



Volume 1 | Issue 2 | 2022

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Association of Age in drug-naïve schizophrenia

Introduction:

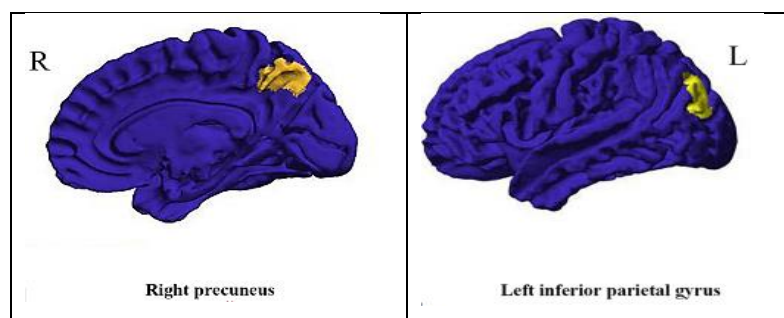
Schizophrenia is increasingly being thought of as a disorder characterised by faulty neurodevelopmental and/or neurodegenerative connection pathways. The neurodevelopmental hypothesis proposed that genetic and early-life environmental risk factors may alter neurodevelopmental synaptic plasticity (such as synaptogenesis and synaptic pruning), causing a disruption of the balanced interplay between integration and segregation of both structural and functional brain networks, and eventually altering neurodevelopment trajectories to the onset of schizophrenia in late adolescence or early adulthood. ^[1] Neurodegenerative models, on the other hand, classify schizophrenia as a progressive neurodegenerative illness. ^[2] The objective of this study was to describe age-related network controllability changes in a large group of drug-free schizophrenia patients. Average controllability changes were linked to clinical aspects of schizophrenia in the exploratory investigation. The researchers hypothesised that schizophrenia patients will differ from healthy controls in age-related trajectories of network control features.

Methods:

The white matter network controllability parameter (average controllability) was mapped from age 16 to 60 years in 175 drug-naïve schizophrenia patients and 155 matched healthy controls using structural magnetic resonance imaging and a network control theory technique.

Results:

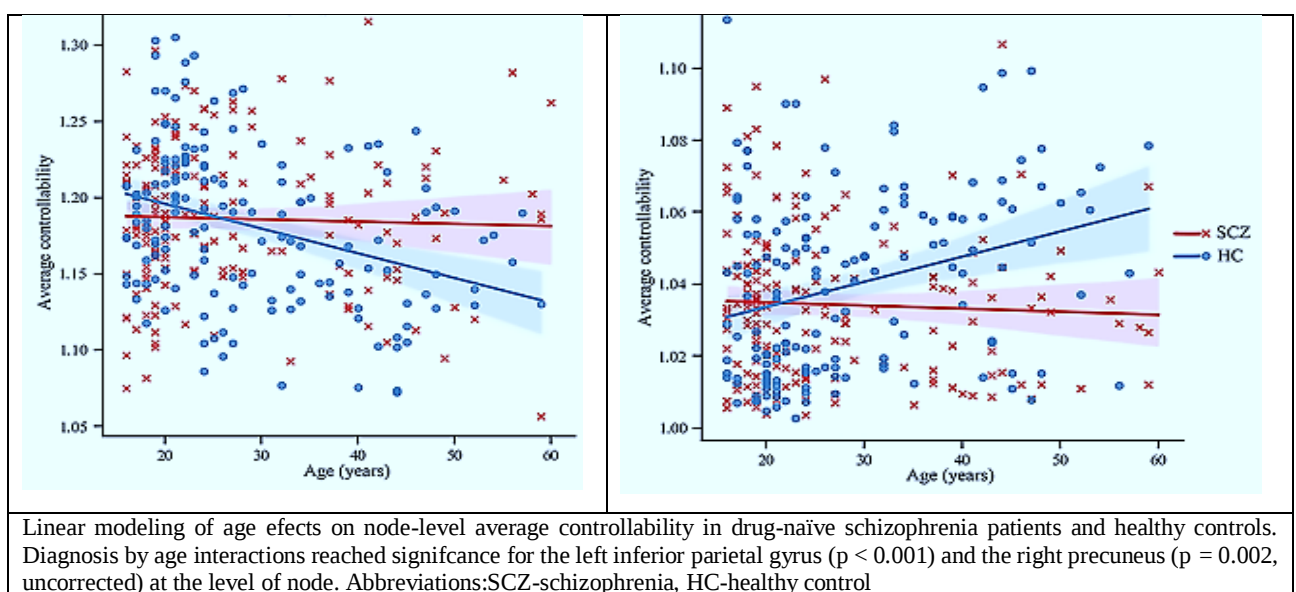
In comparison to controls, schizophrenia patients showed no age-related reduction in the default mode network's (DMN) average controllability or the right precuneus (a DMN hub area), suggesting an aberrant maturational development process in schizophrenia. The schizophrenia patients had an





accelerated age-related loss in average controllability in the subcortical network, which supported the neurodegenerative concept.

