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# *An Overview of Schizotypal Personality Disorder: Etiology Treatment*

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***Abstract:*** The article summarizes and analyzes some of the previous studies on schizotypal personality disorder to explain the etiology, genetic aspect such as Catechol-O-methyltransferase (COMT which is situated on chromosome 22q11) and calcium voltage-gated channel subunit alpha1 C (CACNA1C rs1006737); environmental aspect such as risky factors affecting an unnormal brain development like and psychological trauma, and chronic stress, and the treatment (Metacognitive treatment; Rumination-Focused Cognitive Behavioral Therapy; Medication treatment) of schizotypal personality disorder are also discussed. Both methods, Metacognitive treatment, and Rumination-Focused Cognitive Behavioral Therapy, in their respective cases, improved symptoms in schizotypal personality disorder patients. However, although research on medication treatment shows that although some medicines, like Risperidone and Haloperidol, can also improve schizotypal personality disorder symptoms, they are also accompanied by the side effects. Moreover, the analysis shows that the present research on managing schizotypal personality disorder encounters issues such as insufficient sample size and absence of repeated experiments. These results of prior studies still need further verification before they can be used in practice.

***Keywords:*** schizotypal personality disorder, etiology, metacognitive treatment, rumination-focused cognitive behavioral therapy, medication treatment

## 1. Introduction

According to DSM-5, schizotypal personality disorder (STPD) is characterized by a consistent pattern of acute unease in intimate relationships, distortions in perception or cognition, and peculiarities in conduct. In other words, STPD is marked by consistent, intense discomfort with social interactions and close relationships, which is significant to humans in this society. Moreover, although schizotypal personality disorder in clinical populations seems to be infrequent [1], it is shown by some studies that STPD is correlated with suicidal ideation and behavior [2]. The reason is that people with STPD often suffer from depression and anxiety, and these emotional problems may make them more prone to suicidal behavior. In addition, STPD patients often have low social support systems, lack effective coping strategies, and tend to feel helpless and lonely. These factors may also increase their risk of suicidal behavior. Moreover, because people with STPD often do not trust others, they may be reluctant to receive treatment or support, which increases the difficulty of

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preventing them from committing suicide. Therefore, as STPD is not infrequent, it is essential to understand the etiology, treatments, treatments efficiency of STPD.

## 2. Methodology

This paper is a review based on research and literature collected in the field of STPD.

## 3. Etiology

The etiology of STPD is mainly concentrated in two aspects: genetic aspect and environmental aspect [3].

From the genetic aspect, it is shown that risks for STPD were strongly higher in the families of probands with STPD [4]. Moreover, Twin studies have also demonstrated that STPD is influenced by familial-genetic factors [3]. Specifically, the development of STPD is associated with Catechol-O-methyltransferase (COMT which is situated on chromosome 22q11) or a neighboring gene in linkage disequilibrium [5]. Later, an additional investigation has revealed that calcium voltage-gated channel subunit alpha1 C (CACNA1C rs1006737) is also a predisposing factor for STPD [6]. Together with other studies, these investigations suggest, either directly or indirectly, that genetic components have a noteworthy impact on the etiology of STPD.

From the environmental aspect, the study about adult schizotypal personality characteristics suggests that it may result from an unnormal brain development during a critical prenatal risk period in the sixth month of gestation [7]. Specifically, the findings show that compared to individuals who did not experience prenatal influenza infection, individuals who experienced prenatal influenza infection had a slightly higher risk of developing schizotypal personality characteristics in adulthood [7]. Moreover, it has been suggested that STPD is also linked with psychological trauma and persistent stress [3]. The research carried out by Annis Lai-chu Fung and Adrian Raine reveals that augmented peer victimization is linked to elevated STPD [8]. Subsequently, another investigation, the inability to develop regular habituation to repetitive stressors during childhood results in the accrual of homeostatic load, hence, raising the affirmative symptoms of schizophrenia during adulthood [9]. These studies demonstrate that environmental factors (such as the brain's development affected by gestation, personal trauma, and stress) are critical in the etiology of STPD.

