A Systematic Review of Thought Control Strategies in Obsessive Compulsive Disorder

Dr. Rupashree Brahma Kumari, Abinash Mishra*

School of Psychology, Gangadhar Meher University, Sambalpur

***Corresponding Author**

INTRODUCTION

Among all the neurotic conditions obsessive compulsive disorder (OCD) considered as a debilitating one. Obsessive thoughts are categorized as unwanted, repetitive and intrusive thoughts, impulses or images that lead a sufferer to an unpleasant sate, called anxiety. In order to get relief from the unpleasant state caused by the obsessive thoughts, some repetitive behaviors or rituals performed by the sufferers which are regarded as compulsions. Basically, these rituals are performed with the intent to alleviate the anxiety stemming from obsessive thoughts. These obsessive thoughts are also common among people without having OCD (Clark & De Silva, 1985). The cognitive formulations of OCD have proposed theories regarding how "normal" Intrusive thoughts have the potential to evolve into diagnosed obsessions (Clark, 2004; Rachman, 1993, 1997, 1998, 2003; Salkovskis, 1985, 1999). The ego-dystonic thought contents, such as aggressiveness, blasphemy, and infection, in the first instance, encourages frightening interpretations of their appearance. These unhelpful interpretations lead individuals to consciously try to manage or ignore intrusive thoughts in an attempt to lessen the discomfort they feel or to avoid anticipated negative outcomes. (Rachman, 1998). Therefore, it is thought that efforts to suppress and/or control intrusive thoughts are crucial in the development and/or upkeep of clinical obsessions. However, it has been found that intrusive thoughts are less distressing in case of normal people compared to those having OCD (Rachman& De Silva, 1978; Salkoskis&Harrison 1984). If obsessive thoughts are experienced by both people having OCD and without having OCD then why do these thoughts are distressing among former than the latter?

One possible explanation for the above queries can be found by examining Wegner's ironic process theory and the cognitive model of OCD developed by Wells and Davies. Wegner's research revealed the paradoxical and counterproductive consequences of attempting to suppress deliberate thoughts, defined as the effort "not to think about" something. This area has been extensively studied in experimental research (Wegner, Schneider, Carter and White, 1987).

Numerous investigations have explored the upshots of deliberately suppressing intrusive thoughts in non-clinical samples since the work of Wegner et al. in 1987. Many authors have agreed that attempting to defeat unwanted intrusive thoughts is ineffective as it hinders the natural habituation process to these thoughts (Belloch et.al 2004; Purdon and Clark, 2001). Nevertheless, there has been a lack of consistent observations concerning the anomalous increases in thought frequency. Studies has also examined the harmful consequences of intentionally trying to suppress thoughts in individuals diagnosed with OCD (e.g., Abramowitz et.al 2001; Purdon, 1999, 2004; Smari, 2001). Wells & Davies (1994) in their model discovered when people experience any disgusting thoughts, they cause a subjective unpleasant state and in order to feel free, individual use certain techniques to control these bitter experiences. They identified five techniques that people adopt to manage their thoughts, such as (i) distraction, (ii) social control, (iii) worry, (iv) punishment and (v) reappraisal. It has been found that diverting attention in to other activities or thoughts is regarded as a healthy strategy to get rid of disgusting feelings emerged from unwanted thoughts but in OCD, people mostly found to be engaged in unfocused distraction. Worry (e.g., thinking in a way that something bad might happen) and self-punishment (e.g., harming the self) are regarded as maladjusted strategies. Patients having OCD,

compared to both healthy and anxious individual use both of these strategies more frequently and rarely use distraction strategy when being confronted with anxious thoughts (Abramowitz et al., 2003).

Research Problems

1. What are the thought control strategies used by patients having OCD?

2. Do OCD individuals have a preference for any specific thought-control techniques?

3. Are specific control/suppression techniques connected to OCD?

METHODOLOGY

Database were searched from Pub Med, EBSCOhost, Google scholar, Scopus, Web of Science etc. to conduct review. The following keywords were also used to complete the database search. such as: Thought control strategies, Worry, Distraction, Social control, Punishment, Reappraisal and OCD. There were no language or date restrictions on searches.

