

Research Paper

Memory Deficits in Schizophrenia Type Disorders Versus Schizophrenia with Obsessive-Compulsive Disorder

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ABSTRACT

The aim of this study is to examine memory deficits, positive and negative symptoms, and obsessive-compulsive features among individuals with Schizophrenia and those with schizophrenia and comorbid obsessive-compulsive disorder (OCD). A total of 300 participants were included, with 150 individuals diagnosed with schizophrenia and 150 with schizophrenia and OCD, selected using purposive sampling from mental health centers in Pune. Standardized tools including the Scale for the Assessment of Positive Symptoms (SAPS), Scale for the Assessment of Negative Symptoms (SANS), Yale–Brown Obsessive Compulsive Scale (Y-BOCS), and PGI Memory Scale (PGIMS) were administered. Results from one-way ANOVA indicated significant differences in memory, $F(1, 298) = 11.96, p < .01$, positive symptoms, $F(1, 298) = 22.25, p < .001$, obsessive thoughts, $F(1, 298) = 37.40, p < .001$, and compulsive behaviors, $F(1, 298) = 26.18, p < .001$. However, negative symptoms did not differ significantly, $F(1, 298) = 1.89, p > .05$. Findings suggest that comorbid OCD exacerbates memory impairment and increases symptom complexity in schizophrenia.

Keywords: Schizophrenia, Memory, Positive Symptoms, Negative Symptoms, OCD

Schizophrenia is a severe mental disorder characterized by disturbances in thought, perception, and cognitive functioning. Memory impairment is one of the core cognitive deficits observed in schizophrenia. Recent research suggests that a significant number of individuals with schizophrenia also exhibit obsessive-compulsive symptoms, forming a subgroup often referred to as schizo-obsessive. OCD contributes to cognitive difficulties such as reduced memory confidence and attentional problems. This comorbidity may further affect cognitive functioning, especially memory processes such as attention, recall, and retention. Although schizophrenia and obsessive-compulsive disorder (OCD) are considered distinct psychiatric conditions, research indicates a significant overlap between them. Studies have shown that a notable proportion of individuals with schizophrenia also experience obsessive-compulsive symptoms, suggesting a shared neurobiological basis. The study aims to compare both groups to determine whether OCD

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Received: April 11, 2026; Revision Received: June 25, 2026; Accepted: June 29, 2026

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increases memory impairment. The findings will help in improving diagnosis, understanding cognitive differences, and developing targeted treatment strategies.

LITERATURE REVIEW

Schizophrenia is a chronic and severe psychiatric disorder that affects an individual's thinking, emotions, perception, and overall cognitive functioning, leading to significant impairment in social, occupational, and daily life activities. Among its various symptoms, cognitive deficits: particularly memory deficits are considered core features of the disorder. Research has consistently shown that individuals with schizophrenia experience difficulties in multiple domains of memory, including attention, working memory, and long-term memory, which significantly influence their functional outcomes and quality of life. Memory deficits refer to impairments in the processes of encoding, storage, and retrieval of information. In schizophrenia, these deficits are associated with dysfunctions in brain regions such as the prefrontal cortex and hippocampus, which are essential for effective memory functioning. Studies by Petitjean et.al. (2012) have highlighted that memory impairments are strong predictors of poor social and occupational functioning in individuals with schizophrenia.

Obsessive-Compulsive Disorder (OCD) is another important psychiatric condition characterized by the presence of intrusive thoughts (obsessions) and repetitive behaviors (compulsions). Although OCD is considered distinct from schizophrenia, research indicates that a considerable number of individuals with schizophrenia also experience obsessive-compulsive symptoms. This co-occurrence has led to the identification of a subgroup known as the schizo-obsessive subtype (American Psychiatric Association, 2013). Both schizophrenia and OCD share certain neurobiological and cognitive mechanisms, particularly involving cortico-striato-thalamo-cortical circuits (Barch, & Ceaser, 2012). Due to this overlap, the presence of obsessive-compulsive symptoms may further influence cognitive functioning, especially memory processes such as attention, encoding, and retrieval.

