poorer quality of life and increased risk of suicide and suicidal ideation (a pre-existing risk for individuals with OCD; Albert et al., 2019; Hansson, 2002; Keilp et al., 2012). Furthermore, in terms of recovery and treatment adherence, comorbid depression is associated with increased drop-out rates for therapy (Tibi et al., 2019 and poorer long-term outcomes (Jakubovski et al., 2013). As such, current evidence indicates that OCD with comorbid depression both negatively impacts lived experience, increases risk of suicide, and hinders overall recovery (Albert et al., 2019; Hansson, 2002; Jakubovski et al., 2013; Keilp et al., 2012; Tibi et al., 2019).

While implications for this comorbidity may be relatively well understood, the mechanisms behind the relationship between OCD and depression are less well elucidated (Tibi et al., 2017). One explanation outlined by Tibi et al. (2017) assumes a hierarchical structure to the comorbid relationship, identifying depression as a secondary functional result of the chronic burden of living with OCD through a process known as "delayed demoralisation" (DD). Tibi et al. (2017) demonstrate that a reduction in OCD symptom severity leads to improvements in depressive symptoms. This is in line with research cited by Tibi et al. (2017; Anholt et al., 2011; Meyer et al., 2014; Zandberg et al., 2015; Zitterl et al., 2000), which highlighted that reductions in OCD symptoms reduced depressive symptoms more so than reductions in depression reduced OCD symptoms. Such evidence indicates a unidirectional relationship between OCD and depression. However, contradictory research opposes this unidirectional conceptualisation of the OCD-depression relationship, with some evidence suggesting that reducing or minimising OCD symptoms alone is not sufficient to remedy all comorbid depressive symptoms in all cases (Rickelt et al., 2016). Importantly, Rickelt et al. (2016) raise important concerns regarding the treatment of OCD and comorbid depression, suggesting that this hierarchical conceptualisation of the OCD-depression relationship may not apply to all.

Moderating Role of Attachment Style

One proposed explanation for the disparities in results regarding the OCD-depression relationship relates to the impact of so-called "interpersonal styles" (i.e., attachment style) on the relationship between OCD and depression (Tibi et al., 2017). These attachment styles can be understood as an individual's emotional and behavioural patterns related to interpersonal relationships, often grouped into secure, anxious, or avoidant, and are shaped by early caregiver interactions (Levy et al., 2011). Secure attachment styles are associated with healthier social communication and functioning, while insecure attachment styles (i.e., anxious and avoidant) are associated with the inverse (Levy et al., 2011). Links between OCD and insecure attachment style are relatively well researched, with a meta-analysis of 16 studies indicating that insecure attachment is significantly associated with OCD (van Leeuwen et al., 2020). Moreover, in relation to attachment styles and OCD influencing depressive symptomology, one study identified that insecure attachment style predicted 12.6% of variance in depressive symptoms among individuals with OCD (Khan & Moghal, 2021). This is in alignment with existing research, which implicated attachment style in the onset and maintenance of OCD and subsequent depression (Doron et al., 2012). Furthermore, this paper presented cognitive mechanisms through which views regarding the self and world maintain OCD, going on to suggest that views and beliefs about these domains are driven by attachment style. Doron et al. (2012) found that individuals with OCD reported significantly more attachment anxiety even when controlling for depression. This is in line with the work of Tibi et al. (2017), which identifies that secure attachment protects against OCD symptomology, resulting in reduced depression. Such findings support the delayed demoralization theory by assuming a hierarchical relationship between OCD and comorbid depression when supposing that OCD has a direct effect on depressive symptoms. However, this research also incorporates an indirect effect that is moderated by the psychological profile associated with different attachment styles.

Further research on this exact topic remains lacking. However, conceptual support for the theoretical underpinnings of the hypothesis can be found within the wider literature, which identified the moderating effect of attachment styles between childhood trauma (Cook et al., 2017), sibling bullying (Bar-Zomer & Brunstein Klomek, 2018), childhood maltreatment (Nowalis et al., 2022), and depression. As such, the potential for attachment style to significantly moderate relationships between adverse events/experiences and resultant depression is well established (Bar-Zomer & Brunstein Klomek, 2018; Cook et al., 2017; Nowalis et al., 2022). Moreover, other research evidence has further implicated attachment style as a key factor in OCD development and maintenance (Pozza et al., 2021). This has also included attachment style moderating the relationship between individual factors such as fear of self and OCD symptom severity (Doron, 2020).

Mediatory Role of Attachment Style

A further goal of this study is to explore alternative conceptualisations of the OCD-depression-attachment style relationship. While the moderating role of attachment style remains relatively under-researched, the potential mediatory role of attachment style in the relationship between OC and depressive symptoms — as far as we can discern — has not been researched to date. Unlike the moderation framework from Tibi et al. (2017), which posits that attachment style has a unique, external effect on the OCD-depression relationship, a mediation conceptualisation instead posits that OCD may influence attachment style, which by extension influences depression (see Figure 1).

This proposed relationship may appear incompatible with traditional understandings of attachment style, as attachment styles have been understood to be trait characteristics that are largely constant across a person's lifespan (Allen et al., 2004; Erkoreka et al., 2021; Mõttus et al., 2019). However, even these studies acknowledged that, while predominantly stable, there is some evidence for movement and change among individuals' attachment style over time. Furthermore, recent research has identified that significant life events can influence attachment style over time (Fraley & Roisman, 2019). In particular, research identified that chronic mental health conditions such as OCD may reduce attachment security over time, particularly if symptoms disrupt an individual's close, interpersonal relationships (Ein-Dor et al., 2016). Similarly, other evidence found that chronic health conditions and interpersonal trauma can also reduce secure attachment and increase insecure attachments (Ciechanowski et al., 2004; Davila & Cobb, 2004). The evidence suggests that OCD may be able to actively influence an

individual's attachment style, and thus may leave these individuals more vulnerable to developing depression that persists even after OCD symptoms reduce.