Review of Literature

To investigate the prominent thought control strategies used by OCD patients, a systematic literature review from 2000 to 2022 was conducted. The findings of this study show and analyze both the general data analysis of the papers that were included (e.g., conferences, subject areas and categories, relevant journals, keywords) and the specialized data analysis relating to some research issues. These findings not only provide a summary of the ongoing research, but they also point out areas that still need to be studied and suggest future research possibilities by recommending an agenda. The results of this review can serve as the foundation for future studies on thought control strategies and related issues.

Cognitive models of OCD proposed by Rachman (1998), suggest that the way interruptive and disturbing thoughts are interpreted differentiates ordinary interference from obsessive thoughts. For instance, when someone experiences an unwanted thought about harming their child, the interpretation of that thought as a sign of actual responsibility for or prevention of harm can lead to increased anxiety. The question then arises: how do these unhealthy interpretations lead to compulsive behaviors? According to Rachman's theory (1998), labeling intrusive thoughts as highly threatening creates a motivation to suppress them through action. However, certain methods used to combat intrusive thoughts may be more prominent than others. Wells and Davies (1994) identified five generic techniques that humans utilize to stifle unavoidable thoughts: a) Distraction (e.g., keeping busy). b) Social control (e.g., confiding in a friend about the thought). c) Worry (e.g., redirecting thoughts to past worries). d) Punishment (e.g., self-harm as a response to the thought). e) Re-evaluation (e.g., questioning the validity of the thoughts). They observed that employing worry and punishment strategies showed a correlation with elevated scores on the Trait Anxiety Scale, indicating that these particular methods may be especially counterproductive. The purpose of the current review is to thoroughly examine and gather accurate data on the primary thought control strategies used by OCD patients. This review aims to investigate and collect precise data on "Which thought control strategies are less/more favorably used by patients with OCD?"

Research gap: From the extensive reviews it has been found that numerous studies have been done globally, to identify specific thought control strategies preferably used by OCD sufferers to manage obsessive thoughts. However, when we searched on this topic specifically in India we found very fewer studies. Therefore, this systematic review seeks to enhance the current body of knowledge by meticulously analyzing data from studies that explore the use of different strategies of controlling thoughts in OCD. By delving into this topic, the study aims to not only bolster existing theories but also provide valuable insights for therapists. Specifically, the findings are intended to guide therapists in tailoring their approach to address the specific thought control strategies associated with OCD during the course of psychotherapy, ultimately aiming to improve treatment outcomes for individuals grappling with this condition.

Objectives:

1.   To explore the primary methods of thought control employed by individuals afflicted with OCD.
2.   To explore the least favored method of thought control employed by individuals afflicted with OCD.

METHOD

Search strategy:

The following search techniques and databases were used in the review: Scopus, Web of Science, EBSCOhost and ERIC. Searches were also conducted in Google Scholar. "thought control strategies, worry, distraction, social control, punishment reappraisal, OCD" were the key search terms and phrases. Collected articles were reviewed for content and clarity prior to inclusion in the review. Additional articles were found using a "snowball" strategy, which involved searching for recent works and searching for relevant articles cited in them. This review examined the literature that has already been written on thought control strategies among OCD patients. The current work also showed the main objectives, methodological framework, key variables, sample data and measurement tools of the included studies. We used a systematic review chart and PRISMA (Preferred Reporting Items for Systematic Reviews) criteria. The reviewed publications were selected using the PRISMA flow chart shown in Figure 1. Data were extracted after reviewing relevant articles. One researcher completed the data extraction, while another researcher reviewed the articles to ensure they met the aim and inclusion criteria.

Inclusion Criteria:

1. Studies investigating the relationship between thought Control strategies in relations to OCD.

2. Research centered on OCD and thought control strategies.

3. Research in which data regarding thought control strategies collected from OCD sufferers.

4. Research findings published in academic journals that have undergone peer review and are accessible through online platforms.