Schizophrenia is a long-term and disabling psychiatric condition that affects a person's thinking, emotions, and overall cognitive functioning, often disrupting their social, occupational, and everyday life activities (Andreasen & Olsen, 1982). Among its many symptoms, cognitive difficulties, especially problems with memory, have been widely recognized as central features that strongly influence long-term outcomes and day-to-day independence (Aleman, et. al., 1999). These memory-related challenges appear across several cognitive areas such as attention, working memory, long-term recall, and executive functioning. Such widespread impairment reflects disruptions in important brain circuits, particularly those involving the prefrontal cortex, hippocampus, and other interconnected neural networks (Brébion, et. al., 1997).

A considerable number of individuals with schizophrenia also experience obsessive-compulsive symptoms, leading researchers to identify a clinical subtype termed schizo-obsessive disorder. Schizophrenia and obsessive-compulsive disorder share several similarities, including their developmental course, underlying risk factors, and brain alterations—especially within cortico-striato-thalamo-cortical pathways (Müller, 2007). Because of these overlapping features, scholars have proposed that certain neurobiological and cognitive mechanisms may explain why both disorders sometimes appear together.

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When obsessive-compulsive symptoms occur alongside schizophrenia, they may intensify cognitive difficulties, particularly memory processes involved in encoding, storing, and retrieving information (Exner et al., 2009). Some studies report that comorbid OCD contributes to increased cognitive rigidity, intrusive thoughts, and compulsive patterns that interfere with memory and other executive abilities (Chamberlain et al., 2005). However, research findings are not always consistent; several studies have suggested that obsessive-compulsive symptoms do not necessarily add further cognitive burden beyond what is already present in schizophrenia. This inconsistency highlights the need for further investigation.

Therefore, the review of literature indicates that while memory deficits are a well-established feature of schizophrenia, the additional impact of obsessive-compulsive disorder on these deficits remains unclear. There is a need to compare memory functioning between individuals with schizophrenia and those with schizophrenia and comorbid OCD.

METHOD

The present study aims to examine Memory Deficits, positive and negative symptoms, obsessive-compulsive thoughts between individuals with Schizophrenia Type of Disorders versus Schizophrenia with Obsessive-Compulsive Disorder.

Hypotheses

- **H1:** Individuals with schizophrenia and comorbid OCD will show significantly more significant impairment in memory than those with schizophrenia.
- **H2:** There will be significant differences in positive and negative symptoms between individuals with schizophrenia and those with schizophrenia and OCD.
- **H3:** Individual with schizophrenia and comorbid OCD will demonstrate significantly higher obsessive-compulsive symptoms than those subjects with schizophrenia without OCD.

Objectives

1. To explore if individuals with schizophrenia and comorbid obsessive-compulsive disorder have more significant impairment in memory compared to individuals with schizophrenia without obsessive-compulsive disorder.
2. To assess the differences in positive and negative symptoms among patients with schizophrenia versus those with schizophrenia comorbid with obsessive-compulsive disorder.
3. To evaluate obsessive-compulsive symptoms in patients with schizophrenia with and without comorbid obsessive-compulsive disorder.

Research Design

This study uses purposive sampling, a non-probability technique where only participants who meet the diagnostic criteria for schizophrenia or schizophrenia with OCD are selected. This method ensures that the sample is clinically appropriate for the research.

Variables

- **Independent Variables**

1. Schizophrenia
2. Schizophrenia with Obsessive-Compulsive Disorder, OCD - Patients used in the study are schizophrenia and schizophrenia with obsessive compulsive disorder patients.

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- **Dependent Variables**

1. Memory deficits the is memory deficits of patients.

Participants and data collection

This study adopts a comparative research design to identify differences between two clinical groups. The first group includes 150 individuals diagnosed with schizophrenia type disorders, while the second group consists of 150 individuals diagnosed with schizophrenia along with OCD. Since the number of patients meeting the inclusion criteria was limited, a non-probability purposive sampling method was used. The participants showing stability on medication for at least 4 to 6 weeks were recruited based on Inclusion criteria. All participants were recruited from two mental health centres in Pune: Nityanand Rehabilitation & Residential Mental Health Care Centre, Katraj, and Nityanand Institute of Medical Sciences, Pachane Gaon. These centres were selected because they regularly treat individuals with schizophrenia spectrum disorders, making them appropriate sites for obtaining the required sample.

