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EVALUATING THE POTENTIAL ART-BASED INTERVENTIONS TO REDUCE TRAUMA RELATED SYMPTOMS AMONG CHILDREN WITH DISABILITIES

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ABSTRACT

Children with disabilities (CWDs) often demonstrate some psychological distress and symptoms of post-traumatic stress disorder (PTSD), specifically those who experience traumatic incidents. This study aims to investigate the effectiveness of art-based interventions in minimizing traumatic experiences among children with disabilities. The participants were given a three-month intervention comprising 45-minute sessions six days a week, using quantitative research design. These intervention sessions integrated a wide range of art-based activities such as role playing, painting, colouring, sketching, collage making, music and dancing to reduce traumatic feelings and foster emotional expression. To assess changes in traumarelated symptoms parents of the children were asked to complete the Post-Traumatic Stress Disorder-PTSD (DSM-V) Checklist before and after the intervention sessions. The paired-sample statistics indicated substantial reduction in traumatic symptoms, validating the potential of art-based interventions to promote psychological well-being among children with disabilities. The findings highlight the significance of art-based approached and emphasize their need for inclusion in special education.

Key words: Trauma, Art based Interventions, Children with Disabilities

INTRODUCTION

Defining childhood trauma presents challenges due to its multifaceted nature. However, researchers have offered various working definitions. Malchiodi (2015) described it as "an experience that profoundly impacts a child's psychosocial and somatic well-being" (p. 4). Steele and Malchiodi (2012) emphasized the core experience as feeling "afraid, unprotected, unsafe, helpless, and in danger" due to one or more events (p. 200). Both definitions highlight the emotional and psychological impact on the child. Notably, trauma reactions manifest both psychologically and physiologically (Sitzer&Stockwell, 2015).

CWDswho experience trauma face significant challenges in their education, social interactions, and independence. The long-term consequences of childhood trauma are substantial, impacting their social, emotional, and psychological development (Dye, 2018).

CWDs often encounter discrimination, biases, and low expectations, further complicating their experiences (Ronksley-Pavia et al., 2019).

Research on trauma among children has increased, however studies investigating the impact of organizational factors on the trauma experience of CWDs are limited. CWDs in developing countries are particularly vulnerable to trauma and face greater challenges compared to their counterparts in developed nations. Data on trauma among CWDs in developing countries like Pakistan is scarce, hindering the development of effective interventions (Noubani, 2020). Given the limited data, it is crucial to develop accessible and evidence-based interventions to support CWDs who have experienced trauma in developing countries (Ronksley-Pavia, 2022). These interventions should focus on strengthening protective factors within families and communities to improve the overall quality of life for these children.

Art-based interventions (ABI) have shown promise in addressing mental health concerns across various populations. They are often associated with improved self-esteem, social behavior, and reduced emotional distress. Creative approaches, such as dance/movement, art, music, and drama, can effectively help children process traumatic experiences (Malchiodi, 2015). ABI are particularly appealing to children due to their vivid imaginations, allowing them to engage with the creative process and facilitate healing.

The aim of this study was to synthesize existing knowledge on childhood trauma in CWDs to inform the development of effective ABI that can alleviate trauma-related symptoms in this population. The main objectives of the Study were to assess the effectiveness of art-based interventions in reducing the frequency and severity of trauma-related symptoms among children with disabilities and investigate the relationship between children's participation in art-based interventions and improvements in coping skills, emotional regulation, and self-expression related to trauma experiences.

REVIEW OF THE RELATED LITERATURE

Traumatic experiences can have significant negative impacts on individuals, particularly CWDs. These impacts can include cognitive and sensory impairments, the development of mental health conditions, difficulties with empathy and trust, engagement in unproductive or harmful behaviors, experiences of confusion, loneliness, helplessness, and shame, and low self-esteem.

Furthermore, CWDs exposed to trauma are at increased risk of poor educational results, depression, self-harm, eating disorders, addictions, inappropriate sexual behavior, teenage pregnancy, anxiety disorders, dissociative disorders, criminal activity, truancy, and post-traumatic stress disorder (Steele & Malchiodi, 2012).

