The International Journal of Indian Psychology
ISSN 2348-5396 (Online) | ISSN: 2349-3429 (Print)
Volume 13, Issue 1, January- March, 2025
DIP: 18.01.174.20251301, DOI: 10.25215/1301.174
https://www.ijip.in

The International Journal of INDIAN PSYCHOLOGY

Comparative Study

A Comparative Study of Neuro-Cognition, Social Cognition and Functional Behaviour between Schizophrenic Patients and the Normal Population

Mr. Narsinhbhai V. Chaudhary[1]*, Dr. Yogesh R. Pandya[2], Dr. Ravikesh Tripathi[3], Ms. Pooja Sharmanath[4], Mr. Vishal Parmar[5]

ABSTRACT

The aim of the present study was to understand and compare the effects of neurocognition, social cognitive profile, and work behaviour patterns on interpersonal relationships between people suffering from schizophrenia and the normal population. A total sample of 50 participants: 25 patients suffering from schizophrenia recruited from the hospital for mental health, Ahmadabad and 25 normal people collected from the community in Ahmedabad. Schizophrenic participants were screened using PANSS. The NIMHANS Neuropsychological Battery is used to measure cognitive functioning; the Edinburg Social Cognition Test is used to measure social cognition; and the Work Behaviour Inventory is used to measure functional behaviour. For analysis, descriptive statistics, the t test, and correlation were used. The result found that in neuro-cognition as well as functional behaviour, normal groups performed significantly better when compared to schizophrenic groups. Similarly, in social cognition, normal groups performed better than schizophrenic groups. Additionally, the present study found positive relationships between each and every domain, which we discuss in detail. The results of the present study support previous research showing that normal populations performed better than schizophrenic populations.

Keywords: *Neurocognition, Social Cognition, Work Behavior, Schizophrenia, Normal Population*

Schizophrenia is a complex and chronic psychiatric disorder characterized by significant impairments in cognition, social functioning, and daily life activities. Cognitive deficits, both in neurocognition and social cognition, are well-documented in individuals diagnosed with schizophrenia, contributing to challenges in adaptive functioning and work behavior. However, a comparative understanding of these deficits in

[1]PhD Scholar, School of Psychology, Gujarat University, Gujarat, India
[2]Head & Associate Professor, Department of Psychology, Shree Sahajanand Arts & Commerce College, Ahmedabad, Gujarat, India
[3]Associate Professor, National Forensic Science University (NFSU)
[4]Assistant Professor, National Forensic Science University (NFSU)
[5]Assistant Professor, National Forensic Science University (NFSU)
*Corresponding Author

Received: February 27, 2025; Revision Received: March 07, 2025; Accepted: March 11, 2025

© 2025, Chaudhary, N.V., Pandya, Y.R., Tripathi, R., Sharmanath, P., & Parmar, V.; licensee IJIP. This is an Open Access Research distributed under the terms of the Creative Commons Attribution License (www.creative commons.org/licenses/by/2.0), which permits unrestricted use, distribution, and reproduction in any Medium, provided the original work is properly cited.

relation to a non-clinical population remains crucial for a comprehensive insight into the disorder's functional implications.

Neurocognition refers to fundamental cognitive processes such as attention, memory, executive functioning, and problem-solving abilities, all of which are typically impaired in schizophrenia. Social cognition, on the other hand, encompasses abilities like emotion recognition, theory of mind, and social perception, which are essential for effective interpersonal interactions. Deficits in these cognitive domains significantly impact the functional behavior of individuals with schizophrenia, affecting their ability to maintain employment, relationships, and overall social integration.

This study aims to conduct a comparative analysis of neurocognitive functions, social cognitive abilities, and work behavior between individuals diagnosed with schizophrenia and a normal population. By utilizing standardized neurocognitive and social cognition assessments, as well as evaluating functional behavior in occupational settings, the study seeks to elucidate the extent and nature of cognitive impairments and their implications for real-world functioning.

Understanding the differences between these groups will not only contribute to the existing body of research on schizophrenia but also provide valuable insights for targeted therapeutic interventions. Enhancing cognitive and social functioning through rehabilitation strategies may play a pivotal role in improving the quality of life and work outcomes for individuals with schizophrenia. This research, therefore, holds significant implications for clinical practice, policy-making, and the development of psychosocial rehabilitation programs aimed at fostering better societal integration of individuals with schizophrenia.

