

Effect of Therapeutic Intervention Through Art on Catatonic Like Symptoms of Autism Spectrum Disorder

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ABSTRACT

This study examined the predictors of catatonia outcomes, focusing on the roles of training, age, and severity level of person with autism. Findings revealed that training and severity level are the strongest predictors, with severity level of Autism Spectrum Disorder (mild, moderate, severe) emerging as a major determinant of both baseline and post-intervention catatonia scores. Higher severity consistently corresponded with elevated symptom levels. While age alone did not significantly influence catatonia, its interaction with severity level produced meaningful variation. Training interventions demonstrated a robust positive effect, underscoring their clinical significance in reducing catatonic symptoms. Post-intervention outcomes were consistent across age groups, suggesting that treatment strategies should be primarily tailored to clinical severity rather than age. The model showed excellent fit ($R^2 \approx 0.95$), accounting for nearly all variance in catatonia outcomes. Descriptive analyses further highlighted substantial individual variability, emphasizing the need for additional correlational and paired-sample studies to refine understanding of treatment responsiveness of children and Person with Autism Spectrum Disorder.

Keywords: *Therapeutic Intervention, Art on Catatonic, Autism Spectrum Disorder*

Autism Spectrum Disorder-

Autism spectrum disorder is a condition associated with brain development that affects how individuals perceive and interact with others, leading to challenges in social communication and interaction. The disorder is characterized by restricted and repetitive behavioral patterns. The term "spectrum" in autism spectrum disorder indicates the broad range of symptoms and their varying degrees of severity.

Autism spectrum disorder starts in early childhood and ultimately results in difficulties functioning in society — whether socially, academically, or in the workplace, for instance. Children often display signs of autism within their first year. A small percentage of children seem to develop normally during their first year but then experience a regression in skills between 18 and 24 months, at which point they start to exhibit symptoms of autism.

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Symptoms of Autism-

1. Sensory issues
2. Lack of Flexibility
3. Lack of Social Communication

Catatonia & Autism

Here, the experimenter is going to work with symptom no. 2 Lack of Flexibility. Areas are:-

- a) Theory of Mind
- b) Executive Functioning
- c) Central Coherence

Catatonia, first identified in 1874, is a multifaceted syndrome characterized by abnormal motor, vocal, and behavioral symptoms, along with impaired volition and vegetative functions. Historically linked to psychosis and categorized under schizophrenia, catatonia is now acknowledged across various disorders, predominantly arising in individuals with mood disorders. The DSM-5 permits the coding of catatonia in association with numerous mental disorders using a specifier (such as neurodevelopmental disorder, brief psychotic disorder, schizophreniform disorder, schizophrenia, schizoaffective disorder, bipolar disorder, major depressive disorder, or other mental disorders). According to the DSM-5, catatonia is defined by the presence of at least three of the following symptoms: catalepsy, waxy flexibility, stupor, mutism, negativism, agitation, posturing, stereotypes, mannerisms, grimacing, echolalia, and echopraxia. Despite its current definition, catatonia continues to be a condition that is often overlooked.

Catatonic Like Symptoms-

The DSM-5 identifies catatonia as a marker for ASD, and the overlap of symptoms such as mutism, negativism, atypical speech, echolalia, unusual postures, grimacing, stereotypes, mannerisms, and agitation not linked to stimuli has made it challenging to identify milder forms of catatonia in individuals with ASD. In the ICD-10 classification, catatonia is divided into "catatonia due to a known physiological condition" or "catatonic schizophrenia." Conversely, the ICD-11 describes catatonia as an independent syndrome with various subtypes: "catatonia associated with another mental disorder" (notably in autism spectrum disorder), "catatonia induced by substances or medications," and "secondary catatonia syndrome" (where symptoms are a direct result of a medical condition). Previous studies have noted a range of psychomotor presentations of catatonia in ASD, including retarded, agitated, or mixed forms (Wachtel et al., 2019). A recent meta-analysis examining overlapping symptoms found that catatonia symptoms often presented as new onset or significant exacerbations of pre-existing symptoms, rather than beginning in early childhood (Vaquerizo-Serrano et al., 2022). Despite the current definitions, catatonia is still frequently unrecognized and often ignored, particularly in children and adolescents with ASD and other psychiatric conditions. Children and Person with ASD who exhibit catatonic symptoms are considered a diverse group (Vaquerizo-Serrano et al., 2022), but timely recognition and intervention for all forms of catatonia in ASD is essential due to the severity of the condition and the positive response to anti-catatonic treatment strategies, including safe and effective electroconvulsive therapy (Wachtel et al., 2011). Child and adolescent psychiatrists have reported various challenges regarding the identification and diagnosis of catatonia in the younger population (Hauptman et al., 2023).