5. Literature released in English language.

Exclusion Criteria:

1. Studies that provide insufficient details about their study approach

2. Research overlap

3. Unpublished research

4. Pilot and protocol studies

5. Not emphasizing on thought control strategies.

6. Samples not suffering from OCD

7. Invalidated data

8. Duplicate research

9. Not written in English

10. Studies not pertinent to the current research.

Literature search flow diagram:
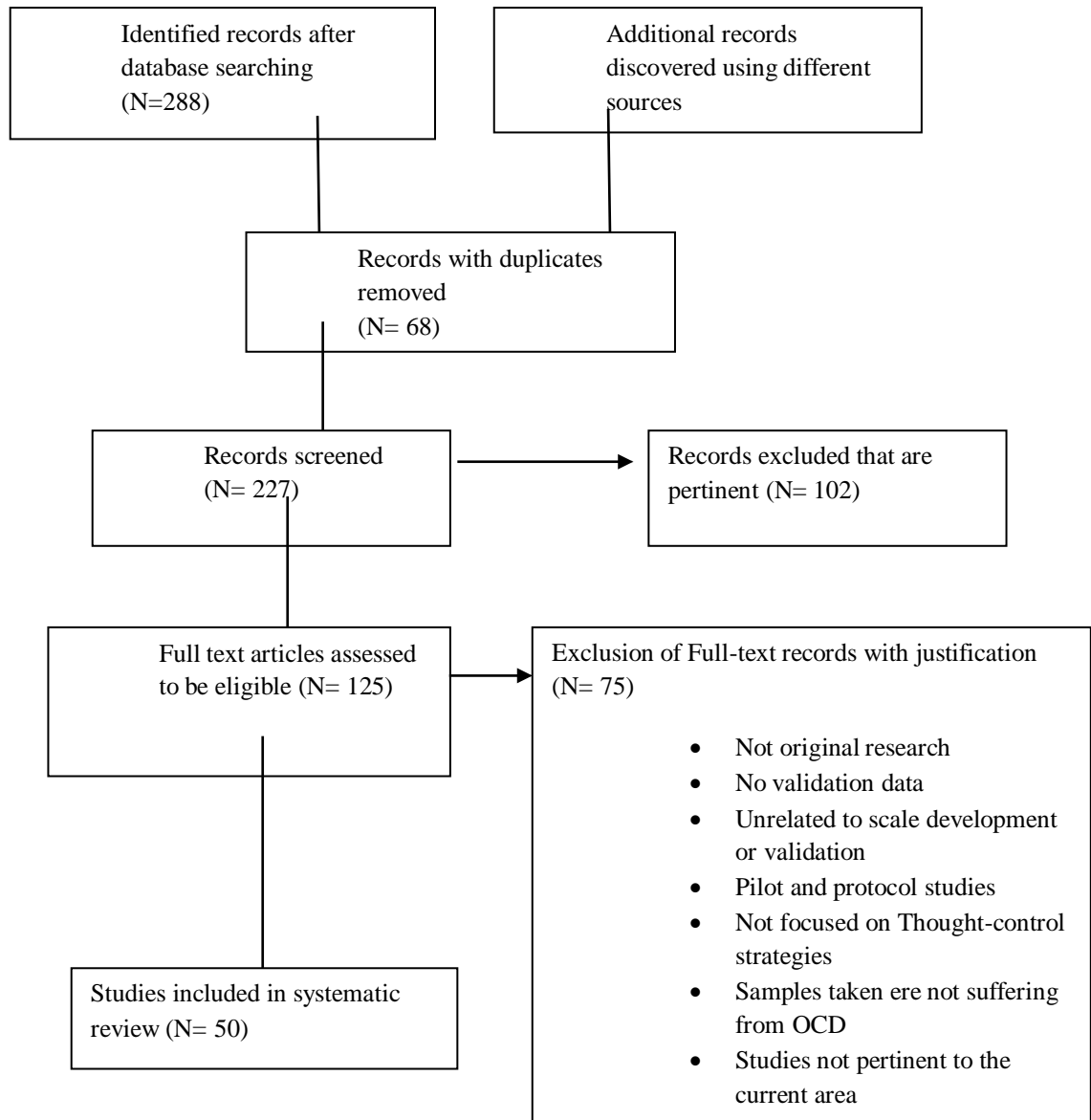
Figure 1. Prisma Flow Diagram Showing The Selection Of Review Articles

The majority of the reviews in this compilation was published between 1997 and 2021 and was written in English. In the database, there were initially 288 studies. "Other sources n=07, records with duplicates removed n=68, records filtered n=227, non-relevant records discarded n=102, full-text articles reviewed for eligibility n=125, Full-text articles eliminated, accompanied by explanations. n=75" led to the discovery of more records. Last but not least, the systematic review includes 50 papers.