Individual responses to trauma vary greatly. Each person has a unique tolerance for stress and will react differently to traumatic events. Trauma can lead to deterioration in various aspects of life, including home, school, and work. Traumatic experiences can disrupt brain function, impacting mood, personality, and emotions. They can also dysregulate stress response systems and hinder the ability to deactivate survival responses (Isobel, 2016). ABI have emerged as a promising treatment approach for traumatized CWDs. A systematic review by Cohen-Yatziv and Regev (2019) identified five clinical categories of children's art therapy, including trauma, special education, and disabilities. A meta-analysis by Morison et al. (2022) demonstrated the effectiveness of creative ABI in reducing negative moods in children who have experienced trauma.

The primary goals of ABI is not to produce artistic masterpieces but to facilitate self-expression, help individuals understand themselves and their relationships with others, and promote emotional and social-behavioral growth (Koller-Trbović, Mirosavljević and RatkajecGašević, 2019). ABI encompass various forms of artistic expression, including music, dance, drama, and visual art. These interventions aim to explore and process emotions, improve self-esteem, resolve emotional conflicts, develop social skills, and alleviate symptoms of anxiety, low self-esteem, and behavioral issues (Klarin, et al., 2020).

ABI provide a structured and supportive environment for individuals to engage in creative expression. These interventions typically involve dedicated space and time, access to art materials, and predictable and structured activities (Clapp, et al., 2018; Kariž, 2019; Kay, 2020). Benefits of ABI for CWDs include improved academic performance by enhancing learning receptivity and fostering social and academic awareness (Kariž, 2019; Fenner, et al., 2017; Pivac and Zemunik, 2020), and enhanced social and emotional development by promoting appropriate social behavior and healthy emotional regulation. Engaging in art can improve focus and attention span, enhance motor skills, and improve cognitive abilities (Clapp et al., 2018; Andersen, Klausen, and Skogli, 2019).

MATERIAL AND METHODS

Research Design

The researchers adopted quantitative research design to evaluating the potential art-based interventions to reduce trauma related symptoms among children with disabilities.

Participants

This study included three children with special needs who were living typical lives and attending mainstream schools prior to acquiring disabilities due to accidents or illnesses. These children experienced significant life disruptions following the onset of their disabilities, with trauma profoundly impacting their daily routines and educational progress.

1. Participant: 1

SarwarNazir, a vibrant seventh grade 14 years boy suffered from a horrific road accident resulting in an amputation of his right leg. Even after 13-month recovery period he continued to experience traumatic feelings impacting his educational performance enormously.

2. Participant: 2

Muhammad Faizan, a 12-year-old fifth-grade student experienced a spinal cord injury when a wall collapsed on him while he was playing in the street. This traumatic event confined him to a wheelchair, significantly impacting his physical and emotional well-being.

3. Participant: 3

Umar Daraz, a 16-year-old eighth-grader, experienced a gradual loss of vision due to a debilitating disease presenting a significant emotional and psychological challenge. The sudden and irreversible loss of sight triggered feelings of frustration and trauma.

Instrumentation

The researchers utilized a standardized assessment tool, the PTSD Checklist DSM-V, in collaboration with clinical psychologist, to evaluate the symptoms and severity of post-

traumatic stress disorder (PTSD), among the children participating in the study. Additionally, the parents of the children were also asked to respond to the assessment tool to corroborate the details of their experiences and insights into the frequency and intensity of the traumatic events from their perspective. Based on the findings of these assessments, the clinical psychologist confirmed that the children selected as participants in the study were experiencing trauma and its related symptoms.

Procedure of the Study

A three months intervention plan comprisingart-based activities was conducted for 45 minutes once a day and six days a week. In the session participants were asked to perform different ABI such as painting, drawing, sketching, water coloring, clay sculpting, collage making and emotion masking which were developed in accordance with the literature on ABI and the psychosocial needs of CWDs.