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Management in Catatonia-

Medication - Sedatives is very useful in Catatonia and other co-morbidities.

Therapy -Electroconvulsive therapy (ECT) is a procedure that involves passing a mild electrical current through a specific region of the brain to induce a brief seizure. Individuals receiving ECT are placed under general anaesthesia, ensuring they are in a deep sleep and do not experience pain during the procedure. ECT is notably effective, benefiting almost all individuals with catatonia who undergo the treatment. It serves as the primary intervention for patients suffering from malignant catatonia and can often be a life-saving option in such situations. Additionally, it is beneficial for individuals whose catatonia does not improve with medication.

Management of Autism-

Medication - Medicines are effective for addressing the co-morbidities of autism but no medicines claim to cure or reduce autism.

Therapy -

- Special Education
- Occupational Therapy
- Speech - Language & Communication Therapy
- Behaviour Modification Therapy etc.

Alternative / Non Conventional Therapies -

Conventional therapies are not enough for autism spectrum disorder for which so many non-conventional / creative therapies take place, like Music Therapy, Art Therapy, Dance and movement therapy, Drama therapy,

Art therapy on Autism with Catatonic features -

Till now researcher not found any remarkable work in the area of Autism with catatonia, probably because the catatonic like symptoms in Autism is clinically accepted and published by DSM 5 only few years ago.

Art therapy needs minimum communication to perform an activity. It can help to reduce daily life actions and address multiple features of catatonia with the help of various techniques of art activity. Colourful materials help to establish rapport in very short time.

It appears that art creates a distinctive connection between children with ASD and the world around them. Emery (2004) indicated that engaging in creative art-making activities aids children with ASD in becoming more aware of themselves and in establishing a connection with their surroundings, as these children observe, recognize, and discover the world reflected in their artwork. In the interventions centered on art, children select their preferred materials and participate in creating artworks, which allows them to convey their thoughts and emotions. Gabriels (2003) stated that developing motor coordination is viewed as the foundational step for participating in multistep projects and group art activities. Extended art sessions could assist children in forming stronger connections with autistic peers in their surroundings, as a brief intensive course may not offer enough chances for them to build such relationships and engage their senses for enhanced communication.

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Researcher Regev (2014) noted, “For instance, paint is viewed as a more challenging medium that necessitates close supervision, whereas pencils and markers are easier to manage.” The fluidity of paint can benefit someone with heightened anxiety, “while individuals with attention deficits may need to develop better control.” It is crucial for therapists to be aware of clients' triggers. For instance, “we typically exercise caution when recommending the drawing of people or painting human figures in colors that represent emotions.” This can be distressing for those who have experienced sexual trauma.

Objective:

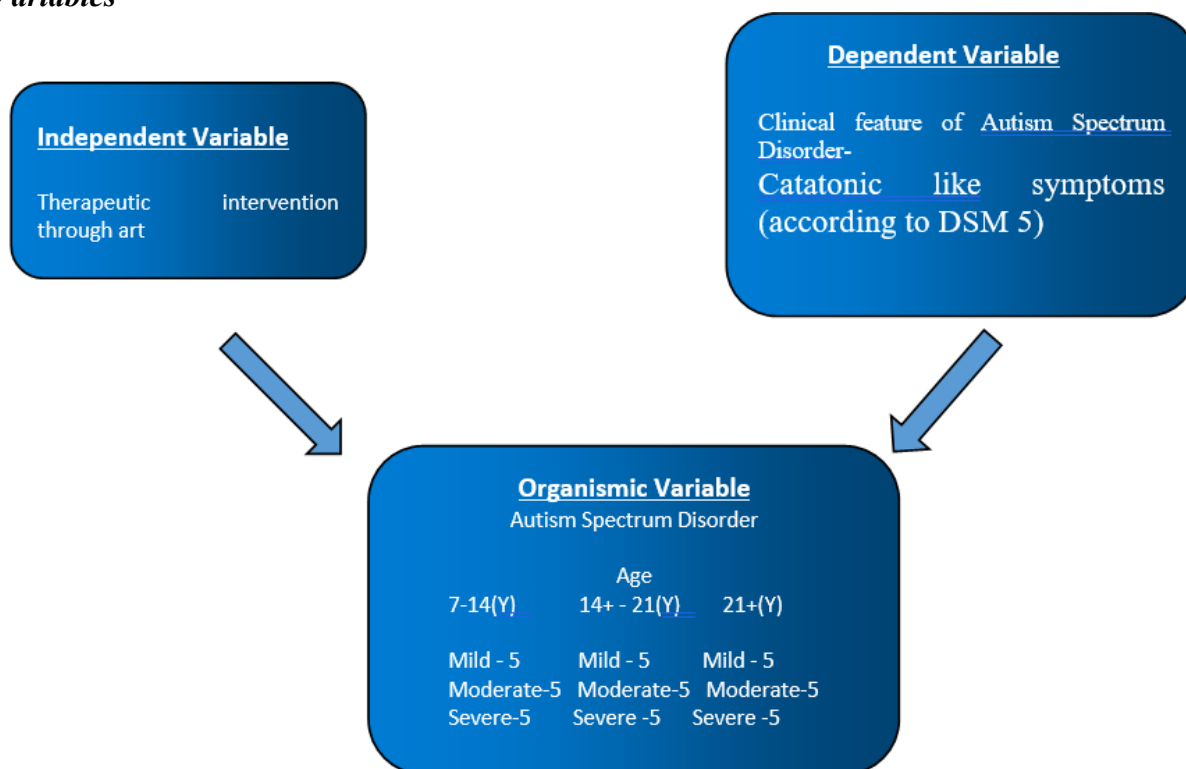
To see the effect of art based rehabilitation related therapeutic intervention in case of Catatonic like symptoms in children and adults with autism.

METHOD

Hypothesis

There is no effect of therapeutic intervention through art on Catatonic like symptoms in Autism Spectrum Disorder.

Variables



Tools Used

Scale - Catatonia

Sample selection process – Simple Random Sampling

Materials Used – White paper, pencil, pen, eraser, colors- crayon, water color, pencils, Clay, Balloon, chalk, duster.

Plan of Activities -

Participation was voluntary

Consent taken from parent of participants.

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Here, researcher used different activities for different age groups and for different levels of autism.

Group A

Age - 7 years to 14 years

Level of Autism - Mild, Activity- Lazy '8'

Level of Autism - Moderate, Activity-Shading

Level of Autism - Severe, Activity-Water colour with brush

Group B

Age - 14+ years to 21 years

Level of Autism - Mild, Activity-Line art

Level of Autism - Moderate, Activity-Paper Toy

Level of Autism - Severe, Activity- Clay

Group C

Age - 21+ years

Level of Autism - Mild, Activity-Mandala

Level of Autism - Moderate, Activity-Blow Painting

Level of Autism - Severe, Activity-Sand

In this research the experimenter is trying to establish the effect of art activity on Catatonic like symptoms of ASD.

6.PROCEDURE

Step – 1: Sample N is 27.

Step – 2: Assessment of Catatonia (Pre-Test)

Step – 3: Therapeutic intervention through art

Step – 4: Assessment of Catatonia (Post-Test)

Scoring Procedure:

- Identification of problem area through Catatonia assessment
- Selection of focused Area
- Selection of interventional activity
- Recognize the strength observed in each session
- Method of scoring followed for each session –
 - Duration: 20 minutes & above – 4 Marks
 - 10 to 20 minutes – 3 Marks
 - 5 to 10 minutes – 2 Marks
 - 0 to 5 minutes – 1 Mark
- Prompts & Cues - Physical Prompt – 1 Marks
- Verbal Prompt – 2 Marks
- Cues – 3 Marks
- Independent – 4 Mark

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Focused Area

Group A- Mild- Wrist Movement
 Moderate - Low angle gripping
 Severe - Wide movement

Group B - Mild - Both hand co-ordination
 Moderate - Movement of flat hand and finger
 Severe - Movement & Sensory Stimulation

Group C - Mild - Integration and balance
 Moderate - Oral and gross (hand) integration
 Severe - Gross, fine(elbow, wrist, finger) and eye co-ordination

Strength - 1 mark for each recognized strength in every session

- Total Score will be received after the Summation of Duration, Prompts & Cues, Focused Area, and Strength.