The present study sought to fill two key gaps in the literature. Firstly, Tibi et al.'s (2017) moderation-based approach to the OCD-attachment style-depression relationship centered upon a sample of individuals with OCD recruited through clinical routes, and the present study sought to identify if, and to what degree, this relationship translates to individuals with self-identified OCD recruited through non-clinical routes. It is hypothesized that the relationship between OCD and depressive symptoms will be significantly moderated by attachment style scores, such that the association between OCD symptoms and depressive symptoms will be stronger among individuals with higher insecure attachment scores. Secondly, the present study sought to test a proposed novel conceptualization in which scores on a self-reported measure of attachment style act as a mediator between scores on self-reported measures of OCD and depressive symptoms, an approach which, as far as can be discerned, has not been examined to date. It is further hypothesized that attachment style will significantly mediate the relationship between OCD symptoms and depressive symptoms, such that greater OCD symptom severity will be associated with higher insecure attachment, which will be associated with greater depressive symptoms.

Method

Participants

This study utilised opportunity and snowball sampling techniques to recruit a non-clinical sample into this study's survey. This involved recruiting via social media platforms (e.g., Instagram and Reddit), as well as through the OCD charity 'OCD Action'. A total of 237 participants clicked on the survey, and a total of 123 provided substantial psychometric data. Exclusion criteria included a minimum age of 16. The inclusion criteria stipulated that only individuals with a self-reported OCD diagnosis within three specific categories were able to participate. First of which were those with a self-reported formal diagnosis of OCD from a mental health professional. The second category consisted of individuals with a self-reported "working diagnosis". This would mean a diagnosis provided by a relevant health professional (e.g., GP or therapist) who does not have the ability to provide a full/formal diagnosis and/or an ongoing or preliminary diagnosis from a relevant mental health professional who has the ability to diagnose mental health disorders but at the time of participation had not provided/completed this formal diagnosis. Finally, the third was a self-diagnosis of OCD. This enabled individuals to participate who felt their symptoms aligned with their understanding of what OCD constituted. Justification for self-diagnosed individuals being eligible was two-fold. Firstly, due to restraints on healthcare systems, many individuals lack the ability to access formal diagnoses for mental health conditions, as such, this ensured not to shut out individuals who were not fortunate enough to access a diagnosis (Lowther-Payne et al., 2023). Secondly, as confirmed by prior research, self-diagnoses for mental health conditions can be reliable indicators of underlying conditions (Rutter et al., 2023). Importantly, however, it remains that this self-reported data offers less certainty regarding participants' actual mental health circumstances than if diagnostic assessments were carried out.

After reading the study information documentation, valid informed consent was obtained in writing prior to accessing the study's set of validated psychometric measures. Importantly, within this study, participants provided responses to validated measures of obsessive-compulsive (OC) and depressive symptomology and scores of severity for insecure attachment, as such, all data within the study are self-reported measures of symptoms and not verified by a mental health professional.

Measures

Demographics

Demographic characteristics included age, ethnicity, and diagnosis. Participants were asked to indicate whether they had a full OCD diagnosis from a mental health professional, working diagnosis from a mental health professional or were self-diagnosed.

Yale-Brown Obsessive-Compulsive Severity Scale

To measure OC symptom severity, the Yale-Brown Obsessive-Compulsive Severity Scale (Y-BOCS) (Goodman et al., 1989) was used. As this measure was also utilised by Tibi et al. (2017), this enabled closer alignment with their original model. Moreover, this measure is recognised as a validated and reliable measure of OC symptoms (López-Pina et al., 2015). Participants rate each of the ten items (α = .89) on a

5-point Likert scale, with 1 indicating "*0-1 hours a day, None, Never try completely yield, No control*" and 5 indicating "*More than 8 hours a day, Severe, Always try, Complete control*". Higher scores indicate higher OC symptomology. Items covered obsessive content such as "*How much control do you have over your obsessive thoughts?*", "*How successful are you in stopping or diverting your obsessive thinking?*", and "*Can you dismiss them?*", as well as behavioural/compulsive items such as "*How much time do you spend performing compulsive behaviors?*", *"How much longer than most people does it take to complete routine activities because of your rituals?"*, and *"How frequently do you do rituals?"*

Depression

The present study utilised the Patient Health Questionnaire 8 (PHQ-8; Kroenke et al., 2009) to measure depressive symptoms. Not only is this measure known to be reliable and valid (Shin et al., 2019), it is also shorter than the Beck Depression Inventory (BDI; Upton, 2020), reducing survey fatigue. Furthermore, this measure does not include potentially triggering items relating to self-harm/suicide/suicidal ideation as the BDI does, while being just as effective (Shin et al., 2019). Respondents complete eight items (α = .86), 0-3 Likert scale, with 1 indicating "*Not at all*" and 3 indicating "*Nearly every day*". Higher scores indicate higher depressive symptoms. This questionnaire asks respondents how often in the past two weeks they have been bothered by a specific problem (e.g., "*Feeling down, depressed or hopeless*" and "*Trouble falling or staying asleep or sleeping too much*").

Attachment Style

The Adult Attachment Scale brief version (18 items; Collins & Read, 1990) was used to measure attachment style. Participants receive a total score for their anxious and avoidant attachment styles. The scale utilises a 5-point Likert scale with 1 indicating "*Not at all characteristic of me*" and 5 indicating "*Very characteristic of me*." Within this study, we utilised the two-factor scoring method, in which participants receive a score on an avoidant attachment 12-item (α = .77) subscale and an anxious attachment 6-item (α = .75) subscale. Items included "*I find it relatively easy to get close to others*" and "*I find it difficult to trust others completely*."

Ethics

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2013. All procedures involving human subjects/patients were approved by King's College London Research Ethics Committee under study ID: HR/DP-22/23-32992.