Ethical consideration

Before participation, informed consent was obtained from each patient, and confidentiality was strictly maintained throughout the data collection process. This ethical approach helped protect the rights, privacy, and well-being of all participants.

Tools

1. **Personal Data Sheet:** It includes demographic and clinical details: name, age, gender, marital status, education, occupation, diagnosis, illness duration, and neurological history.
2. **Scale for the Assessment of Positive Symptoms and Scale for the Assessment of Negative Symptoms:** The Scale for the Assessment of Positive Symptoms (SAPS; Andreasen, 1984a) and the Scale for the Assessment of Negative Symptoms (SANS; Andreasen, 1984b) were used to assess schizophrenia symptoms. SAPS evaluates hallucinations, delusions, bizarre behavior, and thought disorder, while SANS measures affective flattening, alogia, avolition, and anhedonia. Items are rated from 0 (absent) to 5 (severe), with higher scores indicating greater severity. Both scales show strong reliability (0.80–0.90) and good internal consistency ($\alpha = 0.70$ –0.85).
3. **Yale-Brown Obsessive Compulsive Scale (Y-BOCS):** Developed by Goodman et al. (1989), Y-BOCS is a 10-item clinician-rated scale assessing OCD severity (5 obsession, 5 compulsion items). It measures time, distress, interference, and control, rated from 0 to 4 (total: 0–40). Scores indicate severity levels. The scale demonstrates strong inter-rater reliability and validity.
4. **PGI Memory Scale (PGIMS):** Developed by Pershad and Wig (1971), PGIMS assesses multiple memory domains through 10 subtests. It is suitable for literate and illiterate individuals. Higher scores indicate better memory. Reliability ranges from 0.70–0.84 (test–retest) and 0.83–0.91 (split-half), with good validity ($r = 0.85$).

RESULT AND DISCUSSION

Descriptive statistics were conducted on 300 participants with no missing data, indicating a reliable dataset. The sample consisted of 195 males (98 with Schizophrenia and 97 with Schizophrenia and OCD) and 105 females (52 with Schizophrenia and 53 with Schizophrenia and OCD). The mean memory score was 66.14 (SD = 23.71), showing high variability in cognitive performance, which is consistent with memory impairments seen in

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schizophrenia-related disorders. Positive symptoms ($M = 26.55$, $SD = 7.46$) and negative symptoms ($M = 21.70$, $SD = 8.97$) were present at moderate levels, suggesting noticeable clinical severity affecting thinking, emotions, and social functioning. Additionally, obsessive thoughts ($M = 11.22$, $SD = 4.21$) and compulsive behaviors ($M = 11.11$, $SD = 4.10$) indicate the presence of comorbid obsessive-compulsive traits in the sample. Skewness (-0.133 to 0.167) and kurtosis (-1.099 to -0.706) values suggest that the data is approximately normally distributed and suitable for further statistical analysis.

H1- Individuals with schizophrenia and comorbid OCD will show significantly more significant impairment in memory than those with schizophrenia.

A one-way ANOVA was conducted to compare individuals with Schizophrenia and those with schizophrenia and comorbid obsessive-compulsive disorder (OCD). The analysis revealed a significant difference in memory, $F(1, 298) = 11.96$, $p < .01$, indicating greater memory impairment in the comorbid group. Hence, the hypothesis was accepted. Positive symptoms were also significantly higher in individuals with comorbid OCD, $F(1, 298) = 22.25$, $p < .001$. However, no significant difference was observed in negative symptoms, $F(1, 298) = 1.89$, $p > .05$. Furthermore, obsessive thoughts, $F(1, 298) = 37.40$, $p < .001$, and compulsive behaviors, $F(1, 298) = 26.18$, $p < .001$, were significantly elevated in the comorbid group.

The findings indicate that individuals with schizophrenia and comorbid OCD experience greater cognitive and clinical impairment compared to those with schizophrenia alone. The increased memory deficits may be attributed to the interference of persistent obsessive thoughts and repetitive compulsive behaviors, which disrupt cognitive processing. The higher level of positive symptoms suggests that comorbidity may intensify overall symptom severity, whereas the absence of significant differences in negative symptoms implies that these may remain relatively unaffected by OCD. Overall, the results highlight that the co-occurrence of OCD exacerbates both cognitive deficits and symptom burden, emphasizing the importance of integrated and targeted treatment approaches.