Collection of Data

Group - A	(<14	years)		Catatonia	
SL No.	Age	ISAA	Level	Pre	Post
1	8+	97	Mild	78	71
2	7+	94	Mild	79	69
3	11+	101	Mild	79	75
4	8+	118	Moderate	99	92
5	7+	125	Moderate	108	105
6	11+	117	Moderate	96	87
7	8+	155	Severe	141	136
8	8+	154	Severe	134	123
9	11+	163	Severe	136	131
Group-B	(15 to 21	years)		Catatonia	
SL No.	Age	ISAA	Level	Pre	Post
10	15+	91	Mild	79	66
11	16+	102	Mild	83	75
12	15+	89	Mild	82	74
13	17+	128	Moderate	112	108
14	20+	123	Moderate	99	91
15	20+	118	Moderate	98	87
16	21+	154	Severe	122	117
17	21+	191	Severe	141	135
18	19+	155	Severe	135	130
Group-C	(>21 years)			Catatonia	
SL No.	Age	ISAA	Level	Pre	Post
19	29+	98	Mild	83	79
20	30+	101	Mild	81	75
21	28+	97	Mild	79	69
22	23+	115	Moderate	109	101

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Group - A	(<14	years)		Catatonia	
SL No.	Age	ISAA	Level	Pre	Post
23	27+	131	Moderate	119	106
24	28+	137	Moderate	121	110
25	30+	187	Severe	121	119
26	29+	183	Severe	119	117
27	30+	197	Severe	124	120

Analysis Of Data

Objective

The analysis aimed to examine the impact of **training, age, and level**, as well as their interaction effects, on the dependent variable **Catatonia**.

Dependent Variable: Catatonia

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	29571.926 ^a	17	1739.525	42.104	.000
Intercept	532426.741	1	532426.741	12887.066	.000
training	2294.519	1	2294.519	55.537	.000
age	27.148	2	13.574	.329	.722
level	25870.037	2	12935.019	313.084	.000
training age	12.704	2	6.352	.154	.858
training level	128.704	2	64.352	1.558	.225
age level	1199.741	4	299.935	7.260	.000
training age level	39.074	4	9.769	.236	.916
Error	1487.333	36	41.315		
Total	563486.000	54			
Corrected Total	31059.259	53			

a. R Squared = .952 (Adjusted R Squared = .929)

This indicates that the model explains approximately **95.2% of the variance** in Catatonia, with a strong adjusted R² value confirming the robustness of the model after accounting for the number of predictors.

The three-way interaction was not significant, indicating no combined moderating influence of training, age, and level together.

The residual (error) variance was low (SS = 1487.333), showing that the predictors accounted for the vast majority of variance in Catatonia.

The corrected model overall was significant (F(17,36) = 42.104, p < 0.001), confirming that the model as a whole is statistically valid.

Objective

The analysis was conducted to examine whether there are significant differences in **catatonia scores** across three severity levels: **mild, moderate, and severe**.

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Descriptives

catatonia_pre

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
mild	9	80.33	1.936	.645	78.84	81.82	78	83
moderate	9	106.78	9.351	3.117	99.59	113.97	96	121
severe	9	130.33	8.803	2.934	123.57	137.10	119	141
Total	27	105.81	22.025	4.239	97.10	114.53	78	141

ANOVA

catatonia_pre

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11262.519	2	5631.259	100.144	.000
Within Groups	1349.556	24	56.231		
Total	12612.074	26			

Confidence intervals suggest non-overlapping ranges across the three groups, indicating clear differences in average catatonia scores depending on severity.

Objective

The purpose of this analysis was to examine whether catatonia scores differ significantly across three age groups: **child, adolescent, and adult**.

Descriptives

catatonia_pre

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
child	9	105.56	25.744	8.581	85.77	125.34	78	141
adolescent	9	105.67	23.195	7.732	87.84	123.50	79	141

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adult	9	106.2	19.376	6.45	91.33	121.1	79	124
		2		9		2		
Total	27	105.8	22.025	4.23	97.10	114.5	78	141
		1		9		3		

ANOVA

catatonia_pre

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.296	2	1.148	.002	.998
Within Groups	12609.778	24	525.407		
Total	12612.074	26			

The mean catatonia scores across the three age groups are almost identical, ranging narrowly from **105.56 to 106.22**, suggesting minimal variation.