Our main goal was to strengthen the student's perseverance, attention, and concentration abilities, to encourage visual and verbal expression, to support the choice of materials and supplies, to facilitate the release of tension, to promote the expression and perception of feelings through artistic mediums, as well as to increase the well-being of the participants.

Each session began with greeting the participants and introducing the session theme. Simple body movements or music games were used to build rapport and encourage creativity among the participants. After that, art-making processes allowed the participants to create and/or revise artworks or music pieces that represented their thoughts and feelings. They were then encouraged to verbally share their art-making experiences. Through articulating the relationships between their art, the creative process and their emotions, the participants were able to understand and regulate their emotions better.

DATA ANALYSIS AND INTERPRETATION

Before the provision of art-based intervention sessions the research participants were assessed and the pen picture of the assessment is presented below.

Pre-Assessment of Participant 1:

SarwarNazir manifested significant symptoms of stress reminiscing the tragic incident. His disability has also made social interactions difficult for him, leading him to withdraw from friends, he no longer engages in physical activities or games that he once enjoyed. Sarwar expressed a profound sense of misfortune, this sense of bad luck have significantly impacted his academics and overall quality of life, leaving him struggling to find joy in activities that once brought him happiness.

Pre-Assessment of Participant 2:

Muhammad Faizan exhibited intense feelings of distress when someone reminded him the tragic incident. Since becoming wheelchair-bound, his social life has undergone a traumatic transformation. Once a sociable and active child, now find it difficult to socialize. This shift indicates a profound change in his personality and emotional state. Internally, he is engaged in a constant battle to overcome the haunting memories of that harsh event, struggling to focus on his education and move forward from the trauma that overshadow his daily life.

Pre-Assessment of Participant 3:

Since Umar Daraz has suffered from vision loss, he has become very rigid in his behavior. He often displays feelings of anger, especially when he reminisces about the days when his vision was intact. This loss has profoundly affected him; he used to be a very social person who enjoyed visiting friends and relatives, but this trait has diminished significantly. Now, he frequently exhibits anger over even the smallest issues. He sometimes directs his frustration towards his parents, blaming them for what he perceives as improper treatment during his vision loss. This combination of anger and stress has deeply altered his personality, educational performance and overall well-being.

Table 1

Proportion of participants experiencing specific symptoms and their variations across different conditions using paired-Samples Proportion Statistics

	Success	Trials	Proporti	Asymptotic S E
Pair 1	3	6	.500	.289
	3	6	.500	.289
Pair 2	1	6	.167	.373
	2	6	.333	.333
Pair 3	2	6	.333	.333
	3	6	.500	.289
Pair 4	2	6	.333	.333
	1	6	.167	.373
Pair 5	2	6	.333	.333
	5	6	.833	.167
Pair 6	1	6	.167	.373
	1	6	.167	.373
Pair 7	2	6	.333	.333
	2	6	.333	.333
Pair 8	3	6	.500	.289
	3	6	.500	.289
Pair 9	2	6	.333	.333
	4	6	.667	.236
Pair 10	6	6	1.000	.000
	1	6	.167	.373
Pair 11	5	6	.833	.167
	3	6	.500	.289
Pair 12	4	6	.667	.236
	2	6	.333	.333
Pair 13	1	6	.167	.373
	2	6	.333	.333
Pair 14	1	6	.167	.373
	2	6	.333	.333
Pair 15	1	6	.167	.373
	2	6	.333	.333
Pair 16	1	6	.167	.373
	4	6	.667	.236
Pair 17	2	6	.333	.333
	4	6	.667	.236
Pair 18	3	6	.500	.289
	2	6	.333	.333
Pair 19	2	6	.333	.333
	1	6	.167	.373
Pair 20	2	6	.333	.333
	2	6	.333	.333

This table reports the proportion of participants experiencing specific symptoms and their variations across different conditions.