Statistical Analyses

Data was cleaned using IBM SPSS Statistics (version 31.0.0.0). This included the removal of participants who did not elect to complete the psychometrics section of a wider survey. In total, 114 cases were removed from an initial sample of 237, resulting in a final sample of 123 participants (n = 123). These excluded participants either did not complete the overall survey or completed the broader survey but did not respond to the psychometrics section.

Missing data were handled using listwise deletion, whereby cases with missing values on any variable included in a given analysis were excluded. As a result, all models included 116 valid cases. The majority of missing data arose from non-completion of the final questionnaire, which appeared at the end of the survey, suggesting that missing data were primarily due to participant attrition rather than random item-level nonresponse. No mean imputation was performed.

Reliability tests were performed (Cronbach's alpha), with each measure passing an ideal threshold (α > .70) as outlined by Tavakol and Dennick (2011), indicating that measures were used reliably in this study. Key assumptions for mediation and moderation analyses were tested in line with Hayes (2022), including linearity, normality of residuals, and homoscedasticity. Descriptive statistics - mean age, percentages of diagnosis categories were completed to understand demographic characteristics within the sample.

For the mediation and moderation analyses, Hayes (2022) was used as guidance to identify the appropriate model that aligned to the theoretical underpinnings of variables. For example, in the case of the mediation analysis, Hayes Model 4 was utilized as this included a predictor (OC symptoms), a mediator (anxious or avoidant attachment scores), and an outcome variable (depressive symptoms). Both the moderation and mediation analyses estimated indirect effects using 5000 bootstrap samples with 95% percentile confidence intervals using the PROCESS macro for SPSS (Version 5.0, Hayes 2022).

Results

Descriptive statistics indicated that the average age of participants was 30.25 (SD = 11.26, range = 16-

56), and ethnicities were relatively diverse (see Table 1). Using the three diagnostic categories, 66.7% self-identified as having a full/formal OCD diagnosis, 19.5% with a working diagnosis, and 13.8% were self-diagnosed.

A two-way moderation model was tested using Hayes (2022) PROCESS Model 2 (n = 116) to examine whether anxious and avoidant attachment scores moderated the relationship between OC and depressive symptoms. The overall model explained 48.8% of the variance in depressive symptoms. Neither anxious nor avoidant attachment significantly moderated this relationship, and both interaction terms were non-significant (OCD × avoidant attachment: p = .575; OCD × anxious attachment: p = .633), indicating that the effect of OC symptoms on depressive symptoms was consistent across attachment styles.

Two separate mediation models were tested using PROCESS Model 4 (n = 116). In the first model, anxious attachment scores were specified as the mediator. OC symptoms significantly predicted anxious attachment scores (b = .370, p = .003), explaining 7.7% of its variance, and anxious attachment scores in turn significantly predicted depressive symptoms (b = .231, p < .001). The model predicting depressive symptoms accounted for 42.8% of the variance. The indirect effect of OC symptoms on depressive symptoms via anxious attachment scores was significant (Boot *CI* [.021, .166]), indicating partial mediation, although a substantial direct effect of OC symptoms on depressive symptoms remained (b = .558, p < .001).

In the second mediation model, avoidant attachment scores were specified as the mediator. OC symptoms significantly predicted avoidant attachment (b = .539, p < .001), explaining 22.4% of its variance, and avoidant attachment significantly predicted depressive symptoms (b = .348, p < .001). The model accounted for 45.8% of the variance in depressive symptoms. The indirect effect via avoidant attachment was also significant (Boot *CI* [.090, .295]), indicating partial mediation, with a substantial direct effect of OC symptoms on depressive symptoms remaining (b = .456, p < .001).

Overall, these results indicate that both anxious and avoidant attachment scores partially mediate the relationship between OC and depressive symptoms, such that OC symptoms are associated with greater attachment insecurity, which in turn are associated with higher depressive symptoms. Moderation was not supported, suggesting that associations between OC symptoms and depression do not differ in relation to attachment style scores. Detailed coefficients, standard errors, t-values, p-values, and confidence intervals for all paths are presented in Table 2.

Discussion

The current study sought to further explore the moderating effect of attachment style scores on the relationship between OC and depressive symptoms, in particular, how and to what degree this relationship translates to a non-clinical population of individuals with self-reported/identified OCD. Furthermore, the present study tested a novel conceptualisation of the relationship between OC and depressive symptoms, investigating the mediatory effect of attachment style scores.

Moderation

The model explained a substantial proportion of variance in depression scores, however, OC symptoms' direct effect on depressive symptoms only approached statistical significance. This is likely attributable to the inclusion of attachment style variables in the model, which account for shared variance. Nonetheless, the trend towards significance aligns with existing literature indicating that depression is one of the most common comorbidities of OCD (Pastre et al., 2025; Sharma et al., 2021).

Moderation analyses revealed that neither anxious nor avoidant attachment scores significantly altered the relationship between OC and depressive symptoms, as the interaction terms were non-significant. As such, the first hypothesis of the present study was not supported. This indicates that the effect of OC symptoms on depressive symptoms was consistent across anxious and avoidant attachment styles. This is unexpected as Tibi et al. (2017) present strong evidence for the influence of attachment styles being integral to the relationship between OC and depressive symptoms. These differences in findings may be attributed to differences in sample characteristics, such as the use of a non-clinical population or lower symptom severity compared to Tibi. This is supported by research (Yesavage et al., 1982), which found that non-clinical participants reported generally lower scores on the same measures compared to clinical participants. Additionally, as our sample included self-diagnosed individuals, our sample may further diverge from that of Tibi et al. (2017). As such, it may be that, cumulatively, these factors are respon-

sible for the non-significant results from the model.