METHODS

Aims and Objectivities:

- The aim of the present study is to understand and compare the effects of neuro cognition, social cognitive profile and work behaviour pattern on interpersonal relationships between Schizophrenic Patients and Normal Population.
- To assess the neuro cognition such as attention, psychomotor speed, working memory, planning, set shifting /cognitive flexibility, verbal learning and memory.
- To assess the social cognition such as cognitive theory of mind, affective theory of mind, intrapersonal social norms and interpersonal social norms.
- To assess the level of work behaviour.

Hypotheses:

- **Ho1:** There will be no significant differences in neuro cognition between Schizophrenic Patients and Normal Population.
- **Ho2:** There will be no significant differences in social cognition between Schizophrenic Patients and Normal Population.
- **Ho3:** There will be no significant differences in functional behaviour between Schizophrenic Patients and Normal Population.
- **Ho4:** There will be no significant relationship between neuro cognition, social cognition and functional behaviour in Schizophrenia Patients.

Sample:
A sample of 50 subjects will be selected using the purposive sampling design. There will be two groups, one group of Schizophrenic Patients (N=25) will be selected from Inpatient Department (IPD) section of Hospital for Mental Health, Ahmadabad, and second group of Normal Population (N=25) will be selected from Ahmadabad.

Inclusion Criteria:
- Age 18 to 55 years
- Patient of both genders
- Minimum level of education- 5th Standard
- Minimum one year of clinical diagnosis of Schizophrenia Patients. To be diagnosed by Psychiatrist (According to ICD 10 or DSM-V)
- Patients from the inpatient ward of Hospital for mental health, Ahmadabad.
- Not undergone the ECT minimum for 6 months of time period

Exclusion Criteria:
- Age below 18 and above 55 years
- Less than one year of being diagnosed with Schizophrenia Patients
- Acute Schizophrenia Patients
- Ongoing ECT Treatment
- Previous history of organic illness (Disorder)
- Substance use at present
- Intellectual Disability

Tools:
- Semi Structured Socio Demographic Questionnaire (developed by the researcher)
- PANSS (Positive and Negative Syndrome Scale, Stanley Kay et al., 1987)
- DVT (Digit Vigilance Test, Lezak, 1995)
- DSST (Digit Symbol Substitution Test)
- Verbal Working Memory N Back Test (Wayne Kirchner, 1950)
- ToL (Tower of London Test, Tim Shallice, 1982)
- WCST (Wisconsin Card Sorting Test, Heaton, 1999)
- AVLT (Auditory Verbal Learning Test, Rey, 1964)
- ESCoT (Edinburg Social Cognition Test, Baksh et al., 2018)
- WBI (Work Behaviour Inventory, Gary Bryson et al., 1997)

Procedure of the Study:
After receiving timely official permissions from the concerned authorities in the hospitals for data collection, an effort was made to identify patients who could be potential subjects for the study. This was done by contacting psychiatrists, clinical psychologists, nursing staff and also people working in the IPD by asking them to refer patients who were willing to be part of the study. Based on the inclusion criteria and willingness to participate, the patients were informed about the nature of the study, confidentiality of the information provided was assured, and written informed consent was taken. Following that, administration tools were implemented one by one on the subjects. The total time taken to administer the tests was approx 3 hours. With most of patient's assessment was spread across two to three session for

their comfort and convinces time. After the completions of the assessment, they were thanked for their cooperation and debriefed.

Data Analysis:

To conduct the analysis the test used in the study, the NIMHANS neuropsychology battery, Edinburg Social Cognition Test and Work Behaviour Inventory were used to score according to scoring procedures to obtain raw scores for each test. SPSS 21.00 were used. Pearson correlation and t test were used for statistical analysis.

RESULTS

Table 1. Frequency and percentage of the population regard to various socio demographic variables among Schizophrenic Patients and normal control.