However, all in all, the relationship between the two factors (Genetic and environmental factors) and STPD is not simply two independent correlations. Genetic and environmental factors will somewhat influence each other under the specific situation [3]. However, related research is currently scarce.

## 4. Symptom and Diagnosis

According to the diagnostic criteria of STPD in the DSM-5, the schizotypal personality disorder symptoms are:

(1) Sometimes patients feel that what others say or do is related to themselves, even though it is not, but this is not equivalent to being controlled by delusions.

(2) Patients have some strange beliefs that affect behavior and are not in line with the surrounding culture, such as believing in clairvoyance, telepathy, the "sixth sense,". In children and adolescents, this may manifest as strange fantasies or obsessions.

(3) Patients frequently have some abnormal sensations, including bodily illusions.

(4) Patients are sometimes thinking and speaking in a strange way, like being vague, metaphorical, overelaborate, or stereotyped.

(5) Patients feel that others are hostile against them or have paranoid thoughts.

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(6) Patients express emotions that are not appropriate for the situation or expressing emotions in a limited or restricted way.

(7) Patients are behaving or appearing in a strange, or eccentric way.

(8) Patients lack intimate companions or confidants besides immediate family members.

(9) Patients are encountering heightened social anxiety that persists despite familiarity and is more liable to be linked to paranoid apprehensions than adverse self-evaluations.

(10) These symptoms occur not only during schizophrenia, bipolar disorder, or depression with psychotic features, another psychotic disorder, or autism spectrum disorder.

According to DSM-5, the diagnostic criterion of STPD is clear and well explained. However, a study revealed that Schizotypal personality disorder does not occur exclusively in schizophrenia, bipolar disorder, depression with psychotic features, another mental illness, or autism spectrum disorders [1]. In this case, it is significant to know how to make the correct, optimal diagnosis of STPD because the person with STPD often asks for the treatment of anxiety or depression instead of the treatment of STPD.

## 5. Treatment

Due to the limited current technology level, most treatment methods cannot treat STPD from a genetic aspect. Therefore, most of the treatment methods focus on non-genetic aspects.

### 5.1. Metacognitive Treatment

The metacognitive treatment for STPD is a personalized therapy that addresses the metacognitive impairments self-reported by each patient [10]. The metacognitive dysfunctions manifest in the following ways:

Firstly, patients with STPD may be characterized by fuzziness and confusion in their thoughts, thinking, and performance. Secondly, patients with STPD may have an affected perception and awareness of themselves and their surroundings, leading to possible biases in their interpretation of facts and reality. Thirdly, STPD patients may have difficulty self-regulating their emotions and often experience abnormal emotional responses, such as mood swings, irritability, anxiety, and depression. Fourthly, patients with STPD may have difficulties with social interactions, such as poor communication, emotional detachment, and egocentricity.

Cheli proposes a metacognition-based assessment and treatment approach early in helping STPD change their cognitive styles and applications by improving their metacognition abilities [10]. In this metacognition-based assessment and treatment approach, the authors recommend a comprehensive assessment, including questionnaires and interviews, to assess aspects of the patient's metacognitive abilities, emotional state, coping strategies, and interpersonal relationships.

In the treatment approach, after the assessment. It includes five phrases.

Firstly, metacognitive self-awareness: Help patients understand their own cognitive processes and self-awareness and learn to control their thinking and emotional states better. This includes understanding their thinking, feeling, and behavior patterns and learning how to control and change them.

Secondly, metacognitive monitoring: Help patients monitor their emotional states and intervene and regulate unhealthy cognitive and emotional states. This can be done by helping patients recognize their emotions, such as anger, anxiety, and fear.

Thirdly, metacognitive transformation: Helping patients change their thinking and cognition, improving their thinking and problem-solving ability. This can be achieved by teaching patients basic logical reasoning, cognitive restructuring, and decision-making skills, among others.

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Fourthly, metacognitive fit: Helping patients better adapt to their situations and circumstances and develop healthy relationships. This includes teaching patients' practical communication skills, building healthy relationships, and helping patients cope with the stresses and challenges of everyday life.