Beyond sample considerations, it is worth considering theoretical reasons that moderation effects were not detected by the present study. While OC symptoms significantly predicted attachment insecurity, attachment style exists as a broader construct shaped by multiple forces beyond OCD, including early caregiving experiences and adult relationship histories. These external influences may independently maintain attachment security, offsetting OC symptoms' push toward insecurity and rendering moderation effects undetectable in the present sample. Rather than refuting Tibi et al.'s (2017) moderation framework, the present findings may point toward a moderated mediation relationship in which attachment style is both influenced by OC symptoms and exerts an external effect on the relationship between OC symptoms and depressive symptoms. Importantly, this complexity may be better captured through structural equation modelling (SEM), which would allow attachment style to be modelled as having both an endogenous component — shaped by OC symptoms — and an exogenous component — shaped by broader life experiences —, something PROCESS macro is unable to partition. Future longitudinal research employing SEM is therefore recommended to more precisely test this theoretical model.

Mediation

The mediation analyses indicated that OC symptoms were significantly associated with depressive symptoms, accounting for a substantial portion of the variance in scores of depressive symptoms. This aligns with prior research demonstrating strong links between OCD and depression (Pastre et al., 2025; Sharma et al., 2021).

Moreover, both attachment styles were found to partially mediate the relationship between OC and depressive symptoms. Specifically, higher OC scores were associated with greater anxious and avoidant attachment scores, which were associated with higher depressive symptoms. The indirect effects were significant for both attachment styles, indicating that attachment processes may help explain part of the association between OC and depressive symptoms, although substantial direct effects of OC symptoms on depressive symptoms remained. As such, the second hypothesis of the present study is supported.

While causation cannot be assumed by the present study, these findings may suggest that living with OC symptoms may be associated with shifts in relational patterns and greater anxious and avoidant tendencies. Psychological factors commonly associated with OCD - such as low self-esteem (Jaeger et al., 2021), perfectionism (Pinto et al., 2017), and need for control (Moulding & Kyrios, 2007) - may further reinforce these attachment-related behaviours, which may heighten vulnerability to depressive symptoms. Functionally, avoidant attachment may increase likelihood of an individual suppressing emotions and avoiding intimacy (Mikulincer & Shaver, 2007) and experiencing loneliness (Wei et al., 2005). In contrast, anxious attachment may increase worry about relationships (Mikulincer & Shaver, 2007) and impact emotional regulation (Mikulincer & Shaver, 2019), with both forms of attachment being associated with depression (Jinyao et al., 2012; Wei et al., 2005). Broadly, these findings align with Khan and Moghal (2021), who found that dismissive and fearful attachment styles were the strongest predictors of depression, consistent with the present study's finding that avoidant attachment demonstrated a stronger indirect effect than anxious attachment (b = .188 and b = .085, respectively). Research indicates that avoidant attachment behaviours are associated with depression. For instance, social withdrawal is associated with depression in a causal, bi-directional relationship (Zhu et al., 2024). Simultaneously, emotional suppression behaviours are associated with increased depressive symptoms (Cameron & Overall, 2018). In addition, reduced help-seeking seen among individuals with avoidant attachment is also associated with depression (Rickwood et al., 2005). Such findings implicate classic avoidant behaviours as pathways to greater depressive risk. Meanwhile, anxious attachment styles may elicit behaviours that, while still harmful compared to secure attachment in the context of OCD, are less detrimental to mental health than those observed among individuals with avoidant attachment style. For example, concern or worry about relationships seen among individuals with anxious attachment styles may elicit help/reassurance-seeking behaviours that reduce isolation, thus creating a 'buffer' that lessens the association between OC symptoms, attachment style scores and depressive symptoms (Mikulincer & Shaver, 2007). This pathway may help explain the stronger effect of avoidant attachment compared to anxious attachment scores within our sample, however, further research is required with larg-

er, diversified samples to draw more firm conclusions.

Overall, these results highlight the importance of considering attachment styles as a potential mechanism linking OC and depressive symptoms. The results suggest that interventions targeting both anxious and avoidant attachment processes may help mitigate depressive outcomes in individuals with OCD both prior to and after receiving treatment for OCD. Finally, while widely understood to be intransigent, this evidence supports existing work which posits that attachment styles may be susceptible to change under exceptional circumstances, such as chronic mental health conditions (Ein-Dor et al., 2016; Fraley & Roisman, 2019).

Attachment Style

These findings also have broader implications for the attachment-psychopathology literature beyond OCD. Traditional conceptualisations have positioned attachment style as a largely stable trait; however, recent research suggests that state and trait aspects of attachment coexist, with state attachment subject to dynamic influences and change over time (Jennissen et al., 2024; Tammilehto et al., 2025). The present findings are consistent with this view, suggesting that lived experience of psychopathology such as OCD may represent one such dynamic influence on attachment state. The potential coexistence of moderating and mediating effects of attachment style further supports this interpretation, pointing toward latent variable constructs within attachment style that are differentially shaped by distinct types of experience. Specifically, one component may reflect the chronic burden of living with OCD actively shifting relational patterns over time, while another reflects more stable influences rooted in early caregiving experiences and adult relationship histories. Rather than viewing these as contradictory, they may represent complementary dimensions of a more complex attachment system than traditional trait-based conceptualisations allow for. The present study cannot fully disentangle these influences; however, this represents a significant finding with implications for broader understandings of attachment style across psychopathology. Future research employing longitudinal designs and structural equation modelling would be well placed to investigate this.

Limitations and Directions for Future Research

Although the moderation model explained a substantial portion of the variance, key relationships between variables did not reach the threshold of statistical significance. This suggests that the effect may be present, but the present sample size may be insufficient to detect it reliably due to the higher levels of power needed for statistical significance when conducting moderation analyses (Aguinis et al., 2005). This highlights the need for replication with larger samples to clarify whether moderation-based conceptualisations can explain the OCD-depression relationships in non-clinical populations. Furthermore, as Tibi et al. (2017) used cross-lagged, longitudinal methods to study a clinical population, future research should strive to produce similar studies in non-clinical populations.