Furthermore, the lack of an age-related increase in average controllability of the left inferior parietal gyrus in schizophrenia patients compared to controls revealed a different brain development route.



Discussion:

The study used diffusion MRI and a network control theory technique to look into abnormal age-related changes in average controllability in drug-free schizophrenia patients. Patients with schizophrenia had differences in the age-related model of average controllability in the DMN and subcortical network at the network level, as well as the right precuneus and left inferior parietal gyrus at the nodal level, when compared to controls. Notably, the schizophrenia patients showed no age-related decrease in the DMN network's average controllability, as well as the right precuneus (a DMN hub region), implying an abnormal narrowing or specialisation of their preferred control roles with age, adding to the neurodevelopmental hypothesis of schizophrenia.

The average controllability of the DMN and the right precuneus decreased with age in healthy controls in the current research, which might be the consequence of fine-tuning of the structural organisation in an optimum fashion for varied functional dynamics with maturity. The current study found that the network controllability measure of the subcortical network did not vary substantially with age in healthy controls, showing that subcortical areas are stable controllers. ^[3]



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The age-related decrease in average subcortical network controllability in schizophrenia patients may imply dysregulated degenerative pathways in schizophrenia, corresponding with faster ageing of subcortical structures in schizophrenia, when compared to controls. ^[4]

Conclusion:

The current study demonstrated abnormal age-related alterations in white matter pathways' ability to govern functional activity states as compared to healthy controls by modelling network controllability with age in untreated schizophrenia. The findings supported both the developmental and degenerative models of schizophrenia sickness progression, and revealed that the DMN and subcortical network were particularly vulnerable, presumably representing an early illness marker for the disorder.

The current work used the control theory technique to uncover age-related alterations in white matter pathways' ability to influence functional activity states in schizophrenia. The findings backed with both the developmental and degenerative theories of schizophrenia, and revealed that the DMN and subcortical network were more vulnerable, perhaps representing an illness-related early marker for the condition.

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CHANGING VIEW TOWARD ELECTROCONVULSIVE THERAPY

Introduction:

Electroconvulsive therapy (ECT) is a type of mental health treatment that uses electric currents to cause a seizure. It's used to treat life-threatening depression, catatonia, and severe, long-term mania that hasn't responded to medicine. [1] ECT, on the other hand, instils anxiety in the general population, owing to its dramatic portrayal in the mainstream media. [2]

Methods:

This research looks at a new film that focuses on ECT experiences and how it might help people understand medical information. After seeing the movie, knowledge and attitudes concerning ECT were compared to a control group that got no information and a group that read the current NHS booklet on ECT. Empathy was also taken into account as a covariate.

An independent groups design was adopted in the experiment. The kind of ECT information (no information, science-based pamphlet, or emotive movie) was randomly assigned to participants in one of three situations. The ECT knowledge and attitude questionnaire's mean scores were the dependent variables. Perspective-taking and empathic care, two subscales of the Interpersonal Relativity Index (IRI), were utilised to adjust for different degrees of trait empathy in the participant sample.

Results:

Participants in the video condition had more correct knowledge and a more positive attitude, according to the median ratings. Only the video condition had a median score above the mid-point in the attitudes to ECT category, suggesting a favourable attitude. When compared to receiving no information or the current leaflet, the video condition had distributions that were mostly below the mid-point for both knowledge and attitudes, implying that the video condition was the only form of intervention likely to encourage accurate knowledge and facilitate a more positive attitude toward ECT. These data imply that of the three tools evaluated, video information is the most beneficial.

