

# The Atypicality of Self-regulation in Obsessive-compulsive Personality Disorder

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## ABSTRACT

Obsessive-compulsive personality disorder (OCPD) individuals, mainly exploring the neural and trait atypicality of OCPD, excessive regulation, and emotional dysfunction among OCPD patients. The etiology of OCPD has not been completely cleared out. From the psychoanalytic perspective, OCPD is caused by over-parental control during the childhood period, while the current biological theories suggest that genetic deficiencies are the main reason. Moderate self-regulation could help individuals control and balance their psychological state effectively. However, excessive self-regulation links with certain disorders such as OCPD. Findings in this review suggest that the neural mechanisms of OCPD patients are distinguished from healthy controls. Then, OCPD subjects would present overly pursuit of perfectionism and compulsivity. Finally, emotional dysfunction, which results in having difficulty in dealing with interpersonal relationship could be shown. So far, Acceptance and Commitment Therapy (ACT) is the most effective treatment of OCPD compared to others. The limitation of current research is not detailed because only the resting state of brain regions were tested. More research needs to be investigated to brain region associating with self-regulation tasks and tries to develop longitudinal studies among individuals who have the risk of OCPD. Additionally, more treatments like ACT of OCPD should be discovered and improved in the future.

**Keywords:** *Obsessive-compulsive personality disorder, Neural activity, Excessive regulation, Emotional dysfunction.*

## 1. INTRODUCTION

Self-regulation means that individuals can effectively control and adjust their psychological state to the normal level. Self-regulation is not only conducive to the cultivation of a sound personality, but also conducive to personal development [1]. It can promote the realization of the unity of personal value and social value, so that individuals can effectively face the fiercely competitive society. According to the DSM-5 diagnostic criteria, the main characteristic of obsessive-compulsive personality disorder (OCPD) patients is to intellectualize the conflict, excessive suppression of emotions [2]. Self-regulation is very important for individuals' daily life, but OCPD patients have some obstacles in self-regulation. Based on this, if there is a deeper understanding of the self-regulation of patients with OCPD, they could be better cured.

Currently, OCPD is adequately illustrated by theorists, but there are no prominent etiologies that satisfactorily explain its existence. OCPD was initially named by Freud and has been developed psychoanalytic etiologies which focus on family forged. In the beginning, conventional psychoanalytic theories emphasized parental hope to manage the exclusion of feces. As it became more psychosocial, researchers found that over parental control and rigid disciplinary practices force children to strictly obey their parents' ideals, resulting in lasting obsessive characterological defects. Later, psychoanalytic theories are challenged by Torgerson et al.'s findings that the heritability rate of OCPD was approximately 0.78 [3]. Moreover, the abnormality of limbic functioning, executive control and empathizing are the existing extant biological etiologies of OCPD despite their invalidity. Specifically, no persuasive details of the different dysfunctions above could be found

beyond their description of the causal role as OCPD character develops [3]. All in all, current psychodynamic theories are monuments of the past time, while the biological theories could be viewed as a token of negligible progress because they do not explain obsessive character as well as ultimate causes of OCPD.

One of the main theories that relate to OCPD is the psychoanalytic theory, which indicates that attachment style has an influence on one's ability of cognitive control. But the study on genetic factors shows that genetics also plays an important role in OCPD. Self-regulation is important to our personal development, but the research of self-regulation in OCPD is limited; so, it is important for us to understand OCPD's self-regulation. This literature review is to understand relevant mechanisms underlying the atypical self-regulation. This paper will discuss three areas of self-regulation in OCPD: neural and trait abnormality of OCPD, excessive regulation, and emotional dysfunction in OCPD.

## **2. NEURAL AND TRAIT ATYPICALITY OF OCPD**

According to the previous research, ALFF mainly uses the energy of low-frequency signals to represent the activity strength of neurons in different brain regions [1]. Anterior Cingulate Cortex (ACC) and Dorsal Lateral Prefrontal Cortex (DLPFC) were found to be related to cognitive control in many neuroimaging studies [4]. In addition, one study found that brain regions responsible for control, such as the Prefrontal Cortex (PFC) and the Parietal Cortex, were associated with cognitive control [5]. This study wondered if OCPD patients perform activities that require cognitive control when these brain regions are activated differently from typically developing people, and reviewed the literature.