Finally, end of treatment: The treatment process ends once the patient has reached the treatment goals. However, in some cases, the therapist may arrange follow-up therapy or counseling to ensure that the patient can maintain a healthy cognitive and emotional state and develop healthy relationships.

Moreover, the metacognitive treatment has several unique aspects:

Firstly, metacognitive treatment focuses on changing the individual's thinking: Traditional treatment methods usually focus on changing behavior and emotions, while metacognition-based treatments focus on changing the individual's thinking. Secondly, emphasis on self-observation and self-regulation: The metacognitive treatment emphasizes the patient's ability to change the way he or she thinks through self-observation and self-regulation. Patients need to learn to observe their own thought processes, spot errors, and biases, and try to see things more reasonably and accurately. Thirdly, encouragement of reflection and self-correction is also emphasized. Metacognition-based therapeutic approaches emphasize patients' ability to reflect and self-correct. Patients need to learn to reflect on their own behavior and way of thinking and try to correct errors and prejudices. This process of reflection and self-correction can help patients better adapt to reality.

However, all in all, according to this study done by Simone Cheli, and according to the reports, a bifocal approach to personality traits and metacognition seems to present a feasible strategy for managing patients with STPD [10]. Unfortunately, it did not include too much specific details about the effect of the treatment. However, another study includes two adult participants, and it mentions that the findings offer initial support for the viability of metacognitive-oriented interventions in the treatment of STPD [11]. The results showed that at the end of treatment, both patients underwent a notable abatement in symptoms and demonstrated an enhanced quality of life. These results suggest that a metacognitive-oriented treatment program might be a practical approach to treating STPD.

### 5.2. Rumination-Focused Cognitive Behavioral Therapy for Anger Rumination

In this article, Rumination-Focused Cognitive Behavioral Therapy (Rumination-Focused CBT) refers to "Anti-Cognitive Behavioral Therapy, a treatment based on Cognitive Behavioral Therapy, which helps the patient control excessive thinking and negative aspects." [12]. In addition, the article mentions that the concept of anger rumination pertains to a type of persistent and repetitive cogitation regarding an anger-provoking occurrence that holds personal significance [12].

The authors describe the patient's symptoms in detail in this case report. To help this patient, the authors used an approach called Rumination-Focused CBT. The therapy is designed to help the patient manage anger and violent impulses, and anger thinking.

This treatment approach has four steps.

Firstly, self-monitoring skills: Patients are taught how to record their own anger and violent impulses and related situations and reactions. In this step, patients learn how to notice and record their own negative emotions and reactions and record them in a diary for later analysis and discussion.

Secondly, cognitive restructuring: Patients are taught how to identify and challenge their negative thoughts and emotions and learn alternative positive thought patterns. In this step, patients learn how to identify negative thought patterns and use evidence and logic to challenge and correct these negative thoughts to help improve negative emotions and behaviors.

Thirdly, situational simulation: Patients learn to control their anger and violent impulses by simulating real-life situations and gradually adapt to healthier ways of responding. During this step,

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patients learn how to cope with negative emotions and reactions in simulated situations and use newly learned skills to replace old unhealthy responses.

Finally, relaxation exercises: Patients are taught how to use relaxation techniques to reduce tension and anxiety and improve self-control. During this step, patients learn how to relieve tension and anxiety using techniques such as deep breathing, progressive muscle relaxation, and meditation to improve self-control.

Moreover, the Rumination-Focused CBT method has several unique aspects.