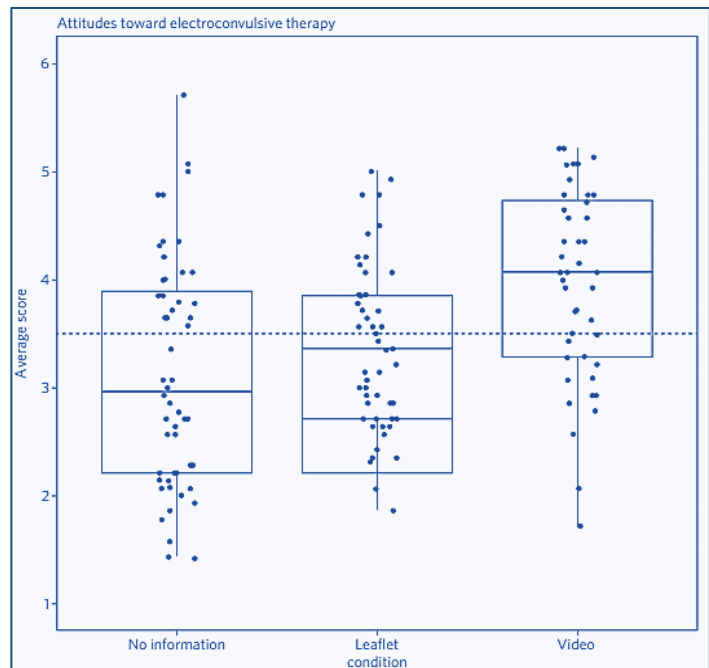


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When perspective trait empathy was strong, attitudes toward ECT were similar in all three information circumstances; when perspective trait empathy was low, attitudes toward ECT scores in the new video condition were higher than those in the NHS booklet and no information conditions. As a result, we may deduce that the kind of intervention had no influence on those who already had a high level of trait empathy; but, for those who had a low level of trait empathy, the film was helpful in enhancing their impressions of ECT. After controlling for gender, the increase in knowledge and a more positive attitude toward ECT after seeing the video still occurs. It also implies that gender is responsible for a minor but considerable fraction of the variation in ECT knowledge and attitudes.



Distribution of electroconvulsive therapy knowledge scores across each information condition (points represent individual participant ratings)

Discussion:

Contextual and motivation information can considerably enhance both understanding and attitudes toward ECT. Only the video condition enhanced knowledge and attitudes toward ECT, but the NHS booklet did not improve knowledge or attitudes toward ECT when compared to no information. Participants sat below the mid-point for attitudes and on or below the mid-point for knowledge in both the no intervention and leaflet conditions, indicating that they were still likely to see ECT unfavourably. These findings suggest that, when compared to other types of intervention, the film would be the most effective in educating patients and caregivers about the use of ECT to treat mental diseases. These findings back up recent research that shows therapies that focus on more emotive, real-life experiences are more successful for improving perception than programmes that rely only on factual information. [3]



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It'd be interesting to see whether there's a similar gain in knowledge and attitudes regardless of how the information is given. It should also be mentioned that, while the efficacy of ECT is beyond the scope of this study, there is still a lot of controversy about whether there are any obvious and long-term advantages of ECT. [4]

Conclusion:

These findings shed more light on the use of education to enhance ECT perception, with emotional cues showing to be the most effective means for delivering information, particularly to persons with low perspective-taking empathy. Overall, having a greater understanding of people's ECT experiences may lead to reduced dread and uncertainty among the general population.

These findings show that when compared to current content or no information, the film enhanced knowledge and attitudes concerning ECT. Personal experiences are added to public information, which provides perspective and improves overall attitudes about health treatments.

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ASSOCIATION BETWEEN GUILT AND OBSESSIVE-COMPULSIVE SYMPTOMS IN NOT JUST RIGHT EXPERIENCES

Introduction:

NJREs (Not Just Right Experiences) are now recognised a symptom of Obsessive–Compulsive Disorder (OCD). In both nonclinical and clinical populations, significant links between NJREs and OC symptoms have been discovered. A substantial association exists between NJREs, emotions of guilt, and OC characteristics, according to the literature. The goal of this study is to determine the function of guilt and OC symptomatology in NJREs, as well as to see if high levels of guilt will predict NJREs and if OC symptoms and trait guilt levels will positively interact in the prediction of NJREs. [1] NJREs are essentially a subjective feeling that "something isn't quite right" or that "something is missing," implying that certain acts, intentions, or perceptions were left unfulfilled. [2]

Methods:

A total of 189 persons from the general community were tested using questionnaires that included NJREs, OC symptoms, and guilt proneness.

Results:

All of the study's variables (NJREs severity, guilt, and OCI-R scores) were positively and substantially connected, indicating that guilt and OCI-R scores interact considerably and favourably in the prediction of NJREs levels. Only when OCI-R levels were high did guilt predict NJREs.

