Effectiveness of a structured art-based activities programme on self-esteem and anxiety among institutionalised adolescents aged 12–19 years

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***Abstract*—Institutionalised children often experience reduced self-esteem and elevated anxiety arising from adverse childhood experiences, disrupted attachment, and prolonged family separation. Although structured art-based activities have shown promise in promoting emotional well-being, evidence within Indian residential child care institutions remains limited. This study evaluated the effectiveness of a structured five-session art-based activities programme in improving self-esteem and reducing anxiety among institutionalised adolescents aged 12–19 years. A one-group pre-test–post-test design was employed with 64 participants purposively sampled from three residential child care institutions. Self-esteem and anxiety were assessed using the Rosenberg Self-Esteem Scale (RSES) and the Generalized Anxiety Disorder-7 (GAD-7), analysed using paired-samples t-tests and Cohen's d. Self-esteem increased significantly from pre-test ($M = 25.95$, $SD = 4.119$) to post-test ($M = 28.41$, $SD = 3.804$), $t(63) = 6.120$, $p < .001$, $d = 0.765$. Anxiety decreased significantly from pre-test ($M = 12.33$, $SD = 3.612$) to post-test ($M = 8.94$, $SD = 3.616$), $t(63) = 7.477$, $p < .001$, $d = 0.935$. Findings suggest that structured art-based activities are a feasible, low-cost, non-specialist-deliverable psychosocial intervention that can complement counselling services within residential child care institutions, although the one-group design limits causal inference and controlled follow-up research is recommended.**

***Index Terms*—Structured art-based activities, institutionalised adolescents, self-esteem, anxiety, psychosocial intervention, residential child care, India.**

I. INTRODUCTION

Childhood and adolescence are critical periods for the development of self-concept, emotional regulation, and psychological well-being; disruptions during these years — such as those experienced by children in institutional care — can have lasting effects on emotional adjustment [1], [2]. Children enter residential child care institutions following parental loss, abandonment, neglect, abuse, or family separation, and while institutions provide safety, education, and healthcare, recovery from earlier adversity requires deliberate attention to psychological well-being. Self-esteem and anxiety are two indicators of this well-being that are particularly relevant to institutionalised adolescents: self-esteem reflects perceived personal worth and competence, while anxiety reflects emotional tension that can interfere with learning, decision-making, and social functioning.

Many children who have experienced adversity find it difficult to communicate emotions verbally. Developmentally appropriate opportunities for symbolic, creative expression can facilitate emotional exploration in a psychologically safe manner and may strengthen resilience and adaptive coping [3]. Structured art-based activities — planned, goal-oriented creative tasks distinct from formal, clinician-delivered art therapy — offer such opportunities. However, comparatively little research has examined structured art-based programmes within residential child care institutions in India, and fewer studies still

have evaluated improvements in self-esteem and anxiety together, using standardised instruments, within a single intervention.

This gap is both empirical and practical. Residential institutions in India often operate with limited specialist mental health resources, creating a need for interventions that are economical, feasible for non-specialist facilitators, and capable of complementing existing counselling services. The present study addresses this gap by evaluating a structured five-session art-based activities programme delivered to institutionalised adolescents aged 12–19 years, with the following objectives: (i) to assess baseline self-esteem and anxiety among participants; (ii) to implement the structured intervention; (iii) to assess post-intervention self-esteem and anxiety; and (iv) to determine whether observed changes are statistically significant.

Corresponding hypotheses were tested: H1 — participation in the programme is associated with a statistically significant improvement in self-esteem; H2 — participation is associated with a statistically significant reduction in anxiety.

II. METHOD

A. Research Design

A one-group pre-test–post-test pre-experimental design was used to evaluate change in self-esteem and anxiety following the intervention. Each participant served as their own control by comparing individual pre- and post-intervention scores; a separate control group was not included, as withholding the intervention from eligible children within participating institutions was considered impractical.

B. Participants

Sixty-four institutionalised children (20 boys, 44 girls; aged 12–19 years) were recruited from three NGO-managed Child Care Institutions in Navi Mumbai, Maharashtra (anonymised as Institutions IMH, GCH, and ACH), from an accessible population of 103 eligible children. Participants were selected using purposive sampling and were required to be within the target age range, resident in a participating institution, able to communicate in Hindi, Marathi, or English, and willing and able to complete the full programme and both assessments. Children with an active psychiatric crisis, a severe cognitive or communication difficulty, or a serious medical condition were excluded.

C. Instruments

Self-esteem was measured with the Rosenberg Self-Esteem Scale (RSES), a 10-item, four-point Likert scale of global self-worth [4]. Anxiety was measured with the Generalized Anxiety Disorder-7 (GAD-7), a 7-item, four-point Likert screening measure of anxiety symptom severity [5]. Both instruments were presented in English with a Hindi translation beneath each item, with verbal clarification in Hindi or Marathi provided as needed, to support comprehension without altering item content.

D. Intervention Programme

The independent variable was a five-session Structured Art-Based Intervention Programme, delivered by the researcher across all three institutions using identical materials, instructions, and session structure. Table I summarises the sessions.

