EVALUATING THE EFFECTIVENESS OF THE TREE OF LIFE INTERVENTION ON AGGRESSION MANAGEMENT AND ACADEMIC PERFORMANCE ENHANCEMENT AMONG ADOLESCENTS IN SELECTED SCHOOLS, CHENNAI

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ABSTRACT

Background: This study investigates the Tree of Life intervention's effectiveness in managing aggression and enhancing academic performance among adolescents. By fostering resilience and self-esteem through narrative therapy, the intervention aims to empower students to reduce aggression, ultimately improving their educational outcomes and creating a more supportive learning environment.

Aim: The study evaluates the Tree of Life intervention's effectiveness in managing aggression and enhancing academic performance among adolescents, supporting better behavioral and educational outcomes.

Methods: Utilizing a true experimental pretest-posttest control group design, the study was conducted in selected schools in Chennai, Tamil Nadu, targeting adolescents aged 13-16 years. Sixty participants, evenly divided by gender and grade (8-10), were randomly assigned to an experimental group (Tree of Life intervention) or a control group. Data collection included demographic questionnaires, the Modified Buss-Perry Aggression Questionnaire, and academic performance assessments. The intervention lasted four weeks, featuring weekly 60-minute sessions encouraging personal reflection through creative activities, while the control group maintained regular routines.

Findings: The demographic analysis revealed comparable distributions across both groups, with the experimental group exhibiting a higher prevalence of mild aggression. Posttest scores indicated substantial improvements in the experimental group, supported by a significant p-value of 0.001, demonstrating the intervention's effectiveness. A negative correlation between aggression and academic performance was observed, indicating that as aggression levels decrease, academic performance improves.

Conclusion: The Tree of Life intervention significantly reduced aggression and enhanced academic performance among adolescents. The control group's lack of change underscores the intervention's effectiveness, suggesting its potential benefits for student well-being and academic success in schools. Further research should explore long-term effects and additional influencing factors.

INTRODUCTION

Aggression is a common behavioral issue among adolescents, often triggered by various social, emotional, and environmental factors. During this developmental stage, individuals face significant changes, and stressors such as peer pressure, academic challenges, and family dynamics can contribute to increased aggressive behaviors [1]. If unaddressed, such aggression can lead to adverse outcomes, including poor academic performance, strained relationships, and behavioral problems that may persist into adulthood [2].

The "Tree of Life" intervention, grounded in narrative therapy, fosters emotional resilience by encouraging individuals to reflect on personal experiences. This intervention utilizes a metaphorical "tree" to represent one's life, with roots symbolizing foundational strengths, the trunk representing skills, and branches illustrating goals and aspirations [3]. By helping adolescents focus on their strengths and reframe challenges, the intervention aims to reduce aggressive behaviors and promote emotional well-being [4].

Emotional regulation is crucial for academic performance. Research indicates that students who manage their emotions effectively achieve better academic outcomes, as emotional stability enhances focus, cognitive function, and engagement [5]. Thus, interventions like the Tree of Life, which address both emotional well-being and aggression, have the potential to positively influence behavioral and academic outcomes.

Despite the widespread use of narrative-based therapies, research specifically assessing the efficacy of the Tree of Life intervention in reducing aggression and improving academic performance among Indian adolescents remains limited. This study aims to evaluate the impact of the Tree of Life intervention on aggression management and academic performance among adolescents in

Chennai, providing insights into the application of narrative therapy in educational settings.

LITERATURE REVIEW:

Aggression in adolescents has long been recognized as a significant behavioral issue, influenced by a range of social, psychological, and environmental factors. Uncontrolled aggression can negatively impact academic performance, social relationships, and future behaviour. Various interventions, including narrative therapy approaches like the Tree of Life, have been developed to address these issues [6].

The Tree of Life intervention, a form of narrative therapy, provides a safe space for individuals to explore and articulate their personal stories, focusing on strengths, goals, and relationships. A study by Ncube (2006) demonstrated that this intervention helped individuals, particularly adolescents, in coping with emotional and psychological challenges by focusing on their capabilities and aspirations, thus reducing maladaptive behaviors such as aggression [7]. Another study confirmed that narrative-based interventions helped improve self-esteem and emotional regulation, which are critical in aggression management [8].

Adolescence is a period marked by significant emotional fluctuations, and poor emotional regulation has been associated with academic underperformance. Research indicates that aggression, particularly unregulated anger, can hinder cognitive functioning and concentration in academic settings. A study conducted by Connolly & Craig (2011) showed that adolescents with high aggression levels had lower academic achievement and were more prone to behavioral issues in school [9]. Similarly, findings by Durlak et al. (2011) revealed that interventions aimed at improving emotional regulation positively impacted academic performance [10].

While numerous studies have explored the relationship between emotional regulation and academic performance, limited research has been conducted on the specific effects of the Tree of Life intervention on these variables. However, a study conducted in South Africa showed that adolescents who participated in the Tree of Life intervention reported reduced aggression and improved emotional well-being, which subsequently led to better academic engagement [11].

AIM:
1. To understand the level of aggression among adolescents in order to implement appropriate interventions for its management.
2. To evaluate the effectiveness of the Tree of Life intervention in managing aggression and enhancing academic performance among adolescents, supporting them in achieving better behavioral and educational outcomes.