As the present study utilised a cross-sectional design, future work should seek to identify methods to establish causal relationships between OCD, attachment style, and depression. To understand how OCD may facilitate attachment style changes, researchers should adopt longitudinal methods in order to track attachment style changes over time in relation to OCD.

Utilisation of a variety of recruitment methods to avoid any bias/skew in recruitment would ensure that recruitment is as representative as possible. Additionally, through recruiting both clinical and non-clinical populations, future studies would be able to more effectively compare these groups.

Future studies could reduce data loss due to participant attrition by providing reimbursement or other incentives. Additionally, randomising the order in which questionnaires are presented may help distribute missing data more evenly across the survey, rather than having it cluster at the final measures.

The Yale-Brown Obsessive-Compulsive Scale (Y-BOCS; Goodman et al., 1989) is usually clinician-administered, considered the gold standard for assessing OC symptom severity. In this study, a self-administered version was used. While self-report adaptations show good reliability and moderate agreement with clinician ratings, some discrepancies exist. Future studies should use a validated self-report YBOCS that has been designed to be self-administered or retain clinician administration to ensure accuracy (e.g., Steketee et al., 1996: Self-report Y-BOCS scale). Finally, these findings support the development of therapeutic interventions that seek to safeguard secure attachment styles among individuals with OCD in order to reduce instances and duration of any depressive symptomology resulting from living with OCD.

Conclusion

Evidence from the moderation model, taken with acknowledgment of potential limitations, indicates that the hypothesized relationship between attachment style scores, OC and depressive symptoms was not supported among our non-clinical population. While this evidence does not refute the existence of the relationship proposed by Tibi et al. (2017), the present study could not provide empirical evidence to support this finding. As such, this specific explanation for how and why some individuals continue to experience depressive symptoms even after receiving treatment cannot be further elucidated by this study. However, through mediation analysis, this study identified evidence for a novel mediatory role of attachment style in the relationship between attachment style scores, OC and depressive symptoms, one in which chronic OC symptoms may be associated with greater insecure attachment, which in turn is associated with increased depressive symptoms. As such, this paper concludes that there is evidence for a hierarchical structure to the relationship between OC and depressive symptoms. Within this relationship, attachment insecurity, potentially exacerbated by living with OC symptoms, may prolong or increase an individual's depressive symptoms, thus helping to explain how and why some individuals experience depression post-treatment. This evidence opens new avenues for future research, not only in relation to how and why OCD may be associated with depression through facilitating changes in attachment style but also regarding the potential fluidity of attachment styles more broadly. Finally, future work may yield benefits from trial-ing OCD interventions which also seek to safeguard secure attachments.

References

Aguinis, H., Beaty, J. C., Boik, R. J., & Pierce, C. A. (2005). Effect size and power in assessing moderating effects of categorical variables using multiple regression: a 30-year review. *Journal of Applied Psychology, 90*(1), 94–107. https://doi.org/10.1037/0021-9010.90.1.94

Albert, U., Ronchi, D. D., Maina, G., & Pompili, M. (2019). Suicide risk in obsessive-compulsive disorder and exploration of risk factors: a systematic review. *Current Neuropharmacology, 17*(8), 681–696. https://doi.org/10.2174/1570159X16666180620155941

Allen, J. P., McElhaney, K. B., Kuperminc, G. P., & Jodl, K. M. (2004). Stability and change in attachment security across adolescence. *Child Development, 75*(6), 1792–1805. https://doi.org/10.1111/j.1467-8624.2004.00817.x

Anholt, G. E., Aderka, I. M., van Balkom, A. J. L. M., Smit, J. H., Hermesh, H., de Haan, E., & van Oppen, P. (2011). The impact of depression on the treatment of obsessive-compulsive disorder: Results from a 5-year follow-up. *Journal of Affective Disorders, 135*(1–3), 201–207. https://doi.org/10.1016/j.jad.2011.07.018

Bar-Zomer, J., & Brunstein Klomek, A. (2018). Attachment to parents as a moderator in the association between sibling bullying and depression or suicidal ideation among children and adolescents. *Frontiers in Psychiatry, 9*(72). https://doi.org/10.3389/fpsyt.2018.00072

Bernard, J. E. R. (2018). Depression: A review of its definition. *MOJ Addict Med Ther, 5*(1), 6–7. DOI: 10.15406/mojamt.2018.05.00082

Bisby, M. A., Wootton, B., & Dear, B. F. (2025). The timing of symptom change and early treatment response in a self-guided digital treatment for obsessive-compulsive disorder. *British Journal of Clinical Psychology, n/a*(n/a). https://doi.org/10.1111/bjc.12543

Cameron, L. D., & Overall, N. C. (2018). Suppression and expression as distinct emotion-regulation processes in daily interactions: Longitudinal and meta-analyses. *Emotion, 18*(4), 465. DOI: 10.1037/emo0000334

Ciechanowski, P., Russo, J., Katon, W., Von Korff, M., Ludman, E., Lin, E., Simon, G., & Bush, T. (2004). Influence of patient attachment style on self-care and outcomes in diabetes. *Psychosomatic Medicine, 66*(5), 720–728. https://doi.org/10.1097/01.psy.0000138125.59122.23

Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology, 58*(4), 644–663. https://doi.org/10.1037/0022-3514.58.4.644

Cook, S. H., Valera, P., Calebs, B. J., & Wilson, P. A. (2017). Adult attachment as a moderator of the association between childhood traumatic experiences and depression symptoms among young Black gay and bisexual men. *Cultural Diversity*

& Ethnic Minority Psychology, 23(3), 388–397. https://doi.org/10.1037/cdp0000119

Davila, J., & Cobb, R. J. (2004). Predictors of change in attachment security during adulthood. In W. S. Rholes & J. A. Simpson (Eds.), *Adult attachment: Theory, research, and clinical implications* (pp. 133– 156). Guilford Publications.