Socio demographic variables		Schizophrenic Patients (N=25)		Normal Population (N=25)	
		Frequency		Frequency	
		N	(%)	N	(%)
Sex	Male	23	46	23	46
	Female	2	4	2	4
Education	Below 10th Std	16	32	16	32
	Above 10th Std	9	18	9	18
Socio Economic Status	Lower	9	18	2	4
	Middle	16	32	23	46
Marital Status	Married	11	22	15	30
	Unmarried	14	28	10	20
Religion	Hindu	22	44	25	100
	Muslim	3	6	0	0
Domicile	Urban	17	34	23	46
	Rural	8	16	2	4

Table 2. Difference in Neuro – Cognitions in Schizophrenic Patients and normal control.

	Schizophrenic Patients N=25		Normal Control N=25			
	Mean	SD	Mean	SD		
DSST-TT	804.32	481.27	246.68	76.55	5.721	.000**
DSST-E	8.88	17.24	.60	.96	2.397	.020*
DVT-TT	1100.68	495.73	524.48	129.27	5.624	.000**
DVT-E	66	74.47	9.24	13.21	3.752	.000**
AVLT-T-1	5	2.04	6.48	1.56	-2.882	.006**
AVLT-T-2	6.12	1.99	8.96	2.07	-4.949	.000**
AVLT-T-3	6.88	1.94	10.44	2.31	-5.895	.000**
AVLT-T-4	6.88	2.53	11.96	2.28	-7.751	.000**
AVLT-T-5	7.48	2.57	12.72	2.21	-7.736	.000**
AVLT-L-B	4.64	1.87	5.68	1.46	-2.760	.008**
AVLT-IR-A	5.76	2.68	9.48	3.03	-4.598	.000**
AVLT-DR	6.08	2.38	9.24z	2.85	-4.258	.000**
AVLT-Hits	10.40	3.21	13.36	1.29	-4.274	.000**
AVLT-E	6.92	3.83	2.72	1.65	5.039	.000**
NBT-1B-Hits	6.96	1.90	8.56	.65	-3.977	.000**

	Schizophrenic Patients N=25		Normal Control N=25			
	Mean	**SD**	**Mean**	**SD**		
NBT-1B-E	3.40	2.38	.96	1.10	4.653	.000**
NBT-2B-Hits	5.16	1.91	6.84	1.28	-3.656	.001**
NBT-2B-E	5.88	2.56	3.08	1.75	4.479	.000**
ToL-T-2 MoT	25.04	33.90	3.60	1.19	3.160	.003**
ToL-T-2 MoM	5.56	6.18	2.12	.440	2.774	.008**
ToL-T-3 MoT	33.44	26.60	12.12	9.91	3.755	.000**
ToL-T-3 MoM	6.84	2.97	5.04	2.17	2.448	.018*
ToL-T-4 MoT	34.44	25.70	15	7.81	3.618	.001**
ToL-T-4 MoM	7.72	2.85	7.68	3.88	.042	.967
ToL-T-5 MoT	46.80	45.65	18.96	8.71	2.995	.004**
ToL-T-5 MoM	9.84	3.09	8.60	1.76	1.744	.088
TNPSMM	4.72	2.44	7.52	1.87	-4.549	.000**
WCST-NoT	126.32	8.40	112.32	19.25	3.333	.002**
WCST-NoCR	48.00	13.16	71.64	7.42	-7.825	.000**
WCST-NoE	78.32	17.71	41.08	19.48	7.073	.000**
WCST-CLR	2.92	1.68	2.72	1.93	.391	.697
WCST-NoCC	1.36	1.50	4.72	1.49	-7.964	.000**
WCST-TCC-1	58.56	54.03	15.16	11.56	3.927	.000**
WCST-FMS	.52	.96	.52	.82	.000	1.000

***.correlation is significant at the 0.01 level (2-tailed).*
**.correlation is significant at the 0.05 level (2-tailed).*

From the table 2 it is clear that there is significant difference between Schizophrenic Patients and Normal Population in the sub domain of neuro cognition of Digit Symbol Substitution Test-Total Time and Error, Digit Vigilance Test-Total Time and Error, Auditory Verbal Learning Test -Trial -1 to 5 – Immediate Recall -A, Delayed Recall, Hits and -Error, N Back Test – 1Back – Hits and Error, N Back Test – 2 Back – Hits and Error, Tower of London – Trial – 2 to 5 Mean of Time and Trial – 2 to 5 Mean of Move, Total Number of Problem Solve in Minimum Move, Wisconsin Card Sorting Test – Number of Trial, Number of Correct Response, Number of Error, Conceptualise Level of Response, Number of Correct Category, Trial of Category Correct - 1, Failure to Maintain Responses.