DISCUSSION

The results of the current systematic review indicate that individuals afflicted with OCD tend to employ punishment, concern, reappraisal, and social control intermittently when dealing with obsessions. On the other hand, non-patients use distraction more often. Among the thought control methods examined, punishment and worry were specifically associated with OCD symptoms, while distraction was more common in non-patients. Surprisingly, punishment emerged as the most significant differentiator between OCD patients and non-patients, as it was rarely used by the latter. These findings suggest that individuals diagnosed with obsessive-compulsive disorder employ detrimental methods to manage their thoughts.

These findings support the metacognitive model of OCD, emphasizing the importance of individuals' beliefs about their thought processes and the methods they use to manage their cognitive system in the development and persistence of OCD symptoms. In a prior study the thought control strategies in clinical OCD patients

were compared with non-clinical individuals and the findings indicated that OCD patients more frequently employed four control tactics—worry, reappraisal, punishment, and social control—while distraction was seldom used Amir et al., (1997). However, it's notable that other anxiety disorders, such as acute stress disorder, may also involve inappropriate thought control techniques (Warda & Bryant, 1998), raising questions about whether these problematic mechanisms are specific to OCD or more broadly present in anxiety disorders.

Additional research has investigated thought control methods in individuals with diverse anxiety disorders. Two such studies, Abramowitz & Whiteside et.al 2003; Amir, Cashman, & Foa, 1997) found that Individuals with OCD tend to employ punishment and worry as thought control techniques more frequently than non-clinical participants. On the other hand, distraction is less commonly used by individuals diagnosed with OCD. The results suggest that punishment and worry are not effective methods for controlling obsessions. Further analysis revealed that these two strategies were associated with the severity of obsessions. These results are consistent with the findings reported by Wells and Davies (1994) in a non-clinical sample, where punishment and worry were the only strategies associated with measures of psychopathology. Thus, it seems that these two methods impact pathology not only in clinical populations but also in non-clinical ones.

The primary aim of the current systematic review was to identify the most prevalent thought control strategies employed by OCD patients and address specific research questions relevant to OCD from a clinical standpoint. The first question sought to determine which thought control techniques OCD patients employed to suppress their obsessions. The review found that punishment, particularly the tendency to blame oneself for the unwanted thoughts, was strongly associated with chronic suppression in OCD patients, as supported by empirical evidence. It emerged as the most commonly used strategy among individuals with OCD.

To determine which thought control strategies could be regarded as particular or distinct to OCD, the study compared their usage between OCD patients and other non-OCD clinical participants. The results showed that three TCQ subscales - Distraction, Social Control, and Worry - were not discriminative of OCD. Both clinical and nonclinical participants utilized these strategies to similar extents, with Distraction and Social Control emerging as the most frequently employed tactics across all groups. Consequently, the significance and specificity of these strategies for OCD could not be conclusively determined.

These findings partially align with published data. According to a study, OCD patients used Social Control and Worry more frequently than non-patients, whereas non-patients used Distraction more frequently (Amir et al., 1997). Similarly, other study also reported that compared to anxious and non-anxious control patients, individuals with OCD used more Worry and less Distraction, and Social Control was used less (Abramowitz et al., 2003).

The most frequently employed thought control strategy among OCD patients was punishment, where individuals blamed themselves for having the unwanted thoughts. OCD patients used punishment more frequently than other techniques, including anxious controls (ACs) and non-anxious controls (NACs), which showed that NACs rarely used punishment. Punishment emerged as the most effective discriminator between OCD patients and Non-Anxious Controls, indicating that it may be a distinctive feature of OCD. On the other hand, Distraction and Social Control were the two most common thought control methods predominantly found among Non-Anxious Controls. Interestingly, distraction was also frequently used by Anxious Controls, suggesting that the maintenance of OCD symptoms may be influenced by a combination of reduced use of distraction and increased reliance on worry and punishment strategies.

Further analysis of the reviews clarified that individual with Obsessive-Compulsive Disorders (OCDs) predominantly employed punishment as their primary thought control approach, such as blaming themselves for having certain ideas. Punishment was found to be utilized more frequently by OCD individuals compared to other techniques like anxious control (ACs) and non-anxious control (NACs). In contrast, NACs rarely resorted to punishment. Punishment stood out as the most effective discriminator between OCD individuals and Non-Anxious Controls. NACs were found to commonly rely on distraction and social control as their thought control methods.