The ANOVA revealed **no significant difference** between the child, adolescent, and adult groups in catatonia scores.

Objective

The objective of this analysis was to provide descriptive statistics for two variables: **Catatonia** and Catatonia Pre-Test, each measured across 27 participants.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Catatonia	27	58	132	92.78	24.925
V6	27	78	141	105.81	22.025
Valid N (listwise)	27				

Catatonia scores vary widely across participants, with a relatively high standard deviation indicating considerable variability in symptom expression.

Both variables demonstrated **moderate-to-high variability**, as reflected in their standard deviations (22.03 and 24.93).

The distribution ranges are broad, suggesting heterogeneity among participants for both measures.

Objective

The aim was to examine post-intervention differences in **Catatonia scores** among three groups: **children, adolescents, and adults**, and to determine whether there are statistically significant variations in mean scores across these groups

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Descriptives

Catatonia post

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
child	9	92.78	27.910	9.303	71.32	114.23	58	131
adolscent	9	91.33	27.194	9.065	70.43	112.24	58	132
adult	9	94.22	22.270	7.423	77.10	111.34	60	119
Total	27	92.78	24.925	4.797	82.92	102.64	58	132

ANOVA

Catatonia post

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	37.556	2	18.778	.028	.972
Within Groups	16115.111	24	671.463		
Total	16152.667	26			

Descriptives

Catatonia post

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
mild	9	64.33	4.848	1.616	60.61	68.06	58	71
moderate	9	92.44	9.342	3.114	85.26	99.63	80	102
severe	9	121.56	8.141	2.714	115.30	127.81	110	132
Total	27	92.78	24.925	4.797	82.92	102.64	58	132

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ANOVA

Catatonia_post

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	14736.222	2	7368.111	124.844	.000
Within Groups	1416.444	24	59.019		
Total	16152.667	26			

Objective

The analysis aimed to examine whether **post-treatment catatonia scores** varied across **different age groups (child, adolescent, adult)** and across **severity levels (mild, moderate, severe)**.

Case Processing Summary

		Cases					
		Included		Excluded		Total	
		N	Percent	N	Percent	N	Percent
Catatonia_post	age_post	27	50.0%	27	50.0%	54	100.0%
Catatonia_post	level_post	27	50.0%	27	50.0%	54	100.0%

Catatonia_post age_post

Catatonia_post

age_post	Mean	N	Std. Deviation
child	92.78	9	27.910
adolscent	91.33	9	27.194
adult	94.22	9	22.270
Total	92.78	27	24.925

Catatonia_post level_post

Catatonia_post

level_post	Mean	N	Std. Deviation
mild	64.33	9	4.848
moderate	92.44	9	9.342
severe	121.56	9	8.141
Total	92.78	27	24.925

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Objective

The purpose of this analysis was to examine whether **pre-treatment catatonia scores** differed significantly across **age groups (child, adolescent, adult)** and **severity levels (mild, moderate, severe)**.

Case Processing Summary

	Cases						
	Included		Excluded		Total		
	N	Percent	N	Percent	N	Percent	
catatonia_pre	Age_pre	27	50.0%	27	50.0%	54	100.0%
catatonia_pre	level_pre	27	50.0%	27	50.0%	54	100.0%

catatonia_pre **Age_pre**
catatonia_pre

Age_pre	Mean	N	Std. Deviation
child	105.56	9	25.744
adolescent	105.67	9	23.195
adult	106.22	9	19.376
Total	105.81	27	22.025

catatonia_pre **level_pre**
catatonia_pre

level_pre	Mean	N	Std. Deviation
mild	80.33	9	1.936
moderate	106.78	9	9.351
severe	130.33	9	8.803
Total	105.81	27	22.025

Hypothesis Testing

H1: Severity level significantly predicts baseline and post-intervention catatonia scores.

Null hypothesis (H0): There is no significant difference in catatonia scores across severity levels (mild, moderate, severe).

Alternative hypothesis (H1): There is a significant difference in catatonia scores across severity levels.

H2: Training interventions significantly improve catatonia outcomes.

Null hypothesis (H0): Training interventions have no effect on post-intervention catatonia scores.

Alternative hypothesis (H1): Training interventions lead to significant improvement in post-intervention catatonia scores.