Doron, G. (2020). Self-vulnerabilities, attachment and obsessive compulsive disorder (OCD) symptoms: Examining the moderating role of attachment security on fear of self. *Journal of Obsessive-Compulsive and Related Disorders, 27*, 100575. https://doi.org/10.1016/j.jocrd.2020.100575

Doron, G., Moulding, R., Nedeljkovic, M., Kyrios, M., Mikulincer, M., & Sar-El, D. (2012). Adult attachment insecurities are associated with obsessive compulsive disorder. *Psychology and Psychotherapy, 85*(2), 163–178. https://doi.org/10.1111/j.2044-8341.2011.02028.x

Ein-Dor, T., Viglin, D., & Doron, G. (2016). Extending the transdiagnostic model of attachment and psychopathology. *Frontiers in Psychology, 7*, 484. https://doi.org/10.3389/fpsyg.2016.00484

Erkoreka, L., Zumarraga, M., Arrue, A., Zamalloa, M. I., Arnaiz, A., Olivas, O., Moreno-Calle, T., Saez, E., Garcia, J., Marin, E., Varela, N., Gonzalez-Pinto, A., & Basterreche, N. (2021). Genetics of adult attachment: An updated review of the literature. *World Journal of Psychiatry, 11*(9), 530–542. https://doi.org/10.5498/wjp.v11.i9.530

Fraley, R. C., & Roisman, G. I. (2019). The development of adult attachment styles: Four lessons. *Current Opinion in Psychology, 25*, 26–30. https://doi.org/10.1016/j.copsyc.2018.02.008

Goodman, W. K., Price, L. H., Rasmussen, S. A., Mazure, C., Fleischmann, R. L., Hill, C. L., Heninger, G. R., & Charney, D. S. (1989). The Yale-Brown Obsessive Compulsive Scale: I. Development, use, and reliability. *Archives of General Psychiatry, 46*(11), 1006–1011. https://doi.org/10.1001/archpsyc.1989.01810110048007

Hansson, L. (2002). Quality of life in depression and anxiety. *International Review of Psychiatry, 14*(3), 185-189. https://doi.org/10.1080/09540260220144966

Hayes, A. F. (2022). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (3rd ed.). Guilford Press.

Jaeger, T., Moulding, R., Yang, Y. H., David, J., Knight, T., & Norberg, M. M. (2021). A systematic review of obsessive-compulsive disorder and self: Self-esteem, feared self, self-ambivalence, egodystonicity, early maladaptive schemas, and self concealment. *Journal of Obsessive-Compulsive and Related Disorders, 31*, 100665. https://doi.org/10.1016/j.jocrd.2021.100665

Jakubovski, E., Diniz, J. B., Valerio, C., Fossaluza, V., Belotto-Silva, C., Gorenstein, C., Miguel, E., & Shavitt, R. G. (2013). Clinical predictors of long-term outcome in obsessive-compulsive disorder. *Depression and Anxiety, 30*(8), 763– 772. https://doi.org/10.1002/da.22013

Jennissen, S., Volz, M., Schauenburg, H., & Dinger, U. (2024). State and trait characteristics of attachment as predictors of outcome in inpatient psychotherapy. *Psychotherapy, 61*(3), 212–221. https://doi.org/10.1037/pst0000529

Jinyao, Y., Xiongzhao, Z., Auerbach, R. P., Gardiner, C. K., Lin, C., Yuping, W., & Shuqiao, Y. (2012). Insecure attachment as a predictor of depressive and anxious symptomology. *Depression and Anxiety, 29*(9), 789–796. https://doi.org/10.1002/da.21953

Keilp, J. G., Grunebaum, M. F., Gorlyn, M., LeBlanc, S., Burke, A. K., Galfalvy, H., Oquendo, M. A., & Mann, J. J. (2012). Suicidal ideation and the subjective aspects of depression. *Journal of Affective Disorders, 140*(1), 75–81. https://doi.org/10.1016/j.jad.2012.01.045

Khan, Z., & Moghal, F. (2021). Attachment styles as determinants of depression in adult patients with psychiatric disorders. *Clinical Practice, 18*(7). https://doi.org/10.37532/fmcp.2021.18(7).1752– 1760

Kroenke, K., Strine, T. W., Spitzer, R. L., Williams, J. B. W., Berry, J. T., & Mokdad, A. H. (2009). The PHQ-8 as a measure of current depression in the general population. *Journal of Affective Disorders, 114*(1), 163–173. https://doi.org/10.1016/j.jad.2008.06.026

Levy, K. N., Ellison, W. D., Scott, L. N., & Bernecker, S. L. (2011). Attachment style. *Journal of clinical psychology, 67*(2), 193– 203.

López-Pina, J. A., Sánchez-Meca, J., López-López, J. A., Marín-Martínez, F., Núñez-Núñez, R. M., Rosa-Alcázar, A. I., Gómez-Conesa, A., & Fer-

rer-Requena, J. (2015). The Yale-Brown Obsessive Compulsive Scale: a reliability generalization meta-analysis. *Assessment, 22*(5), 619– 628. https://doi.org/10.1177/1073191114551954

Lowther-Payne, H. J., Ushakova, A., Beckwith, A., Liberty, C., Edge, R., & Lobban, F. (2023). Understanding inequalities in access to adult mental health services in the UK: a systematic mapping review. *BMC health services research, 23*(1), 1042. https://doi.org/10.1186/s12913-023-10030-8

Masellis, M., Rector, N. A., & Richter, M. A. (2003). Quality of life in OCD: differential impact of obsessions, compulsions, and depression comorbidity. *The Canadian Journal of Psychiatry, 48*(2), 72– 77. https://doi.org/10.1177/070674370304800202

Meyer, J. M., McNamara, J. P. H., Reid, A. M., Storch, E. A., Geffken, G. R., Mason, D. M., Murphy, T. K., & Bussing, R. (2014). Prospective relationship between obsessive-compulsive and depressive symptoms during multimodal treatment in pediatric obsessive-compulsive disorder. *Child Psychiatry and Human Development, 45*(2), 163– 172. https://doi.org/10.1007/s10578-013-0388-4

Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change* (p. 578). The Guilford Press.