In Lei's study, the neural activity of ALFF in the resting state was measured in both OCPD patients and healthy subjects [6]. ALFF was found to be significantly increased in bilateral caudal, left anterior, left insula, and left medial superior frontal gyrus (MSFG) in OCPD patients compared with HC. ALFF was significantly decreased in the right fusiform gyrus (FFG) and left lingual gyrus (LING). Lei et al. also found that OCPD showed a significant regional pattern of changes in resting state: ALFF increased mainly in the frontal lobe, while decreased in the occipital-temporal lobe. In addition, abnormalities in caudate function in OCPD patients overlap with OCD, suggesting that some common neuropathological changes may underlie OCD and OCPD. This aspect reflects the differences between OCPD patients and typically developing people in cognitive control ability, which is worth further exploration. Cognitive control is closely related to people's decision-making ability, thus below collected and sorted out the differences between OCPD patients

and typically developing people in terms of decision-making ability.

Luo et al used the Iowa Gambling Task (IGT) to measure the difference in decision-making between OCPD, OCD and typically developing people under ambiguous situations [7]. Under ambiguous situations, the neural processes of decision making can be monitored by recording event-related potentials (ERPs), in particular the negative correlation (FRN) of ERP components of feedback. Previous studies have shown that FRN is considered an important indicator of outcome effectiveness and outcome expectation assessment. At the same time, it is important for successful decision-making [8]. It is known that an individual's cognitive control is important in decision-making [9]. It helps us to suppress our impulsive choices, and at the same time adjust our mood after failure and learn from the experience, thus achieving better results. In Luo's study, the subjects were asked to choose between 50 and 100 dollars to get as much money as possible. In the experimental design, 60% of the 50 yuan and only 40% of the 100 yuan were paid in the game. According to the requirements of the experiment, the higher probability of 50 yuan is the better choice, and the subjects are not told this probability. But they can change their choices based on what they have learned over the course of multiple experiments [7]. They found that although there was no significant difference between the FRN amplitudes of OCPD and OCD, it was observed that the FRN amplitudes of patients with OCPD were significantly larger than those of the typically developing group. And it reaches its maximum in the central frontal lobe. This also suggests that OCPD patients may have different cognitive control and other functions from typically developing people.

Previous studies have found differences in neural activity between OCPD patients and typically developing people, and such differences may start to form and gradually strengthen at a very early age. Family factors are considered to be very important influencing factors. Some scholars have conducted researches in this field to explore the influence of attachment style on individual cognitive control ability. Children's relationships with their parents during their childhood largely shape the internal patterns of how they interact with others as adults. In the study of Ali et al., three self-report questionnaires were used to measure resilience, attachment and OCPD respectively. The attachment questionnaire distinguishes secure attachment, avoidant attachment and ambivalent attachment [10]. The results of this study suggest that people with secure attachments are more likely to develop obsessive-compulsive personality disorder than people with insecure attachments. In addition, there is a negative correlation between resilience and the development of obsessive-compulsive personality disorder. That is to say, the more resilient, the less likely it is to form OCD.

### 3. EXCESSIVE REGULATION IN OCPD

Through the discussion above, it is known that the neural mechanisms of OCPD individuals are different from those of healthy control. The following section will discuss the specific nature of this abnormality. Compulsivity could be defined as the propensity for repeated behaviors, while the impulsivity indicates the propensity for improper immature performance. The former links the much higher level of self-regulation of normal behavior than the latter. In Grant et al.'s study, they collected self-report questionnaires for impulsivity and compulsivity from subsyndromal OCPD (i.e., ratifying one or more OCPD criteria but lacking certain formal diagnosed symptoms) group and healthy controls (HC) group. Through data analysis, they found that there was a considerably higher raised rate of scores of impulsivity and compulsivity in the subsyndromal OCPD group than that in healthy controls [11]. Notably, higher self-reported OCPD scores were remarkably associated with compulsivity only, instead of impulsivity, which suggests that excessive regulation is displayed in this group.