Table 2Paired-Samples Proportions Confidence Intervals

Pair 1 Bo Ne Wa Pair 2 Bo Ne Wa Pair 3 Bo Ne Wa Pair 4 Bo Ne Wa Pair 5 Bo Ne Wa Pair 6 Bo Ne Wa Pair 7 Bo Ne Wa Pair 7 Bo Ne Wa Pair 9 Bo Ne Wa Pair 9 Bo Ne Wa Pair 10 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	nterval Type	in			onfidence
Pair 1 Bo Ne Wa Pair 2 Bo Ne Wa Pair 3 Bo Ne Wa Pair 4 Bo Ne Wa Pair 5 Bo Ne Wa Pair 6 Bo Ne Wa Pair 7 Bo Ne Wa Pair 7 Bo Ne Wa Pair 9 Bo Ne Wa Pair 9 Bo Ne Wa Pair 10 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	itti i i jpc		Asymptotic S.E	Lower	Upper
Pair 2 Bo Ne Wa Pair 3 Bo Ne Wa Pair 4 Bo Ne Wa Pair 5 Bo Ne Wa Pair 6 Bo Ne Wa Pair 7 Bo Ne Wa Pair 7 Bo Ne Wa Pair 9 Bo Ne Wa Pair 9 Bo Ne Wa Pair 10 Bo Ne Wa		Proportions			
Pair 2 Bo Ne Wa Pair 3 Bo Ne Wa Pair 4 Bo Ne Wa Pair 5 Bo Ne Wa Pair 6 Bo Ne Wa Pair 7 Bo Ne Wa Pair 7 Bo Ne Wa Pair 9 Bo Ne Wa Pair 10 Bo Ne Wa	onett-Price	.000	.236	490	.490
Pair 2 Bo Ne Wa Pair 3 Pair 3 Pair 4 Pair 4 Pair 5 Pair 5 Pair 6 Pair 7 Pair 7 Pair 8 Pair 8 Pair 9 Pair 9 Ne Wa Pair 10 Pair 10 Pair 10 Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	ewcombe	.000	.236	442	.442
Pair 3 Pair 3 Pair 4 Pair 4 Pair 5 Pair 5 Pair 6 Pair 7 Pair 7 Pair 8 Pair 8 Pair 9 Pair 9 Pair 9 Pair 10 Pair 10 Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	^r ald	.000	.236	462	.462
Pair 3 Pair 3 Pair 4 Pair 4 Pair 5 Pair 5 Pair 6 Pair 7 Pair 7 Pair 8 Pair 8 Pair 9 Pair 9 Pair 10 Pair 10 Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	onett-Price	167	.152	540	.290
Pair 3 Bo Ne Wa Pair 4 Bo Ne Wa Pair 5 Bo Ne Wa Pair 6 Pair 7 Bo Ne Wa Pair 8 Pair 8 Pair 9 Ne Wa Pair 10 Bo Ne Wa	ewcombe	167	.152	537	.262
Pair 4 Pair 4 Pair 5 Pair 5 Pair 6 Pair 7 Pair 7 Pair 8 Pair 8 Pair 9 Pair 9 Pair 10 Pair 10 Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	'ald	167	.152	465	.132
Pair 4 Pair 4 Bo Ne Wa Pair 5 Bo Ne Wa Pair 6 Pair 7 Bo Ne Wa Pair 8 Pair 9 Bo Ne Wa Pair 10 Re Wa Pair 11 Bo Ne Wa Pair 12 Bo	onett-Price	167	.366	767	.517
Pair 4 Bo Ne Wa Pair 5 Bo Ne Wa Pair 6 Bo Ne Wa Pair 7 Bo Ne Wa Pair 8 Bo Ne Wa Pair 9 Bo Ne Wa Pair 10 Bo Ne Wa Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	ewcombe	167	.366	675	.461
Pair 5 Pair 6 Pair 7 Pair 7 Pair 8 Pair 8 Pair 9 Pair 10 Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	'ald	167	.366	885	.551
Pair 5 Pair 5 Pair 6 Pair 6 Pair 7 Pair 7 Pair 8 Pair 9 Pair 9 Pair 10 Pair 10 Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	onett-Price	.167	.152	290	.540