Mikulincer, M., & Shaver, P. R. (2019). Attachment orientations and emotion regulation. *Current Opinion in Psychology, 25*, 6–10. https://doi.org/10.1016/j.copsyc.2018.02.006

Mõttus, R., Briley, D. A., Zheng, A., Mann, F. D., Engelhardt, L. E., Tackett, J. L., Harden, K. P., & Tucker-Drob, E. M. (2019). Kids becoming less alike: A behavioral genetic analysis of developmental increases in personality variance from childhood to adolescence. *Journal of Personality and Social Psychology, 117*(3), 635–658. https://doi.org/10.1037/pspp0000194

Moulding, R., & Kyrios, M. (2007). Desire for control, sense of control and obsessive-compulsive symptoms. *Cognitive Therapy and Research, 31*(6), 759–772. https://doi.org/10.1007/s10608-006-9086-x

Nowalis, S., Godleski, S. A., & Schenkel, L. S. (2022). Attachment as a moderator in the relation between child maltreatment and symptoms of depression. *Journal of Interpersonal Violence, 37*(3–4), NP1516-NP1543. https://doi.org/10.1177/0886260520933050

Pastre, M., Raffard, S., Mallet, L., & Lopez-Castroman, J. (2025). The relationship between OCD and depression in adults: a review of recent findings. *Current Psychiatry Reports, 27*(4), 187– 198. https://doi.org/10.1007/s11920-025-01589-6

Pinto, A., Dargani, N., Wheaton, M. G., Cervoni, C., Rees, C. S., & Egan, S. J. (2017). Perfectionism in obsessive-compulsive disorder and related disorders: What should treating clinicians know? *Journal of Obsessive-Compulsive and Related Disorders, 12*, 102–108. https://doi.org/10.1016/j.jocrd.2017.01.001

Pozza, A., Dèttore, D., Marazziti, D., Doron, G., Barcaccia, B., & Pallini, S. (2021). Facets of adult attachment style in patients with obsessive-compulsive disorder. *Journal of Psychiatric Research, 144*, 14–25. https://doi.org/10.1016/j.jpsychires.2021.09.045

Rickelt, J., Viechtbauer, W., Lieverse, R., Overbeek, T., van Balkom, A. J., van Oppen, P., van den Heuvel, O. A., Marcelis, M., Eikelenboom, M., Tibi, L., & Schruers, K. R. (2016). The relation between depressive and obsessive-compulsive symptoms in obsessive-compulsive disorder: Results from a large, naturalistic follow-up study. *Journal of Affective Disorders, 203*, 241–247. https://doi.org/10.1016/j.jad.2016.06.009

Rickwood, D., Deane, F. P., Wilson, C. J., & Ciarrochi, J. (2005). Young people's help-seeking for mental health problems. *Australian e-journal for the Advancement of Mental health, 4*(3), 218–251. https://doi.org/10.5172/jamh.4.3.218

Rutter, L. A., Howard, J., Lakhan, P., Valdez, D., Bollen, J., & Lorenzo-Luaces, L. (2023). "I haven't been diagnosed, but I should be"-insight into self-diagnoses of common mental health disorders: cross-sectional study. *JMIR Formative Research, 7*(1), e39206. https://doi.org/10.2196/39206

Sharma, E., Sharma, L. P., Balachander, S., Lin, B., Manohar, H., Khanna, P., Lu, C., Garg, K., Thomas, T. L., Au, A. C. L., Selles, R. R., Højgaard, D. R. M. A., Skarphedinsson, G., & Stewart, S. E. (2021). Comorbidities in obsessive-compulsive disorder across the lifespan: a systematic review and meta-analysis. *Frontiers in Psychiatry, 12*. https://doi.org/10.3389/fpsyt.2021.703701

Shin, C., Lee, S.-H., Han, K.-M., Yoon, H.-K., &

Han, C. (2019). Comparison of the usefulness of the PHQ-8 and PHQ-9 for screening for major depressive disorder: analysis of psychiatric outpatient data. *Psychiatry Investigation, 16*(4), 300. https://doi.org/10.30773/pi.2019.02.01

Steketee, G., Frost, R., & Bogart, K. (1996). The Yale-Brown obsessive compulsive scale: Interview versus self-report. *Behaviour research and therapy, 34*(8), 675–684.

Tammilehto, J., Kaurin, A., Bosmans, G., Kuppens, P., Flykt, M., Vänskä, M., ... & Lindblom, J. (2025). Everyday state attachment: Dynamic features and role of trait attachment. *Journal of Personality, 93*(3), 781–795. https://doi.org/10.1111/jopy.12975

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International journal of medical education, 2*, 53. https://doi.org/10.5116/ijme.4dfb.8dfd

Tibi, L., Oppen, P. van, Balkom, A. J. L. M. van, Eikelenboom, M., Rickelt, J., Schruers, K. R. J., & Anholt, G. E. (2017). The long-term association of OCD and depression and its moderators: A four-year follow up study in a large clinical sample. *European Psychiatry, 44*, 76–82. https://doi.org/10.1016/j.eurpsy.2017.03.009

Tibi, L., van Oppen, P., van Balkom, A. J. L. M., Eikelenboom, M., Emmelkamp, P. M. G., & Anholt, G. E. (2019). Predictors of treatment outcome in OCD: An interpersonal perspective. *Journal of Anxiety Disorders, 68*, 102153. https://doi.org/10.1016/j.janxdis.2019.102153