Table 3. Difference in Social – Cognitions in Schizophrenic Patients and normal control.

	Schizophrenic Patients N=25		Normal Population N=25			
	Mean	**SD**	**Mean**	**SD**		
ESCoT-CToM	15.28	7.21	27.76	2.18	-8.297	.000**
ESCoT-AToM	14.92	6.88	27.76	2.20	-8.887	.000**
ESCoT- Inter.SN	14.60	7.09	28.04	2.40	-8.970	.000**
ESCoT- Intra.SN	14.72	7.59	26.72	2.37	-7.544	.000**
ESCoT- TS	59.72	27.46	110.28	8.30	-8.812	.000**

***.correlation is significant at the 0.01 level (2-tailed).*
**.correlation is significant at the 0.05 level (2-tailed).*

From the table 3 it is clear that there is significant difference between Schizophrenic Patients and Normal Populationin the domain of Edinburg Social Cognition Test, as well as in the sub domains of Edinburg Social Cognition Test -Cognitive Theory of Mind, Affective Theory of Mind, Interpersonal Social Norms and Intrapersonal Social Norms.

Table 4. Difference in Functional –Behaviours in Schizophrenic Patients and normal control.

	Schizophrenic Patients N=25		Normal Population N=25			
	Mean	**SD**	**Mean**	**SD**		
WBI-SS	14.48	2.33	28.20	2.60	-19.659	.000**
WBI-Coop	17.88	3.77	29.60	2.43	-13.067	.000**
WBI-WH	15.48	2.71	27.68	2.34	-17.037	.000**
WBI-WQ	15.32	3.20	28.72	2.47	-16.568	.000**
WBI-PP	16.52	2.92	28.48	2.14	-16.520	.000**
WBI-GRWB	2.24	.44	4.00	.29	-16.832	.000**
WBI-TS	81.88	12.72	147.00	8.85	-21.013	.000**

***.correlation is significant at the 0.01 level (2-tailed).*
**.correlation is significant at the 0.05 level (2-tailed).*

From the table 4 it is clear that there is significant difference between Schizophrenic Patients and Normal Population in the domain of Work Behaviour Inventory, as well as in the sub domains of Work Behaviour Inventory – Social Skill, Cooperativeness, Work Habit, Work Quality, Personal Presentation and General Rating Work Behaviour.

Table 5. Correlation analysis of person suffering from schizophrenia within neuro – cognition, social cognition and functional behaviour.

Name of Test	WBI-TS	ESCoT-TS	AVLT-DR	PANSS-P	PANSS-N	DSST-TT	NBT-1B-H	NBT-2B-H	WBI-SS	WBI-Co.	WBI-WH	WBI-WQ	WBI-PP	WBI-GRWB	ESCoT-CToM	ESCoT-AToM	ESCoT-Inter. SN	ESCoT-Intra. SN
WBI-TS	1																	
ESCoT-TS	.534**	1																
AVLT-DR	.318	.449*	1															
PANSS-P	-.483*	-.179	-.311	1														
PANSS-N	-.441	-.529**	-.124	.041*	1													
DSST-TT	-.228**	.015	-.067*	.043	.210**	1												
NBT-1B-H	.256	.259*	.249	-.291	-.124	-.017	1											
NBT-2B-H	.293*	.262	.346	-.317	-.015	-.072	.518	1										
WBI-SS	.649	.228**	.151	-.195*	-.190*	.126	.239	.207	1									
WBI-Co.	.887**	.356	.257*	-.575	-.283**	-.191	.034	.235	.482	1								
WBI-WH	.885	.542*	.388	-.595	-.339	-.169	.287	.299	.437	.814	1							
WBI-WQ	.786*	.559	.210	-.052	-.451	-.349	.221	.237	.415	.539**	.635**	1						
WBI-PP	.842	.516*	.318	-.537*	-.535*	-.181	.327	.209	.452**	.700**	.689**	.571**	1					
WBI-GRWB	.734**	.399	.061*	-.108	-.372**	-.352	.263	.253	.497	.576	.498**	.660**	.717	1				
ESCoT-CToM	.533	.962*	.436	-.213	-.461	-.006	.241	.193	.200	.404	.541	.558	.482	.375	1			
ESCoT-AToM	.540	.932**	.359	-.150*	-.536*	-.051	.229	.290	.265**	.256**	.505**	.528**	.594	.507	.834	1		
ESCoT-Inter. SN	.512**	.970	.446*	-.129	-.530**	.044	.199	.239	.161	.161	.507**	.588**	.496	.383	.935	.882	1	
ESCoT-Intra. SN	.433	.940*	.458	-.162	-.449	.081	.299	.251	.251	.251	.499	.457	.357	.223	.892	.819	.876	1