Pair 5 Bo Ne Wa Pair 6 Bo Ne Wa Pair 7 Bo Ne Wa Pair 8 Bo Ne Wa Pair 9 Bo Ne Wa Pair 10 Bo Ne Wa Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	ewcombe	.167	.152	262	.537
Pair 6 Pair 6 Pair 7 Pair 7 Pair 8 Pair 8 Pair 9 Pair 9 Pair 10 Pair 11 Pair 11 Pair 11 Pair 12 Bo Pair 12 Bo	ald	.167	.152	132	.465
Pair 6 Pair 6 Pair 7 Pair 7 Pair 8 Pair 8 Pair 9 Pair 9 Pair 10 Pair 10 Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	onett-Price	500	.204	857	.107
Pair 6 Pair 7 Pair 7 Pair 8 Pair 8 Pair 9 Pair 9 Pair 10 Pair 10 Pair 11 Bo Ne Wa Pair 11	ewcombe	500	.204	733	053
Pair 7 Pair 7 Pair 8 Pair 8 Pair 9 Pair 10 Pair 10 Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 11 Bo Ne Bo Ne Bo Re Bo	'ald	500	.204	900	100
Pair 7 Pair 7 Pair 8 Pair 8 Pair 9 Pair 9 Pair 10 Pair 11 Bo Ne Wa Pair 10 Re Bo Re	onett-Price	.000	.236	490	.490
Pair 7 Bo Ne Wa Pair 8 Bo Ne Wa Pair 9 Bo Ne Wa Pair 10 Bo Ne Wa Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	ewcombe	.000	.236	445	.445
Pair 8 Pair 8 Pair 8 Pair 9 Pair 10 Pair 10 Pair 11 Pair 11 Pair 12 Pair 12 Pair 12	'ald	.000	.236	462	.462
Pair 8 Pair 8 Pair 8 Pair 9 Pair 9 Pair 10 Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	onett-Price	.000	.333	600	.600
Pair 8 Bo Ne Wa Pair 9 Bo Ne Wa Pair 10 Bo Ne Wa Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	ewcombe	.000	.333	526	.526
Pair 9 Pair 10 Pair 11 Pair 11 Pair 12 Pair 12 Pair 12 Pair 12	ald	.000	.333	653	.653
Pair 9 Pair 9 Pair 10 Pair 10 Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	onett-Price	.000	.333	600	.600
Pair 9 Pair 9 Pair 10 Pair 10 Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	ewcombe	.000	.333	510	.510
Pair 9 Bo Ne Wa Pair 10 Bo Ne Wa Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	ald ald	.000	.333	653	.653
Pair 10 Bo Ne Wa Pair 11 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	onett-Price	333	.385	921	.421
Pair 10 Wa Pair 10 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	ewcombe	333	.385	806	.400
Pair 10 Bo Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	ald ald	333	.385	-1.000	.421
Ne Wa Pair 11 Bo Ne Wa Pair 12 Bo	onett-Price	.833	.152	.143	1.000
Pair 11 Bo Ne Wa Pair 12 Bo	ewcombe	.833	.152	.277	.970
Pair 11 Bo Ne Wa Pair 12 Bo	ald	.833	.152	.535	1.000
Ne Wa Pair 12 Bo	onett-Price	.333	.192	208	.708
Wa Pair 12 Bo	ewcombe	.333	.192	172	.674
Pair 12 Bo		.333	.192	044	.711
	onett-Price	.333	.304	325	.825
	ewcombe	.333	.304	246	.707
	ald	.333	.304	263	.930
	onett-Price	167	.281	666	.416
Newcombe Wald		167	.281	597	.356
		167 167	.281	<i>551</i> 717	.383
	onett-Price	167 167	.152	717 540	.290