Notably, distraction was also frequently used by ACs, suggesting that the persistence of OCD symptoms might be linked to a combination of reduced distraction usage and an increased focus on worry and punishment strategies.

Apart from punishment and worry thought control, there was little consistency in the findings regarding the comparative usage of reappraisal, distraction, and social control concerning OCD. Two studies, demonstrated a negative correlation between social control techniques (like talking to a friend about the thoughts) and anxiety-related conditions such as OCD and depression. The use of distraction also showed an inverse relationship with indicators of psychopathology (Coles and Heimberg 2005). These findings align with the cognitive model of OCD and are consistent with Amir et al.'s (1997) discovery that OCD and anxious control participants used social control methods less frequently than non-anxious control.

CONCLUSION

In summary, the current study revealed that the overuse of punishment and worry management tactics, combined with the underuse of distraction, perpetuates misinterpretations and distress related to intrusive thoughts. This leads to greater attempts to suppress thoughts, which often fail, resulting in more frequent thinking, increased emotional distress, and further rumination—characteristic features of "abnormal" obsessive fears. The study underscores the underuse of distraction as a coping mechanism in individuals with OCD. Distraction, in this context, refers to redirecting one's attention away from intrusive thoughts towards alternative activities or stimuli. The study suggests that a deficiency in deploying distraction allows intrusive thoughts to dominate the cognitive landscape, perpetuating the cycle of distress. This brings attention to the potential role of cognitive inflexibility—a hallmark of OCD—in hindering the adoption of adaptive coping mechanisms. Understanding why certain individuals may struggle to employ distraction effectively requires a closer examination of cognitive processes and the unique cognitive profiles that characterize individuals with OCD. In the realm of cognitive psychology, the study's findings align with broader research on the limitations of thought suppression. The paradoxical effects of suppressing unwanted thoughts, known as the rebound effect, are well-documented. The more one tries to suppress a particular thought, the more likely it is to resurface with increased frequency and intensity. This phenomenon is not unique to OCD but holds particular relevance in understanding the challenges faced by individuals grappling with obsessive fears.

Furthermore, the study situates its findings within the broader context of obsessive-compulsive disorders, drawing parallels with established theories such as Rachman and de Silva's conceptualization of abnormal obsessive fears. By identifying characteristic features such as increased emotional distress and persistent rumination, the study provides empirical support for existing theoretical frameworks. This not only validates earlier conceptualizations but also highlights the enduring nature of certain cognitive patterns in the context of OCD.

The current systematic review also introduces the idea that these thought control strategies, particularly punishment and worry management, contribute to the maintenance of OCD symptoms. This maintenance involves not only the continuation of existing symptoms but also the potential escalation of the disorder over time. The study implies that breaking this cycle of maintenance is crucial for effective therapeutic intervention. Interventions that target these cognitive processes, promoting healthier coping mechanisms and breaking the cycle of maladaptive thought patterns, could be instrumental in the treatment of OCD.

Expanding on the concept of maintenance, it's essential to consider the broader spectrum of ineffective methods that individuals with OCD might employ. The mention of public or mental rituals and avoidance tactics further deepens our understanding of how individuals attempt to manage their distress. Rituals, whether performed publicly or mentally, often serve as a way for individuals with OCD to neutralize the anxiety associated with intrusive thoughts. However, the study suggests that these rituals are ultimately ineffective in alleviating distress and may even contribute to the persistence of symptoms. Moreover, the study's exploration of avoidance as an ineffective method provides additional insights into the complexity of OCD. Avoidance, whether of specific situations, thoughts, or emotions, is a common strategy employed by individuals with OCD to manage their distress. While avoidance might provide temporary relief, the study suggests that it contributes to the maintenance of symptoms in the long run. Avoiding certain thoughts or situations reinforces the

perception that they are inherently dangerous, preventing individuals from developing a more nuanced and adaptive relationship with their thoughts.