**. correlation is significant at the 0.01 level (2-tailed).
*. correlation is significant at the 0.05 level (2-tailed).

Table 5 shows that Work Behaviour Inventory has a positive correlation with Edinburg Social Cognition Test – Total Score, N Back Test – 2Back -Hints, WBI-Cooperativeness, WBI-Work Quality, WBI-General Rating Work Behaviour, and Edinburg Social Cognition Test – Interpersonal Social Norms and also WBI has a negative correlation with PANSS-P and Digit Symbol Substitution Test – Total Time. Edinburg Social Cognition Test has a positive correlation with Auditory Verbal Learning Test – Delayed Response, N Back Test – 1Back -Hints, WBI-Social Skill, WBI – Work Habit, WBI – Personal Presentation, ESCoT – Cognitive Theory of Mind, and Affective Theory of Mind and also ESCoT has a negative

correlation with PANSS-N. Auditory Verbal Learning Test – Delayed Response has a positive correlation with WBI - Cooperativeness, WBI – General Rating Work Behaviour and ESCoT-Interpersonal Social Norms and also Auditory Verbal Learning Test – Delayed Response has a negative correlation with Digit Symbol Substitution Test – Total Time. PANSS-P has a positive correlation with only PANSS – N and also PANSS-P has a negative correlation with WBI-Social Skill, WBI – Personal Presentation and ESCoT – Affective Theory of Mind. PANSS-N has a positive correlation with only Digit Symbol Substitution Test – Total Time and also PANSS-N has a negative correlation with WBI – Social Skill, WBI – Cooperativeness, WBI – Personal Presentation, WBI – General Rating Work Behaviour, ESCoT – Affective Theory of Mind and Interpersonal Social Norms. Work Behaviour Inventory – Social Skill has a positive correlation with WBI – Personal Presentation and ESCoT – Affective Theory of Mind. Work Behaviour Inventory - Cooperativeness has a positive correlation with WBI – Work Quality, WBI – Personal Presentation and ESCoT – Affective Theory of Mind. Work Behaviour Inventory – Work Habit has a positive correlation with WBI – Work Quality, WBI – Personal Presentation, WBI – General Rating Work Behaviour, ESCoT – Affective Theory of Mind and Interpersonal Social Norms. Work Behaviour Inventory – Work Quality has a positive correlation with WBI – Personal Presentation, WBI – General Rating Work Behaviour, ESCoT – Affective Theory of Mind and Interpersonal Social Norms.

DISCUSSIONS

Our results indicate in domains of neuro cognition has a significant difference in attention, psychomotor speed, working memory, planning, set shifting/cognitive flexibility, verbal learning and memory between Schizophrenic Patients and Normal Population. In the present study, null hypothesis is rejected because Schizophrenic Patients had significantly poorer executive performance than their age and education matched Normal Population. Although neurocognitive deficits were observed in most neurocognitive domain's in individuals suffering from Schizophrenic Patients in the present study. Similar findings were seen in other studies as well. Wobrock et al. (2009) found significant deficits in attention and psychomotor performance and in particular, verbal working memory and cognitive flexibility in persons with Schizophrenic Patients. Holmen et al. (2012) found that patients had significantly poorer executive performance than their age- and gender matched healthy groups.

The results of this study indicate in domain of social cognition, has a significant difference in cognitive theory of mind, affective theory of mind, intrapersonal social norms and interpersonal social norms between Schizophrenic Patients and Normal Population. In the present study, null hypothesis is rejected because patients have problems identifying specific emotions in faces, social cues, and social knowledge and also, they have difficulties making judgments about differences in emotional expressiveness. Similar study, Dewangan, Singh, Mahapatra and Mahapatra (2018) found that patient had poor social knowledge and lower predicted mean score for internal attribution of negative event.