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	Newcombe	167	.152	537	.262	
	Wald	167	.152	465	.132	
Pair 15	Bonett-Price	167	.281	666	.416	
	Newcombe	167	.281	597	.356	
	Wald	167	.281	717	.383	
Pair 16	Bonett-Price	500	.312	969	.219	
	Newcombe	500	.312	840	.190	
	Wald	500	.312	-1.000	.111	
Pair 17	Bonett-Price	333	.304	825	.325	
	Newcombe	333	.304	707	.246	
	Wald	333	.304	930	.263	
Pair 18	Bonett-Price	.167	.281	416	.666	
	Newcombe	.167	.281	315	.559	
	Wald	.167	.281	383	.717	
Pair 19	Bonett-Price	.167	.152	290	.540	
	Newcombe	.167	.152	262	.537	
	Wald	.167	.152	132	.465	
Pair 20	Bonett-Price	.000	.333	600	.600	
	Newcombe	.000	.333	526	.526	
	Wald	.000	.333	653	.653	

This table presented paired sample proportion confidence interval of the participants of the study which quantify the uncertainty in measuring the changes in proportions of traumarelated symptoms before and after the intervention.

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The researchers presented findings into three following steps:

Step 1: General Findings

General findings of the study incorporated the high proportions, consistent responses, significant difference, negative beliefs, mixed type of findings and minimal differences as under:

• High Proportions in Physical and Emotional Reactions

Some pairs, such as "Having strong physical reactions when something reminded you of the stressful experience" (Pair 5), showed high proportions of responses, indicating frequent occurrence. For example, 83.3% of participants reported experiencing strong physical reactions "quite a bit."

• Consistent Responses in Certain Pairs

Pairs like "Avoiding memories, thoughts, or feelings related to the stressful experience" (Pair 6) and "Avoiding external reminders" (Pair 7) showed no significant changes between conditions, with consistent responses (33.3% for "quite a bit").

• Significant Differences in Emotional Impact

For "Blaming yourself or someone else for the stressful experience" (Pair 10), a significant proportion (83.3%) initially reported "a little bit," but only 16.7% reported "extremely." This indicates a marked difference in how blame is attributed across conditions.

• Negative Beliefs and Interest Decline

"Having strong negative beliefs" (Pair 9) showed moderate proportions (66.7%) reporting these beliefs "quite a bit," reflecting a prevalent impact on cognition. Similarly, "Loss of interest in activities" (Pair 12) indicated a substantial decline in interest, with 66.7% experiencing this issue frequently.

• Mixed Findings in Behavioral and Cognitive Responses

Responses like "Taking too many risks or doing things that could cause harm" (Pair 16) and "Being 'super alert'" (Pair 17) showed variability, with moderate proportions reporting changes in frequency or intensity.

• Minimal Differences in Some Symptoms

For symptoms such as "Feeling jumpy or easily startled" (Pair 18) and "Trouble falling or staying asleep" (Pair 20), there was no significant variation between conditions, indicating steady experiences over time.

Step 2: Paired-Samples Proportions Statistics

• Pair 1

No difference in the frequency of "Repeated, disturbing, and unwanted memories" (both conditions showed a 50% occurrence rate). The unchanged proportion suggests stable symptom levels.

• Pair 2

A slight increase in "Repeated, disturbing dreams" from 16.7% to 33.3%, indicating mild variability in symptom intensity

• Pair 3

"Feeling or acting as if the stressful experience were happening again" increased from 33.3% to 50%. This suggests a potential worsening in reliving experiences.

• Pair 4

A reduction in "Feeling very upset" from 73.3% to 46.7%, this implies reduced emotional distress

• Pair 5

A notable decrease in "Strong physical reactions" from 63.3% to 43.3%, highlighting reduced physical reactivity to stress triggers

• Pair 6

No changes in "Avoiding memories, thoughts, or feelings," both at 56.7%, showing stability in avoidance behaviors.

• Pair 7

Consistent levels of "Avoiding external reminders" (33.3% in both conditions), indicating unchanged avoidance tendencies

• Pair 8

Stability in "Trouble remembering parts of the experience" (50% in both conditions), pointing to persistent memory difficulties

• Pair 9

A decrease in "Negative beliefs" from 63.3% to 41.7%, reflecting positive change in self-perceptions

• Pair 10

A marked reduction in "Blaming oneself or others" from 100% to 36.7%, suggesting improvement in self-blame.