Upton, J. (2020). Beck Depression Inventory (BDI). In *Encyclopedia of Behavioral Medicine* (pp. 202-203). Springer, Cham. https://doi.org/10.1007/978-3-030-39903-0_441

van Leeuwen, W. A., van Wingen, G. A., Luyten, P., Denys, D., & van Marle, H. J. F. (2020). Attachment in OCD: A meta-analysis. *Journal of Anxiety Disorders, 70*, 102187. https://doi.org/10.1016/j.janxdis.2020.102187

Wei, M., Mallinckrodt, B., Larson, L. M., & Zakalik, R. A. (2005). Adult attachment, depressive symptoms, and validation from self versus others. *Journal of Counseling Psychology, 52*(3), 368–377. https://doi.org/10.1037/0022-0167.52.3.368

Yesavage, J. A., Brink, T. L., Rose, T. L., Lum, O., Huang, V., Adey, M., & Leirer, V. O. (1982). Development and validation of a geriatric depression screening scale: A preliminary report. *Journal of Psychiatric Research, 17*(1), 37–49. https://doi.org/10.1016/0022-3956(82)90033-4

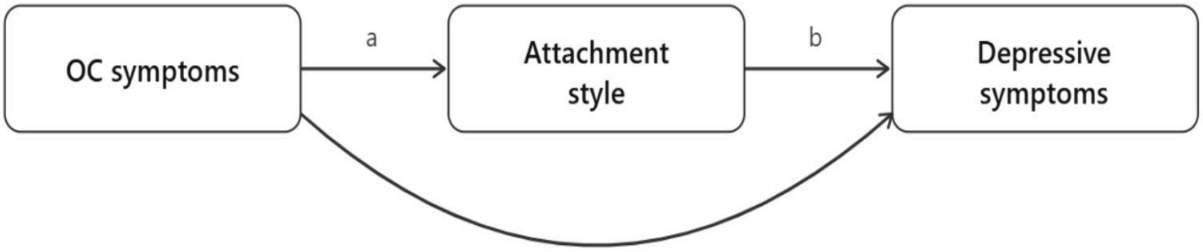
Zandberg, L. J., Zang, Y., McLean, C. P., Yeh, R., Simpson, H. B., & Foa, E. B. (2015). Change in obsessive-compulsive symptoms mediates subsequent change in depressive symptoms during exposure and response prevention. *Behaviour Research and Therapy, 68*, 76–81. https://doi.org/10.1016/j.brat.2015.03.005

Zitterl, W., Demal, U., Aigner, M., Lenz, G., Urban, C., Zapotoczky, H. G., & Zitterl-Eglseer, K. (2000). Naturalistic course of obsessive compulsive disorder and comorbid depression. Longitudinal results of a prospective follow-up study of 74 actively treated patients. *Psychopathology, 33*(2), 75–80. https://doi.org/10.1159/000029124

Zhu, S., Kong, X., Han, F., Tian, H., Sun, S., Sun, Y., ... & Wu, Y. (2024). Association between social isolation and depression: Evidence from longitudinal and Mendelian randomization analyses. *Journal of affective disorders, 350*, 182–187. DOI: 10.1016/j.jad.2024.01.106

Figure 1.

Proposed Mediation Model of the Associations between OC Symptoms, Attachment Style Scores, and Depressive Symptoms



Note. c' (direct effect)

Table 1.

Participant Ethnicity Data

Ethnicity	Frequency (count)
Asian or Asian British (Indian, Pakistani, Bangladeshi, Chinese, or other Asian background)	5
Black, African, Caribbean, or Black British (African, Caribbean, or other Black/African/Caribbean background)	1
Mixed or Multiple ethnicities (White and Black Caribbean, White and Black African, White and Asian, or other mixed/multiple ethnicities)	10
Other ethnic group	10
White (English, Welsh, Scottish, Northern Irish, British), Irish, Gypsy or Irish Traveller, other white background	97

Table 2.

Summary of Mediation and Moderation Analyses

Analysis	Path / Predictor	b	SE	t	p	95% CI
Moderation (Model 2, Two Moderators)	OCD main effect	0.405	0.206	1.96	.052	[-0.004, 0.814]
	Anxious attachment main effect	0.243	0.194	1.25	.213	[-0.142, 0.628]
	Avoidant attachment main effect	0.157	0.229	0.69	.493	[-0.295, 0.610]
	OCD × Anxious attachment	0.057	0.100	0.56	.575	[-0.142, 0.254]
	OCD × Avoidant attachment	-0.043	0.089	-0.48	.633	[-0.219, 0.134]
Mediation (Model 4, Anxious Attachment)	OCD predicting anxious attachment	0.370	0.120	3.09	.003	[0.132,0.607]
	Anxious attachment predicting depression	0.231	0.060	3.83	.000	[0.112, 0.350]
	OCD predicting depression (direct effect)	0.558	0.080	6.96	.000	[0.399, 0.718]

Table 2 cont.

Summary of Mediation and Moderation Analyses

Analysis	Path / Predictor	b	SE	t	p	95% CI
	Anxious attachment predicting depression	0.231	0.060	3.83	.000	[0.112, 0.350]
	OCD predicting depression (direct effect)	0.558	0.080	6.96	.000	[0.399, 0.718]
	OCD predicting depression (indirect effect via anxious attachment)	0.085	0.037	-	-	[0.021, 0.166]
Mediation (Model 4, Avoidant Attachment)	OCD predicting avoidant attachment	0.539	0.094	5.74	000	[0.353, 0.726]
	Avoidant attachment predicting depression	0.348	0.075	4.66	.000	[0.200, 0.496]
	OCD predicting depression (direct effect)	0.456	0.085	5.35	.000	[0.287, 0.625]
	OCD predicting depression (indirect effect via avoidant attachment)	0.188	0.052	-	-	[0.090, 0.295]

Note. Int_1 = OCD × Anxious attachment; Int_2 = OCD × Avoidant attachment. Bootstrap 95% confidence intervals are reported for indirect effects.