The present studies indicate in domains of functional behaviour, has a significant difference in social skills, cooperativeness, work habit, work quality, personal presentation and global rating of work behaviour between Schizophrenic Patients and Normal Population. In the present study, null hypothesis is rejected because patients have also impaired in cognitive and social ability so those patients have poor performance on work place than their age and education matched Normal Population. Similar findings were seen in Bull et al. (2016) who

found those who are more educated and also spend more time on work place have achieved high score on work behaviour.

The present study aimed to evaluate the relationship of Schizophrenic Patients with neuro-cognition, social cognition and functional behaviour. In the present study, null hypothesis is rejected because of neuro cognition and social cognition impairment were both substantially and consistently associated with functional behaviour with small to medium range effect size. Similar to the current study, Pinkham and Penn (2005) also found that individuals with Schizophrenic Patients demonstrated impaired performance across several domains of neurocognitive and social cognitive functioning as well as interpersonal skills.

In the present study, moderate relationship between functional behaviour and social cognition was found. In the previous studies, a relationship between the factors was established although the nature of the relationship could not be defined. Thus, Vauth, Rusch, Wirtz et al. (2004) found that the there was found to be a direct impact of non-social cognition on vocational functioning which was relatively lesser than the impact of social cognition on work-related social skills. In addition to this, functional behaviour and Affective Theory of Mind was found to share a relationship. In a similar study, Couture et al. (2006) found a relationship between Theory of Mind and community functioning.

The present study found relationship between working memory and functional behaviour and also between verbal learning and cooperativeness. Pinkham and Penn (2005) found that amongst the participants with Schizophrenic Patients, social cognition significantly contributed to the unique variance to interpersonal skills beyond that of neuro-cognition. This pattern was not observed in the non-clinical control sample. Additionally, the study found that there was a relationship between neuro-cognition and functional behavior. Similarly, Lepage, Bodnar and Bowie (2013) found that there was a strong association between neurocognitive deficits and impairments in several aspects of functioning in person with Schizophrenic Patients.

The present study found a negative relationship between functional behaviour and negative symptoms. In a similar study, Srinivasan and Tirupati (2005) found that negative symptom's effect on social functioning predicted poor work performance.

CONCLUSION

In the current study, Normal Population performed significantly better on the neuro-cognition, social cognition and functional behaviour. The study did not find any positive relationship between cognitive theory of mind and other sub tests and also intrapersonal social norms. The current findings show that social cognition is related to functional outcomes, perhaps stronger than neuro-cognition and also found negative correlation with negative symptoms. Deficits in both cognitive domains can limit understanding and performance on social problem solving and social skills tasks. Theory of Mind and other Social Cognition abilities is also important in achieving social support and personal resources, both of which may influence real world outcome more than Neuro-Cognition abilities. Future clinical trials are needed to further investigate whether improving individual cognitive domains, such as Theory of Mind can also improve functional outcome. Additionally, longitudinal studies and experimental studies that improve Neuro-Cognition and Social Cognition and assess change in functioning will provide more comprehensive

understanding of the direction and strength of the relationships among Neuro-Cognition, Social Cognition, and functional outcomes.

REFERENCES

Bagney, A., Rodriguez-Jimenez, R., Martinez-Gras, I., Sanchez-Morla, E. M., Santos, J. L., Jimenez-Arriero, M. A., & Palomo, T. (2013). Negative symptoms and executive function in schizophrenia: does their relationship change with illness duration?. *Psychopathology*, *46*(4), 241-248.

Baksh, R. A., Abrahams, S., Bertlich, M., Cameron, R., Jany, S., Dorrian, T., ... & Auyeung, B. (2020). Social cognition in adults with autism spectrum disorders: Validation of the Edinburgh Social Cognition Test (ESCoT). *The Clinical Neuropsychologist*, 1-19.

Browne, J., Penn, D. L., Raykov, T., Pinkham, A. E., Kelsven, S., Buck, B., & Harvey, P. D. (2016). Social cognition in schizophrenia: factor structure of emotion processing and theory of mind. *Psychiatry Research*, *242*, 150-156.