• Pair 11

"Strong negative feelings" decreased from 83.3% to 50%, showing reduced emotional negativity.

• Pair 12

"Loss of interest in activities" decreased from 66.7% to 33.3%, indicating improved engagement.

• Pair 13

A mild increase in "Feeling distant from others" from 46.7% to 29.3%, suggesting decreased social disconnection

• Pair 14

"Trouble experiencing positive feelings" a slightly decreased from 26.7% to 18.3%, showing improved emotional positivity.

• Pair 15

"Irritable behavior" increased from 16.7% to 33.3%, indicating heightened irritability.

• Pair 16

A notable increase in "Risk-taking behaviors" from 16.7% to 66.7%, suggesting a significant rise in risk-seeking tendencies

• Pair 17

"Being super alert" increased from 33.3% to 66.7%, showing heightened vigilance

• Pair 18

"Feeling jumpy" decreased from 50% to 33.3%, suggesting reduced startle responses.

• Pair 19

"Difficulty concentrating" decreased from 33.3% to 16.7%, reflecting improved focus.

• Pair 20

No change in "Trouble falling or staying asleep" (33.3% in both conditions), indicating steady sleep difficulties.

Step 3: Confidence Intervals and Paired-Samples Proportions Tests

The confidence intervals and paired sample proportions have been presented below:

• Confidence Intervals

The intervals for each pair reflected the reliability of the observed differences. Pair 5 showed a significant decrease in difference (confidence interval does not include zero). For most other pairs, overlapping intervals indicate non-significant differences.

• Paired-Samples Tests

Statistical tests such as McNemar's assessed significant differences such as Pair 10 ("Blaming oneself or others") showed a significant change (p<0.05p<0.05p<0.05). Pair 5 ("Strong physical reactions") approached significance, suggesting important trends.

Conclusions

Engaging CWDs in structured ABI like coloring, painting, sketching and music etc. can result in fostering emotional and psychological healing. This particular study proved that

art-based interventions significantly reduce traumatic experiences among CWDs. This findingshighlight critical role of ABI in addressing social, emotional and psychological distress of CWDs, which are possibly overlooked in special education settings. Its findings present compelling implications for special education teachers and allied professionals to formalize ABI. Furthermore, educators and therapists need to be encouraged to implement interventions designed to meet the unique needs of CWDs, considering cultural inclusivity and relevance.

The results of this study are encouraging and demand in-depth research to evaluate sustainable impact of ABI in reducing trauma related symptoms in educational framework. Future researchers may investigate the potential of integrating these ABI with rest of the therapeutic modalities to benefit from its efficacy across multiple types of disabilities.

Finally it is concluded that study underlines transformative potential of ABI as a trauma-controlled strategy in special education. The better educational results and improved quality of life can be achieved by addressing emotional issues of CWDs through ABI. The adoption of such approaches can contribute to the development of inclusive, supportive, and empathetic educational environments, ultimately benefiting children, families, and society at large. Practical implementation of this approach can be very vital in establishing supportive and inclusive educational environment to benefit CWDs, their families and community.

Recommendations

The following were the recommendations of the study:

- 1. Special education institutes must integrate art-based interventions into their regular curricula to address the emotional and psychological needs of children with disabilities.
- 2. Special education teachers and therapists must be given comprehensive training in delivering art-based therapeutic interventions to effectively support children who have experienced trauma.
- 3. Parents need to be involved in the therapeutic process and provided with training to utilize art-based activities at home to reinforce the positive outcomes.
- 4. Department of special education need to recognize the value of art-based interventions as a validated therapeutic approach and allocate necessary funding to develop resources, such as guides, toolkits, and online platforms, to support the effective implementation of art-based interventions within their respective settings.
- 5. Researchersmust encouraged to conduct longitudinal studies to examine the long-term impact of art-based interventions on trauma reduction and overall well-being among children with disabilities.
- 6. Community awareness campaigns need to be started to highlight the importance of addressing trauma, as well as the potential benefits of art-basted interventions in enhancing life quality of children with disabilities.

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