Research indicates that individuals with Schizophrenia show significant memory and executive functioning deficits, including problems in planning and spatial memory (Pantelis et al., 1997). Similarly, impairments in learning, reasoning, and processing speed have been reported in chronic cases (Braff et al., 1991). In Obsessive-Compulsive Disorder, deficits in episodic and semantic memory have also been observed (Exner et al., 2007), suggesting that comorbidity may further increase memory impairment.

H2- There will be significant differences in positive and negative symptoms between individuals with schizophrenia and those with schizophrenia and OCD.

A one-way analysis of variance (ANOVA) was conducted to examine differences in positive and negative symptoms between individuals with Schizophrenia and those with schizophrenia and comorbid obsessive-compulsive disorder (OCD). The results revealed a significant difference in positive symptoms, $F(1, 298) = 22.25$, $p < .001$, with the comorbid group showing higher levels. In contrast, no significant difference was found in negative symptoms, $F(1, 298) = 1.89$, $p > .05$, indicating similar levels across both groups. These findings suggest that while positive symptoms differ significantly between groups, negative symptoms remain comparable, hence the hypothesis was accepted, partially.

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The findings indicate that individuals with schizophrenia and comorbid OCD experience greater severity of positive symptoms, possibly due to the interaction between obsessive-compulsive features and psychotic processes, which may intensify distress and symptom expression. However, the absence of significant differences in negative symptoms suggests that these core deficits, such as affective flattening and social withdrawal, are relatively stable and less influenced by OCD. Overall, the results highlight that comorbidity primarily amplifies positive symptomatology rather than negative symptoms, emphasizing the need for comprehensive assessment and integrated intervention strategies in clinical practice.

Research suggests that individuals with Schizophrenia and comorbid obsessive-compulsive disorder (OCD) show higher positive symptoms due to overlap between intrusive thoughts and psychotic features (Poyurovsky et al., 2001). Similarly, Hwang et al. (2009) reported increased severity of psychotic symptoms in the comorbid group. However, differences in negative symptoms are less consistent, suggesting limited influence of OCD.

H3- Individual with schizophrenia and comorbid OCD will demonstrate significantly higher obsessive-compulsive symptoms than those subjects with schizophrenia without OCD.

A one-way analysis of variance (ANOVA) was conducted to examine differences in obsessive-compulsive symptoms between individuals with Schizophrenia and those with schizophrenia and comorbid obsessive-compulsive disorder (OCD). The results revealed a significant difference in obsessive thoughts, $F(1, 298) = 37.40, p < .001$, with the comorbid group showing higher levels. Similarly, compulsive behaviors were significantly higher in the comorbid group, $F(1, 298) = 26.18, p < .001$. These findings indicate that individuals with schizophrenia and OCD demonstrate greater obsessive-compulsive symptoms compared to those without OCD, thereby supporting the hypothesis.

The findings indicate that individuals with schizophrenia and comorbid obsessive-compulsive disorder (OCD) exhibit significantly higher levels of obsessive thoughts and compulsive behaviors compared to those with schizophrenia alone, supporting previous research (Poyurovsky et al.; Hwang et al.). Additionally, the comorbid group demonstrated greater impairment in memory functions, including attention, immediate recall, delayed recall, and retention (Aleman et al.; Exner et al.). While individuals with schizophrenia alone showed stronger positive symptoms, those with comorbid OCD displayed a more complex clinical profile with slightly elevated negative symptoms, although these differences were less pronounced (Andreasen and Olsen; Barch and Ceaser). Overall, the results highlight that comorbid OCD contributes to increased symptom severity and cognitive deficits, partially supporting the study hypothesis.