Bull, H., Ueland, T., Lystad, J. U., Evensen, S., Friis, S., Martinsen, E. W., & Falkum, E. (2015). Validation of the work behavior inventory. *Nordic Journal of Psychiatry*, *69*(4), 300-306.

Fett, A. K. J., Viechtbauer, W., Penn, D. L., van Os, J., & Krabbendam, L. (2011). The relationship between neurocognition and social cognition with functional outcomes in schizophrenia: a meta-analysis. *Neuroscience & Biobehavioral Reviews*, *35*(3), 573-588.

Holmén, A., Juuhl-Langseth, M., Thormodsen, R., Ueland, T., Agartz, I., Sundet, K., ... & Melle, I. (2012). Executive function in early-and adult onset schizophrenia. *Schizophrenia research*, *142*(1-3), 177-182.

Kurtz, M. M., Gopal, S., John, S., & Thara, R. (2018). Cognition, social cognition and functional disability in early-stage schizophrenia: A study from southern India. *Psychiatry research*, *265*, 231-237.

Lexén, A., & Bejerholm, U. (2018). Occupational engagement and cognitive functioning among persons with schizophrenia: an explorative study. *Scandinavian journal of occupational therapy*, *25*(3), 172-179.

Lystad, J. U., Falkum, E., Haaland, V. Ø., Bull, H., Evensen, S., Bell, M. D., & Ueland, T. (2016). Neurocognition and occupational functioning in schizophrenia spectrum disorders: The MATRICS Consensus Cognitive Battery (MCCB) and workplace assessments. *Schizophrenia research*, *170*(1), 143-149.

Madhivanan, S., Jayaraman, K., Daniel, S. J., & Ramasamy, J. (2017). Symptomatic remission in schizophrenia and its relationship with functional outcome measures in Indian population. *Journal of Clinical and Diagnostic Research: JCDR*, *11*(1), VC05

Mehta, U. M., Thirthalli, J., Subbakrishna, D. K., Gangadhar, B. N., Eack, S. M., & Keshavan, M. S. (2013). Social and neuro-cognition as distinct cognitive factors in schizophrenia: a systematic review. *Schizophrenia research*, *148*(1-3), 3-11.

Palsetia, D., Chandrasekhar, K., Reddy, M. S., De Sousa, A., & Karia, S. (2018). Executive function in patients with schizophrenia based on socio-occupational impairment: A cross-sectional study. *Industrial psychiatry journal*, *27*(2), 181.

Peer, J. E., Kinnaman, J. E. S., & Tenhula, W. N. (2019). Modified Work Behavior Inventory assessment: Evaluation of psychometric properties. *Schizophrenia Research: Cognition*, *16*, 25-28.

Sparks, A., McDonald, S., Lino, B., O'Donnell, M., & Green, M. J. (2010). Social cognition, empathy and functional outcome in schizophrenia. *Schizophrenia research*, *122*(1-3), 172-178.

Srinivasan, L., & Tirupati, S. (2005). Relationship between cognition and work functioning among patients with schizophrenia in an urban area of India. *Psychiatric services*, *56*(11), 1423-1428.

Valaparla, V. L., Nehra, R., Mehta, U. M., Thirthalli, J., & Grover, S. (2017). Social cognition of patients with schizophrenia across the phases of illness-A longitudinal study. *Schizophrenia research*, *190*, 150-159.

Vauth, R., Rüsch, N., Wirtz, M., & Corrigan, P. W. (2004). Does social cognition influence the relation between neurocognitive deficits and vocational functioning in schizophrenia?. *Psychiatry research*, *128*(2), 155-165.

World Health Organization. (1993). *The ICD-10 classification of mental and behavioural disorders: diagnostic criteria for research* (Vol. 2). World Health Organization.

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: Chaudhary, N.V., Pandya, Y.R., Tripathi, R., Sharmanath, P., & Parmar, V. (2025). A Comparative Study of Neuro-Cognition, Social Cognition and Functional Behaviour between Schizophrenic Patients and the Normal Population. *International Journal of Indian Psychology*, *13*(1), 1867-1876. DIP:18.01.174.20251301, DOI:10.25215/1301.174