Table I. Structure of the Art-Based Intervention Programme

Sess.	Activity	Objective
1	Self-Portrait – “This Is Me”	Self-awareness and personal identity
2	My Strength Tree	Recognition of personal strengths
3	Draw Your Feelings	Emotional awareness and expression
4	Mandala Colouring	Relaxation and emotional regulation
5	Clay Modelling – “Who Am I?”	Symbolic self-expression

Sessions 1–3 lasted approximately 90 minutes each and were held roughly weekly; Sessions 4 and 5 (55–60 minutes each) were conducted on the same day. Each session followed a common structure: an ice-breaker, activity instructions, independent creative work, and a voluntary, person-centred reflective discussion, concluding with a brief summary and encouragement. Emphasis throughout was placed on the creative process rather than artistic skill.

E. Procedure

Following institutional and verbal participant consent, a Participant Information Form and the pre-test

measures (RSES, GAD-7) were administered in groups of 20–22 within each institution's multipurpose room. The five-session intervention was then delivered over approximately four weeks, after which the same instruments were re-administered as post-test measures using identical procedures.

F. Ethical Considerations

Institutional permission and verbal assent were obtained; participation was voluntary and participants could withdraw at any stage without consequence. Confidentiality was maintained through coded data records and anonymisation of participating institutions. Participants showing significant emotional distress were referred, with appropriate confidentiality, to institutional caregivers for follow-up support.

G. Statistical Analysis

Data were analysed using descriptive statistics, the Shapiro–Wilk test for normality of the difference scores, paired-samples t-tests to compare pre- and post-test scores, and Cohen's d to estimate effect size. Statistical significance was set at $\alpha = .05$.

III. RESULTS

Table II summarises sample demographics; Tables III and IV present the paired-samples t-test results for self-esteem and anxiety, respectively.

Variable	Category	n	%
Gender	Male	20	31.3
	Female	44	68.7
Age (yrs)	12–13	33	51.6
	14–16	19	29.7
	17–19	12	18.8
Institution	IMH	22	34.4
	GCH	20	31.3
	ACH	22	34.4

Table II. Demographic Characteristics (N = 64)

Assessment	M ± SD	t (df)	p, d
Pre-test	25.95 ± 4.119	6.120 (63)	$p < .001$, $d = 0.765$
Post-test	28.41 ± 3.804		

Table III. Paired-Samples t-Test: Self-Esteem (RSES), N = 64

Assessment	M ± SD	t (df)	p, d
Pre-test	12.33 ± 3.612	7.477 (63)	$p < .001$, $d = 0.935$
Post-test	8.94 ± 3.616		

Table IV. Paired-Samples t-Test: Anxiety (GAD-7), N = 64

Self-esteem increased significantly from pre- to post-test, $t(63) = 6.120$, $p < .001$, with a moderate-to-large effect ($d = 0.765$); H1 was supported. Anxiety decreased significantly, $t(63) = 7.477$, $p < .001$, with a large effect ($d = 0.935$); H2 was supported. The effect size for anxiety exceeded that for self-esteem.

IV. DISCUSSION

The observed improvement in self-esteem is consistent with the view that self-esteem develops through repeated experiences of mastery, self-reflection, and acceptance [4], [8]. The five sessions offered such experiences directly: the self-portrait and strength-tree activities encouraged recognition of positive qualities, while the low-pressure, process-oriented format reduced performance-related concern about artistic skill. From a social-cognitive perspective, successfully completing each creative task functioned as a mastery experience that reinforced perceived competence [7].

The larger effect observed for anxiety may reflect the more state-like, immediately responsive nature of anxiety relative to the more enduring, gradually formed construct of self-esteem. Structured art-based activities allowed participants to externalise emotions symbolically rather than relying solely on verbal disclosure, which may have reduced internal emotional tension, consistent with prior evidence on art-based emotion regulation [9], [10]. The group format may additionally have supported a sense of belonging and reduced isolation, consistent with ecological and attachment perspectives on institutionalised children's development [1], [2], [6].

These findings extend prior evidence — drawn largely from formal, clinician-delivered art therapy [11] — by showing that a brief, non-specialist-facilitated programme, deliverable with inexpensive materials, can produce statistically and practically meaningful

change within an Indian residential care setting where such interventions remain under-evaluated [12].

V. LIMITATIONS AND FUTURE RESEARCH

The absence of a control group limits causal inference, as change cannot be unambiguously attributed to the intervention rather than to maturation, institutional routine, or repeated testing. The sample was drawn from three institutions in one region, limiting generalisability, and outcomes were based on brief self-report measures without longer-term follow-up. Future research should employ randomised or quasi-experimental designs with comparison groups, larger and more geographically diverse samples, longitudinal follow-up to test the sustainability of gains, and comparisons with other psychosocial interventions; mixed-methods designs incorporating qualitative or artwork-based data would further clarify the mechanisms underlying change.

VI. CONCLUSION

Participation in a structured, five-session art-based activities programme was associated with statistically significant improvements in self-esteem and reductions in anxiety among institutionalised adolescents in Indian residential child care institutions. The programme's brevity, low cost, and non-specialist delivery format suggest it is a feasible, evidence-informed complement to existing counselling services in resource-limited residential settings, warranting evaluation using more rigorous controlled designs.

ACKNOWLEDGMENT

The authors thank the directors, caregivers, and children of the participating institutions for their cooperation and participation in this study.

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