Variables	1	2	3	4
1. Age	-			
2. OCI-R	-.15*	-		
3. Guilt Inventory	.03	.29**	-	
4. NJRE	-.07	.35**	.19*	-

r-Pearson bivariate correlations, controlling for Age and Gender, between the main variables involved in the study



Discussion:

The objective of this study was to add to what was already known about the association between guilt, OC symptoms, and NJREs. The intensity of NJREs, guilt, and OCI-R scores were all strongly and substantially associated, according to our findings. In other words, when the OCI-R and guilt scores rose, so did the levels of NJREs. These findings back up a number of theoretical and empirical studies that show a link between guilt sensitivity, OC symptoms, and NJREs in clinical and nonclinical individuals. [3]

	Model 1 $R^2 = .16; p = .099$			Model 2 $R^2 \text{ change} = .12; p < .001$			Model 3 $R^2 \text{ change} = .03; p = .009$		
	β	SE	p	β	SE	p	β	SE	p
Constant	28.34	5.89	<.001	17.63	6.75	.010	29.80	8.90	<.001
Age	-.17	.15	.256	-.12	.14	.404	-.12	.14	.378
Gender	-3.54	1.76	.048	-2.77	1.68	.102	-2.75	1.65	.098
OCI-R				.30	.07	<.001	-.81	.43	.061
GI				.01	<.01	.205	-.01	.01	.258
GI * OCI-R							<.001	<.001	.009

Hierarchical regression analysis predicting NJREs levels with obsessive compulsive symptomatology, guilt and their interaction, controlling by age and gender

Guilt may only predict NJREs when OCI-R levels are high, but not when OCI-R levels are moderate or low, according to the findings. As a result, it was discovered that non-clinical patients with a proclivity for OC symptoms (high OCI-R scores) and low trait guilt are immune to NJREs. Although the amount of OCI-R appears to predict NJRE scores (step two), the results (step three) reveal that trait guilt interacts with OCI-R in predicting NJRE sentiments. In other words, in the absence of additional signs, we may claim that those with higher OCD scores are more likely to experience NJREs, but that this phenomenon is more common in people with high trait guilt.

These findings corroborate the view that guilt plays a fundamental role in the phenomenology of OCD and support the idea that guilt plays a central role in OC symptoms. This may imply that a high proclivity to guilt in OCD favours NJRE, since it is linked to the subjective urge to restore the impression that something is "just right," as well as a desire to acquire a sense of precision. As a result, in persons with OCD, high guilt sensitivity leads to high levels of NJRE in order to escape the sense that one's behaviours, intentions, or experiences are inadequate.



These first findings on the complicated interaction of NJREs, guilt sentiments, and OC symptoms might have significant clinical consequences. Indeed, because it is difficult to identify a cognitive feature that can be addressed with cognitive strategy treatments, proneness to NJREs is difficult to treat in Cognitive Behavioral Therapy.

Conclusion:

From this approach, identifying guilt proneness as a crucial piece of the jigsaw in these processes may guide treatment efforts, such as targeting cognitive contents associated to guilt sentiments to minimise the incidence of NJREs, which would, in turn, diminish OC symptomatology.

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Reference:

1. Van Diermen L, Van Den Ameele S, Kamperman AM, Sabbe BC, Vermeulen T, Schrijvers D, Birkenhäger TK. Prediction of electroconvulsive therapy response and remission in major depression: meta-analysis. *The British journal of psychiatry*. 2018 Feb;212(2):71-80.
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ASSOCIATION OF SARS-COV-2 AND CYCLOID PSYCHOSIS AFTER CONCOMITANT INFECTION

Introduction:

The idea of cycloid psychosis has a long history in European psychiatry. Karl Kleist, a German psychiatrist, observed that some atypical psychoses may be categorised as hybrids of manic depressive and schizophrenia-like traits about 1920, and he classed them as atypical, acute, or recurring psychoses under the "cycloid marginal psychoses." Later, Leonhard postulated three categories of cycloid psychoses: anxiety-happiness psychosis, confusion psychosis, and motility psychosis, as a category of acute recoverable psychoses that were neither manic depressive nor schizophrenia. Finally, in 1974, Perris reduced Leonhard's initial approach by developing practical diagnostic criteria for cycloid psychoses. Confusion or agitated perplexity, as well as fluctuating, polymorphous symptoms, were significant hallmarks of cycloid psychosis, according to Perris. ^[1]

Case Report:

From 2012 through 2018, a 31-year-old single woman experienced five previous psychotic episodes linked to various stresses, for which she received various diagnoses and treatments. (Fig. 1) She had entirely recovered after a brief course of antipsychotic medication, and she was able to operate normally in between bouts. During the first incident, she was hospitalised for one day; the second took three weeks to recover from, and the third took less than a week to resolve. She remained stable on antipsychotic medication throughout 2016 and 2017, with the exception of a switch from

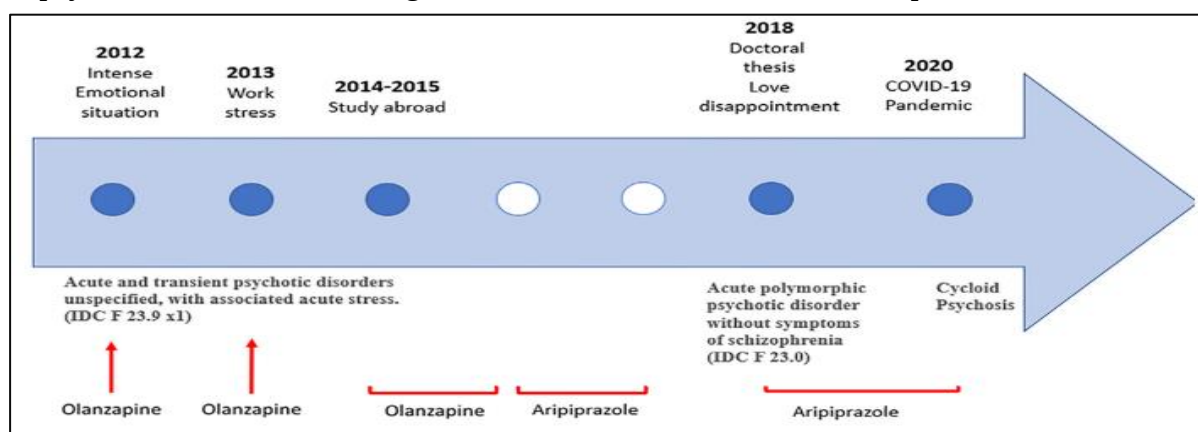


Figure 1 Life Stressors, diagnosis, and treatments during the course of the disease



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olanzapine (20 mg/daily) to aripiprazole (10 mg/daily) owing to weight gain and sleepiness. Her medicine was gradually reduced until it was discontinued in 2017.

After a fresh episode that lasted a week in 2018, aripiprazole had to be restarted at levels of 5-10mg daily. Until October 2020, the patient remained stable. On October 15, she went to the emergency hospital after leaving home in her pyjamas and sunglasses in the middle of the night. There were no abnormal findings during an organic examination and further testing (blood analysis, chest X-ray). There were no signs or symptoms of delirium. After learning that her mother had to be hospitalised with Covid-19 pneumonia, she reported getting less sleep at night for the prior two days. She chose to undergo a Covid-19 antigen test, which came up positive despite the fact that she was asymptomatic, and began a quarantine at her father's residence. These three stressors occur in quick succession and almost at the same time. Her father has noted a change in the patient's behaviour, an increase in irritation, and a reduction in sleeping hours since then.

The patient presented with uncontrollable laughing at times, tangential speech, emotions of excessive well-being, and no evidence of her earlier irritation in the initial days of hospitalisation. During her stay, she was given aripiprazole 30 mg/day (highest dosage) and olanzapine 10 mg/day as adjuvant therapy. She was euthymic after two weeks of admission, with no active psychotic symptoms, correct behaviour, structured thinking, fluent and intelligible language, and regular sleep. She was clinically stable at an outpatient follow-up session a week following discharge. She was thought to have experienced a cycloid psychosis with an episode of confused psychosis, according to the evolution.

Discussion:

It is well established that cycloid psychosis episodes are frequently preceded by stress, which is a significant risk factor for both symptom development and severity. [2] Stress from her mother's hospitalisation for Covid19 coincided with her own illness and isolation in this patient. The illness of her mother and her move live with her father were both emotional stressors that may have been triggers. There are other articles that suggest that SARS-CoV-2 infection can result in a psychotic episode as a result of the coronavirus itself. [3]

Conclusion:



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However, other than a non-specific delirium-like effect, there is no consensus on the effect of SARS-CoV-2 on the brain/behavior. Furthermore, the patient's cycloid psychosis recurrence is linked to the coexistence of these two stress variables.

It's critical for further study and treatment of psychiatric patients to be able to distinguish the influence of the stressful setting from the effect of the virus itself.

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