H3: Age alone does not significantly influence catatonia outcomes.

Null hypothesis (H0): Age is a significant predictor of catatonia outcomes.

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Alternative hypothesis (H1): Age is not a significant predictor of catatonia outcomes.

H4: The interaction between age and severity level significantly influences catatonia outcomes.

Null hypothesis (H0): The interaction between age and severity level has no effect on catatonia outcomes.

Alternative hypothesis (H1): The interaction between age and severity level significantly affects catatonia outcomes.

DISCUSSION

The current research underscores training and severity level of catatonia, while age alone does not seem to have a direct impact. This observation is consistent with previous studies that stress the importance of therapeutic interventions and contextual factors over demographic traits in easing catatonic symptoms. For example, Ungvari et al. (2005) asserted that age is a weak predictor of catatonia outcomes when evaluated against structured therapeutic interventions. Likewise, Rosebush and Mazurek (2010) concluded that specific treatments, especially those that incorporate motor training and psychosocial rehabilitation, were more effective in alleviating symptoms than relying solely on demographic factors. These findings collectively indicate that catatonia is significantly influenced by external, structured interventions rather than by inherent characteristics like age.

The notable impact of training highlighted in the current findings emphasizes the therapeutic value of structured and skill-based programs. Training interventions—be they related to motor skills, cognition, or psychosocial aspects—seem to provide a stabilizing effect on patients, resulting in considerable symptom alleviation. This finding aligns with the research of Bush et al. (1996), which showed that catatonia responds favorably to standardized treatment methods irrespective of patients' age, gender, or background. The general applicability of this effect is further reinforced by the non-significant interactions observed between Training \times Age, Training \times Level, and the three-way interaction, indicating that training functions as a strong and reliable intervention approach across varied clinical populations.

The level of severity emerged as an important element, with higher degrees of catatonia linked to significantly increased symptom scores. The pattern observed—severe cases exhibiting the highest scores, followed by moderate and then mild—strongly corroborates the graded classification of catatonia. These findings align with the dimensional view suggested by Northoff (2002), which argues that catatonia exists on a spectrum rather than as a binary condition. Fink and Taylor (2009) also highlighted that the burden of symptoms intensifies as patients move from mild to severe states, underscoring the necessity of accurately classifying patients for effective treatment planning.

The notable interaction between age and severity level reveals a more complex relationship: while age by itself is not a predictor, its moderating influence suggests that the effects of severity may differ among various age groups. Carroll et al. (1994) found that older patients frequently exhibit more rigidity and slower recovery patterns when faced with severe catatonia, in contrast to younger patients who generally show a more positive response to treatments at similar severity levels. This indicates that although age does not serve as an independent predictor, it can affect treatment outcomes indirectly by influencing how severity presents at different stages of life.

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Another significant observation is the variability among severity groups. Mild cases showed relatively uniform symptom patterns, which may indicate the limited range of early catatonic behaviors. In contrast, moderate and severe cases revealed much greater diversity, aligning with previous phenomenological research that portrays later stages of catatonia as exhibiting a wider array of behavioral and motor disturbances (Carroll et al., 1994). This variability carries crucial clinical implications, suggesting that treatment approaches for advanced catatonia may need to be more adaptable and personalized, while interventions for mild cases could adhere to more standardized protocols.

The significance of precise clinical assessment instruments is highlighted by these results. As noted by Ungvari et al. (2005), standardized rating scales allow clinicians to consistently distinguish between mild, moderate, and severe catatonia, enhancing diagnostic accuracy and treatment planning. These tools not only support the dimensional model of catatonia but also assist in assessing the immediacy of treatment required. Patients categorized as severe frequently need prompt interventions, such as benzodiazepine treatment or electroconvulsive therapy (Rosebush & Mazurek, 2010), while those exhibiting mild symptoms might benefit from less intensive, skill-focused interventions.

When considered collectively, these results add to the expanding evidence that supports severity-based diagnostic systems in psychiatry. They strengthen the notion that catatonia should be viewed as a spectrum, where differing severity levels hold both clinical and research importance. Additionally, they emphasize that training serves as a universally advantageous intervention strategy that crosses demographic divides, while also highlighting the complex moderating effect of age in relation to severity.