Perfectionism is individuals' desire for perfection and concerns for others' evaluations, along with critical self-evaluations. In the way of striving for perfection, OCPD perfectionists would present excessive regulation. In the study conducted by Pinto et al., they set up a self-report questionnaire which evaluates the level of perfectionism, inflexibility, drive for order in childhood obsessive-compulsive personality traits (OCPTs) based on adults with OCD, OCPD, OCD comorbid with OCPD for comparison with the rates of childhood OCPTs. As they found that OCD individuals showed greater rates of being inflexible and drive for order compared to HC while OCPD subjects (both with and without comorbid OCD) demonstrated greater rates of all OCPTs in childhood compared to HC [12]. In short, only the OCPD group showed perfectionism in this study, which could be associated with excessive regulation.

The capacity of postponing gratification means being able to give up the temporary rewards and receive it later, which reveals the higher level of self-regulation [13]. It is unclear whether OCPD individuals have the ability to postpone rewards. Pinto et al. systematically explored the differences in the ability to postponed gratification among four groups (OCD, OCPD, comorbid OCD+OCPD and HC) by utilizing a questionnaire that required participants to choose from certain money available right away or more money supplied three months later. Previous research indicated substance use disorders individuals represent more discounting (representative of impulsivity), while OCPD individuals represent less impermanent discounting (representative of excessive self-regulation) in this study of delaying rewards. Moreover, findings suggest OCD and OCPD individuals shared the similarity of impairing disorders

noted by compulsive behaviors but distinguished by the lower level of obsessions and stronger ability to desert small instant rewards in OCPD individuals, compared to OCD individuals and HC group [13]. The ability to delay reward excessively differentiate OCPD from OCD and HC group, suggesting that it is associated with a perfectionism-the trait of OCPD. All in all, OCPD individuals excessively self-regulate their behaviors and reactions, mainly representing performing repeatedly and pursuing perfectionism unrealistically.

### 4. EMOTIONAL DYSFUNCTION IN OCPD

Emotional dysfunction is defined as a weak ability to manage or maintain emotional reactions in an appropriate rater, for example, outbursts of anger or outbursts of behavior such as destruction or throwing of objects, assaults, etc. These are also associated with self-regulation deficits. According to the previous findings, goal or reward OCPD-related regulation is excessive. Emotional dysfunction and perfectionism are the two extremes of self-regulation. It is important to understand whether OCPD also excessively regulates their emotions.

The emotional functioning study is used in a group of adult females with OCPD, a group with borderline personality disorder and a healthy control group. This study contains two sessions, a diagnostic interview and self-report questionnaires, which are about one week apart. The standardized self-report questionnaires assess four aspects of emotional functioning: negative affectivity, emotion regulation, anger expression, and emotion expressivity. The researchers assess six different areas of Emotion regulation deficits. These six areas are failure emotional acceptance, regulating negative feelings, regulating stress, identify feelings, adapting emotional strategies, and emotional expression. In emotion expressivity, the study assessed positive, negative and urge expressivity, meaning emotion partnered behavior change like laughing when feeling happy, screaming when feeling stressed out. For anger expression, it measures participant's experience, strength, feelings, and frequency of anger. The result showed that participants with OCPD reported trait anger, emotional regulation difficulties, emotional intensity and negative affectivity at a significantly higher level, compared to healthy control groups [14]. When compared to healthy control groups, participants with OCPD have significantly higher levels of emotional regulation difficulties, although in DSM-5, OCPD is not formally related to emotional difficulties. While, participants with OCPD struggle with emotional difficulties in many different domains. Overall, participants with OCPD have a hard time accepting, more efficiency, and comprehension. However, they report they can control these expressions and emotions [14]. The result indicates that their excessive self-regulation is not reflected in emotions, but they have a higher level of emotional

regulation difficulties, emotional intensity and negative affectivity.