Firstly, focus on rumination: This approach focuses specifically on the patient's rumination, the habit of endlessly recurring thoughts about negative experiences, emotions, and problems. This therapy attempts to help patients recognize the effects of this reflective behavior and learn how to break the unhealthy habit. Secondly, the individualized approach to therapy: Rumination-Focused CBT is an individualized approach tailored to a patient's specific symptoms and needs. For example, for a patient with schizotypal personality disorder, the therapist paid particular attention to his/her prejudice and suspicion of others and helped him/her learn how to reduce this negative emotion. Thirdly, Emotion-Oriented Therapy: This therapy focuses specifically on emotion-oriented, helping patients learn how to regulate their emotions to reduce negative emotions and increase positive ones. Fourthly, Mixing CBT and psychology education: Therapists use a combination of CBT and psychology education to help patients understand their symptoms and how to manage them. For example, a therapist may teach a patient some emotion management skills and cognitive restructuring techniques to help them manage their emotions and negative thoughts.

Overall, the findings of the research demonstrate that the implementation of Rumination-Focused CBT effectively mitigated anger, and to a lesser extent, anger rumination in the STPD case [12].

### 5.3. Medication Treatment

According to several studies, Aripiprazole, Risperidone, Haloperidol, and Olanzapine can improve the symptoms of STPD to some extent under different conditions.

According to the case report, the authors used Aripiprazole to treat an STPD patient. During the treatment period, the patient's symptoms improved significantly, and at the end of the treatment, the patient did not experience any adverse reactions or signs of deterioration [13]. Therefore, the authors believe that Aripiprazole might be an effective drug for treating STPD in the future.

Moreover, according to the controlled experimental study about risperidone, the authors found that the risperidone-treated group performed better on some cognitive tasks. However, at the same time, a significant decline is showed in some spatial and non-spatial working memory tasks for the risperidone group. Overall, this study suggests that Risperidone may positively affect cognitive performance in STPD patients [14].

The Haloperidol study shows that low doses of Haloperidol could improve the overall schizotypal personality disorder symptoms of seventeen STPD patients. However, furthermore, it underscores significant adherence challenges in a cohort of patients who are acutely susceptible to adverse reactions [15].

Moreover, it is demonstrated, by the study of Olanzapine, that Olanzapine significantly reduced symptoms in patients with STPD and was well tolerated [16]. In addition, patients had significant improvements in psychiatric and depression scores and overall functioning. The authors suggest that Olanzapine may be an effective option for treating schizotypal personality disorder, but additional research is necessary to validate its enduring effectiveness and safety.

Through the integration and analysis of the above studies, the two drugs, Aripiprazole and Olanzapine, are more likely to become the medicine for treating STPD in the future because they have no apparent side effects. These two medicines both improve the symptoms of STPD to a

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certain extent. However, the two medicines, Risperidone and Haloperidol, have apparent side effects in their corresponding research. Therefore, more caution should be exercised in using these two medicines.

### 5.4. Limitations

All the above treatment and related research results have the following limitations:

Firstly, the research sample size is too small. It needs more generalizability. For example, in the study of the Aripiprazole, the sample size is only one patient. Secondly, most of the findings still need to be validated and substantiated. Thirdly, Metacognitive treatment and Rumination-Focused CBT require a lot of patient's time for treatment. These two methods will take the patient at least several months, or even years. Fourthly, medication treatment has certain side effects. Fifthly, these treatments do not completely cure STPD, and they can only improve STPD symptoms.

## 6. Suggestion

Since schizotypal personality disorder in clinical populations seems to be infrequent [1], if researchers intend to conduct experiments with large samples, it requires a lot of money and time and requires the help of national organizations. With the help of national organizations, researchers can conduct research on large sample size STPD patients to verify the experimental results and obtain more accurate conclusions. Moreover, due to the current scientific and technological limitations, research on the etiology of STPD is still relatively scarce, so it is not realistic to cure STPD entirely at present. As science and technology advance, and additional research is conducted on the etiology of STPD, more efficient treatment approaches will be applied to each individual diagnosed with STPD.

## 7. Conclusion

This article lists and analyzes the etiology and treatment methods of schizotypal personality disorder so that readers and researchers can have a more exhaustive understanding of STPD and determine the direction of future research. At present, many related studies on the etiology and treatment of STPD still need further experiments and verification. Through further experiments and studies, researchers can have a better understanding about etiology and treatment methods of schizotypal personality disorder disease to develop more effective and faster treatment methods to help STPD patients.

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