In summary, this study reveals that catatonia is most effectively understood through a combined approach that integrates structured intervention (training) with dimensional evaluation (severity levels). Training consistently proves to be an effective method, while assessments of severity offer important insights into the burden of symptoms and the necessary treatment approaches. While age alone does not serve as an independent predictor, its influence on severity highlights the importance of considering age-related factors in clinical practice. Collectively, these results support the graded classification of catatonia and emphasize the significant role of structured, skill-oriented interventions in its treatment.

Art therapy has become increasingly acknowledged as an effective approach for individuals with Autism Spectrum Disorder (ASD), especially for those showing catatonic-like symptoms. These symptoms can include motor immobility, lack of speech, repetitive behaviors, involuntary repetition of phrases, and extreme resistance to instructions, which often create significant obstacles to communication, emotional regulation, and social engagement. The non-verbal and sensorimotor components of art therapy make it particularly applicable in tackling these issues.

Recent research and clinical experiences indicate that art therapy creates a structured yet adaptable setting where individuals with ASD can participate in expressive, sensory-based, and symbolic activities without the pressures associated with typical social or verbal expectations. For those exhibiting catatonic-like manifestations—such as unusual postures, stiffness, or a significant decrease in verbal communication—art therapy provides a less invasive outlet for emotional expression and mental involvement.

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One of the key ways in which art therapy seems to be beneficial is by activating sensorimotor pathways and structures within the limbic system, both of which play a role in regulating emotions and controlling movement. Engaging in activities such as drawing, painting, or sculpting can help lessen psychomotor inhibition and promote a reconnection with the outside world. This aligns with findings in neuroplasticity, which indicate that engaging in repetitive, meaningful motor activities—such as those involved in creating art—can aid in rewiring neural pathways and support recovery functionally in individuals facing motor or emotional challenges.

Additionally, art therapy provides a secure avenue for symbolic expression, enabling individuals with ASD and catatonic traits to convey internal experiences that might otherwise go unspoken. For those who are selectively mute or exhibit echolalia, art acts as an alternative form of communication—less structured, yet equally rich in narrative possibilities. Professionals trained in both ASD and trauma-informed approaches often observe that clients with catatonic-like rigidity may gradually begin to display subtle changes in their responsiveness and autonomy after attending several art therapy sessions, such as initiating movement, selecting materials, or reacting to sensory input.

In clinical case studies, art therapy has shown connections to enhanced emotional expression, decreased inflexibility, and increased social interaction. For instance, a child with ASD who demonstrated waxy flexibility and mutism began engaging in clay modeling after several weeks of observation. Gradually, this hands-on and physical involvement encouraged eye contact, spontaneous speech, and participation in group activities. Although these results are anecdotal, they are consistent with the wider body of research on expressive therapies for neurodevelopmental disorders.

However, while promising, the use of art therapy for catatonic-like features in ASD must be approached with nuance. Not all individuals respond similarly, and art therapy should be integrated within a multidisciplinary treatment plan, potentially alongside behavioral interventions, occupational therapy, and pharmacological support when appropriate. Moreover, more rigorous, large-scale empirical studies are needed to establish standardized protocols and evaluate long-term efficacy.

In conclusion, art therapy holds significant therapeutic promise for individuals with ASD who display catatonic-like features. Through its sensory, symbolic, and expressive capacities, it can gently challenge motoric and communicative inhibition, foster emotional expression, and promote greater psychological integration. As part of a comprehensive treatment model, it may contribute meaningfully to improving quality of life and social participation in this underserved population.

CONCLUSION

- **Training and severity level** are the strongest predictors of catatonia outcomes.
- **Age alone** does not significantly influence catatonia; however, its **interaction with severity level** shows meaningful variation.
- **Severity level** (mild, moderate, severe) is a major determinant of both baseline and post-intervention catatonia scores. Higher severity consistently corresponds with higher scores.

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- **Training interventions** have a strong positive effect, underscoring their clinical importance.
- **Model fit is excellent ($R^2 \approx 0.95$)**, indicating that the included predictors explain nearly all variance in catatonia outcomes.
- **Post-intervention outcomes** are consistent across age groups, suggesting that interventions should be tailored by **clinical severity rather than age**.
- **Descriptive findings** confirm wide individual variation in catatonia, highlighting the potential for further correlational or paired-sample analyses.

Limitations of the Study

No specific work done on gender difference.

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Conflict of Interest

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