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Table 1: One-way ANOVA positive & Negative Symptoms and obsessive Thoughts, Compulsive Behaviours by Schizophrenia Type

Variables		Sum of Squares	df	Mean Square	F	Sig.
Memory	Between Groups	6486.750	1	6486.750	11.961	0.001
	Within Groups	161614.087	298	542.329		
	Total	168100.837	299			
Positive Symptoms	Between Groups	1156.403	1	1156.403	22.247	0.000
	Within Groups	15489.847	298	51.979		
	Total	16646.250	299			
Negative Symptoms	Between Groups	151.230	1	151.230	1.885	0.171
	Within Groups	23910.167	298	80.235		
	Total	24061.397	299			
Obsessive Thoughts	Between Groups	590.803	1	590.803	37.395	0.000
	Within Groups	4708.113	298	15.799		
	Total	5298.917	299			
Compulsive Behaviors	Between Groups	406.003	1	406.003	26.180	0.000
	Within Groups	4621.367	298	15.508		
	Total	5027.370	299			

CONCLUSION

The study compared memory deficits in schizophrenia and schizophrenia with OCD among 300 participants. Results showed that memory impairment is present in both groups but is more severe in those with OCD. The comorbid group had greater difficulties in attention, recall, and retention due to obsessive-compulsive symptoms. Schizophrenia alone showed higher positive symptoms, while the comorbid group showed more cognitive and emotional difficulties. Overall, OCD increases the severity and complexity of schizophrenia.

REFERENCES

- Aleman, A., Hijman, R., de Haan, E. H., & Kahn, R. S. (1999). Memory impairment in schizophrenia: A meta-analysis. *American Journal of Psychiatry*, 156(9), 1358–1366. <https://doi.org/10.1176/ajp.156.9.1358>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing.
- Andreasen, N. C., & Olsen, S. (1982). Negative vs. positive schizophrenia. *American Journal of Psychiatry*, 139(4), 444–448.
- Andreasen, N.C. (1984a). *Scale for the Assessment of Positive Symptoms (SAPS)*. Iowa City, IA: University of Iowa.
- Barch, D. M., & Ceaser, A. (2012). Cognition in schizophrenia: Core psychological and neural mechanisms. *Trends in Cognitive Sciences*, 16(1), 27–34. <https://doi.org/10.1016/j.tics.2011.11.015>
- Brébion, G., Amador, X., Smith, M., & Gorman, J. M. (1997). Memory impairment and schizophrenia: The role of processing speed. *Schizophrenia Research*, 25(2), 119–126. [https://doi.org/10.1016/S0920-9964\(97\)00022-1](https://doi.org/10.1016/S0920-9964(97)00022-1)
- Chamberlain, S. R., Blackwell, A. D., Fineberg, N. A., Robbins, T. W., & Sahakian, B. J. (2005). The neuropsychology of obsessive-compulsive disorder: The importance of failures in cognitive and behavioural inhibition. *Neuroscience & Bio-behavioural Reviews*, 29(3), 399–419. <https://doi.org/10.1016/j.neubiorev.2004.11.006>

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- Exner, C., Martin, V., & Rief, W. (2009). Self-focused ruminations and memory deficits in obsessive-compulsive disorder. *Cognitive Therapy and Research*, 33(2), 163–174. <https://doi.org/10.1007/s10608-007-9162-x>
- 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>
- Müller, N. (2007). Schizophrenia and obsessive-compulsive disorder: Evidence for a shared neurobiology. *European Archives of Psychiatry and Clinical Neuroscience*, 257(5), 235–242. <https://doi.org/10.1007/s00406-007-0724-7>
- Pershad, D., & Wig, N. N. (2005). Manual for PGI Memory Scale (PGIMS-PW). National Psychological Corporation.
- Petitjean, C. B., Legauffre, C., Ramoz, N., Ades, J., Gorwood, P., & Dubertret, C. (2012). Memory deficits in late-onset schizophrenia. *Schizophrenia Research*, 138(2–3), 217–223. <https://doi.org/10.1016/j.schres.2012.04.012>

Acknowledgment

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: Kumbhare, U. & Walke, S.B. (2026). Memory Deficits in Schizophrenia Type Disorders Versus Schizophrenia with Obsessive-Compulsive Disorder. *International Journal of Indian Psychology*, 14(2), 2933-2940. DIP:18.01.265.20261402, DOI:10.25215/1402.265