Since people with OCPD have emotional dysfunction, it is also reflected in interpersonal relationships, and interpersonal relationships also require self-regulation. For example, when interacting with others, it is necessary to have control of our behaviors and emotions. Otherwise, some inappropriate behaviors will offend others. Therefore, self-regulate is important in interpersonal functioning. This study investigated some relational and social difficulties that people with OCPD might have. This study compared a group with OCPD, a healthy control group, and a group both with OCPD and OCD. It compared interpersonal functioning in different dimensions among these groups, using self-report questionnaires to assess the different aspects of interpersonal problems around warmth and dominance. Interpersonal sensitivities, include areas of social and relational behaviors formulated by others that may disturb the interviewee [15]. Interpersonal reactivity is to measure various sides of empathy, include fantasy (i.e., tend to have daydreams and imagine they are fictional characters.), perspective taking (i.e., seeing others' perspectives and ability to experience sympathy and care for others), and empathic concern etc.. The results showed that the participants with OCPD group reported poor on perspective taking compared to the healthy control group; therefore, it is possible that people with OCPD could experience care and concern for others but may lack the proper skills to respond due to they do not fully understand others' emotions. Participants in the OCPD group showed significantly higher levels of fantasy compared to the healthy control group; people with OCPD group reported higher levels of personal distress, when measuring personal distress using IRI, it measures more on the self-directed empathy side, which can feel make them feel personal anxiety, tension and have a hard time with social relationships [15]. The result suggests that people with OCPD tend to be controlling, and sensitive to warm behaviors from social relationships, and have a hard time seeing from others' viewpoints. These might lead them to have a difficulty in emotional regulation.

Since OCPD both has characteristics of emotional difficulties and excessive perfectionism, then it will need more pertinence intervention for treating its perfectionism. Like Acceptance and commitment therapy, the relationship between ACT and self-regulation is that ACT is an intervention that often treats clinical perfectionism's therapy. So maybe focus on treating its perfectionism could be effective. This study used a pre-test, post-test, and follow-up to compare Cognitive-Behavioral Therapy (CBT) and Acceptance and Commitment Therapy (ACT) to find out which therapy has a better effect on treating people with OCPD's perfectionism [16]. The former concentrates on changing thinking patterns, changing behavioral patterns, and is

very effective in treating mental illness [17], while the latter focuses more on using acceptance and mindfulness strategies, together with commitment and behavior change strategies, to increase psychological flexibility [18]. For the pre-test, they measured participants' perfectionism. The result on perfectionism for post-test, and one-month follow-up stage is significant. Both therapy treatments have tremendous effect on treating perfectionism. These interventions can effectively reduce perfectionism-related mental disorders, like depression, anxiety, eating disorders and OCD. ACT was found to be more effective in treating OCPD's perfectionism than CBT [16]. This intervention helps people with OCPD to accept their emotions and thoughts in order to reduce their excessive perfectionism-related issues.

## **5. LIMITATION AND FUTURE DIRECTION**

Previous studies have partly focused on the effects of self-regulation on OCPD, and explored the differences between OCPD patients and typically developing people from several fields, including neural activity, behavioral studies and scale tests. First of all, in the study of neural activity, previous studies have carried out the rest state of various brain regions related to cognitive control and emotion regulation, which is not targeted. Subsequent studies can be conducted to detect and study the brain regions related to self-regulation tasks. Secondly, most of the current studies are cross-sectional studies. For the prediction of the influence of childhood and future development, the current situation is detected through the scale. Longitudinal studies can be carried out in future studies to follow up individuals who are prone to OCPD to obtain more effective prevention programs. Finally, in terms of treatment plans and solutions, more self-management ability training can be used to design treatment plans that are more in line with the characteristics of OCPD. At the same time, the implementation strategy of the actual plan can be carried out to verify the operability and effectiveness of the plan.

## **6. CONCLUSION**

Self-regulation is important to an individual, so explore more about its trait and effect on OCPD individuals is important. After reviewing previous studies, the following conclusion can be reached: individual with secure attachment get OCPD more easily, also, the neural mechanism's resting state and self-regulation related neural mechanism is different with a healthy control group. In another study on decision-making also suggest that people with OCPD have different cognitive control compared to healthy control group. The previous study also showed that OCPD individuals' excessive self-regulation is reflected in compulsivity and pursuit of perfectionism. OCPD individuals do have emotional difficulties. They were reflected in their interpersonal functioning. Their poor performance on perspective-

taking may contribute to their difficulties. The more efficient treatment for OCPD's perfectionism is ACT, in order to reduce different issues associated with perfectionism.

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