In contrast, the current review introduces the concept that distraction can play a pivotal role in preventing the development and persistence of obsessions, particularly in non-obsessive individuals. Distraction, when effectively utilized, redirects attention away from intrusive thoughts and towards alternative, neutral, or positive stimuli. This not only breaks the cycle of obsessive thinking but also fosters a healthier relationship with one's thoughts. The emphasis on distraction as a preventive measure implies that cultivating adaptive coping mechanisms early on could potentially deter the development of obsessive thought patterns in individuals who may be predisposed to OCD. Understanding the differential impact of cognitive strategies in obsessive and non-obsessive individuals prompts a deeper exploration of the factors contributing to vulnerability or resilience. The paragraph hints at the role of cognitive flexibility—the ability to adapt one's thinking in response to changing situations—in determining the effectiveness of distraction. Non-obsessive individuals, by being more cognitively flexible, may find it easier to engage in distraction and avoid falling into the trap of obsessive thinking. This raises intriguing questions about the interplay between cognitive processes, personality traits, and the development of mental health disorders.

Additionally, the study indirectly addresses the societal and cultural context in which these cognitive strategies unfold. The emphasis on punishment and worry management as predominant strategies might reflect broader societal attitudes towards mental health. Stigmatization and a lack of awareness or acceptance could contribute to individuals adopting punitive approaches to their own thoughts. Exploring these societal influences is crucial for developing more inclusive and effective interventions that consider the broader context in which individuals navigate their mental health.

In conclusion, the study's findings unravel the intricate web of cognitive strategies and their impact on the manifestation and perpetuation of obsessive-compulsive disorder. The interplay between punishment, worry management, distraction, and other coping mechanisms provides a nuanced understanding of how individuals attempt to navigate their thoughts and emotions. This comprehension, grounded in both theoretical frameworks and empirical evidence, not only contributes to our understanding of OCD but also lays the groundwork for more targeted and effective therapeutic interventions. Recognizing the limitations of certain cognitive strategies and promoting adaptive

LIMITATIONS

The modest number of OCD patients in our study is one of its limitations. Another study limitation is the occurrence of comorbidities in the OCD group. The outcomes of evaluations and assessments may have been skewed because most of the patients taken part in the studies also had comorbid anxious and mood issues.

Recommendation for future research:

The findings of the current study contribute to the existing knowledge by shedding light on the potential associations between chronic thought suppression or specific thought control techniques and certain OCD symptoms. However, the study did not explore the extent to which these factors may be more closely related to some specific OCD symptoms than others. This aspect remains unaddressed in the present study. Consequently, further research is needed to investigate the diverse roles of thought control methods in different OCD subtypes, offering valuable insights for future studies.

Clinical Implication:

Findings of the current study will provide more empirical evidence to the mental health practitioners who are enthusiast to know the specific thought control strategies utilized by OCD patient. Furthermore, it will also help to those treating therapist who are providing metacognitive therapy to OCD patients to manage their illness.

Contributors:

The final manuscript was reviewed and approved by all authors.

Conflict of interest: None.

REFERENCES

1. Abramowitz, J. S., Franklin, M. E., Schwartz, S. A., & Furr, J. M. (2003). Symptom presentation and outcome of cognitive-behavioral therapy for obsessivecompulsive disorder. Journal of consulting and clinical psychology, 71(6), 1049.
2. Abramowitz, J. S., Whiteside, S., Kalsy, S. A., &Tolin, D. F. (2003). Thought control strategies in obsessive-compulsive disorder: A replication and extension. Behaviour Research and Therapy, 41(5), 529-540.
3. Allen, K. J., Krompinger, J. W., Mathes, B. M., Crosby, J. M., & Elias, J. A. (2016). Thought control strategies in patients with severe obsessive–compulsive disorder: Treatment effects and suicide risk. Journal of Obsessive-Compulsive and Related Disorders, 8, 31-37.
4. American Psychiatric Association, (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: American Psychiatric Association. Beck, A. T., & Steer, R. A, (1987).
5. Amir, N., Cashman, L., &Foa, E. B. (1997). Strategies of thought control in obsessivecompulsive disorder. Behaviour research and therapy, 35(8), 775-IN1.
6. Amir, N., Cashman, L., &Foa, E. B. (1997). Strategies of thought control in obsessive-compulsive disorder. Behaviour research and therapy, 35(8), 775-IN1.
7. Amiri Pichacolaei, A., Poursharifi, H., &Ghasempour, A. (2012). INVESTIGATING THE RELATIONSHIP OF THOUGHT FUSION BELIEFS AND THOUGHT CONTROL STRATEGIES WITH OBSESSIVE–COMPULSIVE SYMPTOMS IN NONCLINICAL POPULATION. Studies in Medical Sciences, 23(4), 354-362.
8. Apter, A., Fallon Jr, T. J., King, R. A., Ratzoni, G., Zohar, A. H., Binder, M., ... & Cohen, D. J. (1996). Obsessive-compulsive characteristics: from symptoms to syndrome. Journal of the American Academy of Child & Adolescent Psychiatry, 35(7), 907-912.
9. Barua, N., Singh, S., & Agarwal, V. Metacognition and Thought Control Strategies in Adolescents with OCD. International journal of creative research thoughts, 8 (2), 316, 322.
10. Belloch, A., Morillo Prats, C., & García-Soriano, G. (2006). Obsession subtypes: Relationships with obsessive-compulsive symptoms, dysfunctional beliefs and thought control strategies.
11. Belloch, A., Morillo, C., & García-Soriano, G. (2007). Obsessive themes, evaluative appraisals, and thought control strategies: Testing the autogenous-reactive model of obsessions. International Journal of Clinical and Health Psychology, 7(1), 5-20.
12. Cartwright-Hatton, S., & Wells, A. (1997). Beliefs about worry and intrusions: The MetaCognitions Questionnaire and its correlates. Journal of anxiety disorders, 11(3), 279-296.
13. Clark, D. A., & de Silva, P. (1985). The nature of depressive and anxious, intrusive thoughts: Distinct or uniform phenomena?. Behavior Research and Therapy, 23, 383-393.
14. Cox, C. S. (1997). Neuropsychological abnormalities in obsessive-compulsive disorder and their assessments. International Review of Psychiatry, 9, 45–59.
15. Eremsoy, C. E., &Inozu, M. (2016). The role of magical thinking, religiosity and thought-control strategies in obsessive-compulsive symptoms in a Turkish adult sample. Behaviour Change, 33(1), 1-14.
16. Fehm, L., & Hoyer, J. (2004). Measuring thought control strategies: The thought control questionnaire and a look beyond. Cognitive Therapy and Research, 28, 105-117.
17. Fergus, T. A. (2013). Thought control moderates the relation between autogenous intrusions and the severity of obsessional symptoms: Further support for the autogenous–reactive model of obsessions. Journal of Obsessive-Compulsive and Related Disorders, 2(1), 9-13.

18. Fergus, T. A., & Wu, K. D. (2010). Is worry a thought control strategy relevant to obsessive-compulsive disorder?. Journal of anxiety disorders, 24(2), 269-274.

19. First, M. B., Spitzer, R. L., Gibbon, M. & Williams, J. B., (1995). Structures clinical interview for DSM-IV axis I disorders--patient edition (SCID-I/P, Version 2). New York: Biometrics Research Department, New York State Psychiatric Institute.

20. Goodarzi, M. A., &EsmaieliTorkanbori, Y. (1978). The relation between intrusive thoughts control strategies and severity of obsessive-compulsive symptoms. Behav Res Ther, 22, 549-52.

21. 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. Development, use, reliability. Archives of General Psychiatry, 46, 1006-1011.

22. Grisham, J. R., & Williams, A. D. (2009). Cognitive control of obsessional thoughts. Behaviour Research and Therapy, 47(5), 395-402.

23. Gwilliam, P., Wells, A., & Cartwright-Hatton, S. (2004). Dose meta-cognition or responsibility predict obsessive–compulsive symptoms: a test of the metacognitive model. Clinical Psychology & Psychotherapy: An International Journal of Theory & Practice, 11(2), 137-144.

24. Hamilton, M. (1960). A rating scale for depression. Journal of Neurology Neurosurgery and Psychiatry, 32, 56-62.

25. Harangza, M., Goodarzi, M. A., Taghavi, S. M. R., Khormayi, F., &Aflakseir, A. (2014). The predictive role of meta-cognitive beliefs mediated by thought control strategies in obsessive-compulsive symptoms in a non-clinical population. Advances in Cognitive Science.

26. Inozu, M., Kahya, Y., &Yorulmaz, O. (2020). Neuroticism and religiosity: The role of obsessive beliefs, thought-control strategies and guilt in scrupulosity and obsessive–compulsive symptoms among Muslim undergraduates. Journal of religion and health, 59, 1144-1160.

27. Jacoby, R. J., Leonard, R. C., Riemann, B. C., & Abramowitz, J. S. (2016). Self-punishment as a maladaptive thought control strategy mediates the relationship between beliefs about thoughts and repugnant obsessions. Cognitive therapy and research, 40, 179-187.

28. Lee, E. B., Bistricky, S., Milam, A., Wetterneck, C. T., &Björgvinsson, T. (2016). Thought control strategies and symptom dimensions in obsessive-compulsive disorder: Associations with treatment outcome. Journal of Cognitive Psychotherapy, 30(3), 177-189.

29. Mahmodi, S., & Ghaderi, B. (2022). Worry in Adolescents: the Role of Metacognitive Beliefs and Thought Control Strategies. Trends in Psychology, 1-17.

30. McKay, D., &Greisberg, S. (2002). Specificity of measures of thought control. The Journal of Psychology, 136(2), 149-160.

31. Mohammadkhani, S., &Farjad, M. (2009). The relationship of the metacognitive beliefs and thought control strategies with obsessive–compulsive symptoms in nonclinical population. Journal of clinical psychology, 1(3), 35-51.

32. Moore, E. L., & Abramowitz, J. S. (2007). The cognitive mediation of thought-control strategies. Behaviour Research and Therapy, 45(8), 1949-1955.

33. Ólafsson, R. P., Snorrason, Í., Bjarnason, R. K., Emmelkamp, P. M., Ólason, D. Þ., &Kristjánsson, Á. (2014). Replacing intrusive thoughts: Investigating thought control in relation to OCD symptoms. Journal of Behavior Therapy and Experimental Psychiatry, 45(4), 506-515.

34. Purdon, C., & Clark, D. A. (1994). Obsessive intrusive thoughts in nonclinical subjects. Part II. Cognitive appraisal, emotional response and thought control strategies. Behaviour Research and therapy, 32(4), 403-410.

35. Rachman, S .J., & de Silva, P. (1978). Abnormal and normal obsessions. Behaviour Research and Therapy, 16, 233-248.

36. Riskind, J. H., Beck, A. T., Brown, G., & Steer, R. A. (1987). Taking the measure of anxiety and depression: Validity of the reconstructed Hamilton Scale. Journal of Nervous and Mental Disease, 175 (8), 474-479.

37. Ruscio, A. M., Stein, D. J., Chiu, W. T., & Kessler, R. C. (2010). The epidemiology of obsessive-compulsive disorder in the National Comorbidity Survey Replication. Molecular psychiatry, 15(1), 53-63.

38. Saeidpoor, S., Kazemi-Rezai, S. A., Karbalaei-Esmaeil, E., Kazemi-Rezai, S. V., & Ahmadi, F. (2017). Diagnostic role of cognitive emotion regulation strategies, cognitive fusion and thought control strategies in Obsessive-Compulsive disorder. Journal of Clinical Psychology, 9(3), 1-12.

39. Salkovskis, P. M., & Harrison, J. (1984). Abnormal and normal obsessions--a replication. Behaviour Research and Therapy, 22, 549-552.

40. Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). Manual for the State-Trait Anxiety Inventory. Palo Alto, CA: Consulting Psychologists Press.

41. Tolin, D. F., Worhunsky, P., Brady, R. E., & Maltby, N. (2007). The relationship between obsessive beliefs and thought-control strategies in a clinical sample. Cognitive Therapy and Research, 31, 307-318.

42. Wells, A., & Davies, M. I. (1994). The thought control questionnaire: A measure of individual differences in the control of unwanted thoughts. Behaviour Research and Therapy, 32, 871-878.

43. Wells, A., & Davies, M. I. (1994). The Thought Control Questionnaire: A measure of individual differences in the control of unwanted thoughts. Behaviour research and therapy, 32(8), 871-878.

44. Williams, A. D., Moulds, M. L., Grisham, J. R., Gay, P., Lang, T., Kandris, E., ... & Yap, C. (2010). A psychometric evaluation of the Thought Control Ability Questionnaire (TCAQ) and the prediction of cognitive control. Journal of Psychopathology and Behavioral Assessment, 32, 397-405.

45. Wilson, C., & Hall, M. (2012). Thought control strategies in adolescents: Links with OCD symptoms and meta-cognitive beliefs. Behavioural and cognitive psychotherapy, 40(4), 438-451.

46. Yorulmaz, O., Baştuğ, G., Tüzer, V., &Göka, E. (2013). Misinterpretations of intrusions, obsessive beliefs and thought control strategies in patients with obsessive-compulsive disorder.