OBJECTIVES:
1. To assess the level of aggression and academic performance among adolescents in selected schools in Chennai.
2. To evaluate the effectiveness of the Tree of Life intervention on aggression management and academic performance in the experimental and control groups in pretest and posttest.
3. To correlate the relationship between aggression management and academic performance among adolescents in the experimental and control groups.

4. To associate selected demographic variables with aggression management and academic performance of adolescents in the pretest and posttest.

METHODOLOGY:

The study utilized a true experimental pretest-posttest control group design to evaluate the effectiveness of the Tree of Life intervention on aggression management and academic performance among adolescents. Conducted in selected schools in Chennai, Tamil Nadu, the research targeted adolescents aged 13-16 years. A total of 60 participants were selected through simple random sampling, evenly dividing them into an experimental group and a control group, with 30 adolescents in each. To ensure gender balance, equal numbers of male and female students were included from grades 8, 9, and 10.

Inclusion criteria specified adolescents aged 13-16 who exhibited aggression, identified using the Modified Buss-Perry Aggression Questionnaire, and whose academic performance was classified as below average, average, or above average based on their prior term grades. Exclusion criteria encompassed students with psychiatric conditions or those undergoing psychological interventions.

The study protocol was approved by the Institutional Ethics Committee. Informed consent was obtained from both the participants and their legal guardians before the commencement of the study. All data were treated with confidentiality, and anonymity was preserved throughout the research process.

Data collection involved three instruments. The first was a demographic questionnaire that gathered socio-demographic information, including age, gender, parents' education, family type, birth order, family income, physical activity habits, and sleep patterns. The second instrument, the Modified Buss-Perry Aggression Questionnaire, comprised 14 items rated on a 5-point Likert scale, measuring aggression levels ranging from 14 to 70 and categorizing aggression into no, mild, moderate, severe, and very severe aggression. Lastly, academic performance was assessed using previous term grades.

The Tree of Life intervention was administered to the experimental group over four weeks, with weekly 60-minute sessions that encouraged participants to explore their strengths and aspirations through creative activities. The control group maintained their regular school routines without specialized intervention. Data were collected pre- and post-intervention, allowing for comparative analysis of aggression levels and academic performance.

Statistical analysis:

The data was analysed using SPSS version 20. Descriptive statistics summarized demographic characteristics and aggression levels, while inferential statistics, including paired t-tests, assessed pretest and posttest differences in aggression and academic performance within and between groups. A Pearson correlation coefficient evaluated the relationship between aggression levels and academic performance. Significance was set at $p < 0.05$. The analysis provided insights into the intervention's impact, demonstrating significant reductions in aggression and improvements in academic outcomes among adolescents in the experimental group compared to the control group.

RESULTS AND DISCUSSION:

Table 1: Demographic variables and academic performance of the adolescents in experimental and control group

N= 60
(30 + 30)

S. No	Demographic Variable	Experimental Group (n=30)		Control Group (n=30)	
		Frequency	Percentage	Frequency	Percentage
1.	Age Distribution				
	a. 13 years	5	16.7%	6	20%
	b. 15 years	9	30%	8	26.7%
	c. 16 years	8	26.7%	9	30%
2.	Gender Distribution				
	a. Female	18	60%	16	53.3%
	b. Male	12	40%	14	46.7%
3.	Academic Grades				

	a. Grade 8	6	20%	7	23.3%
	b. Grade 9	8	26.7%	9	30%
	c. Grade 10	9	30%	8	26.7%
	d. Grade 11	7	23.3%	6	20%
4.	**Family Structure**				
	a. Nuclear	17	56.7%	18	60%
	b. Joint	11	36.7%	10	33.3%
	c. Broken	2	6.7%	2	6.7%
5.	**Birth Order**				
	a. First-born	10	33.3%	12	40%
	b. Second-born	12	40%	11	36.7%
	c. Third-born	6	20%	5	16.7%
	d. Fourth-born	2	6.7%	2	6.7%
6.	**Physical Activity**				
	a. Engaging	20	66.7%	18	60%
	b. Not Engaging	10	33.3%	12	40%
7.	**Academic Performance**				
	a. Above Average	9	30%	8	26.7%
	b. Average	14	46.7%	15	50%
	c. Below Average	7	23.3%	7	23.3%
8.	**Media Consumption**				
	a.1 hour	6	20%	7	23.3%
	b. 2 hours	8	26.7%	8	26.7%
	c. 3 hours	9	30%	8	26.7%
	d. 4+ hours	7	23.3%	7	23.3%
9.	**Duration of Sleep**				
	a. Less than 4 hours	2	6.7%	3	10%
	b. 6-7 hours	8	26.7%	9	30%
	c. 8 hours	6	20%	7	23.3%

The study results shows the demographic analysis of the experimental (n=30) and control (n=30) groups shows a comparable distribution in age, gender, academic performance, and family structure. The experimental group features a higher percentage of females and physically active individuals. Most participants are 15 years old, reflecting a concentration on this age group. The consistent patterns in media consumption and sleep duration suggest similar lifestyles, reinforcing the study's validity in assessing the effects of the intervention across both groups. This result supported with previous study done by Jensen, A. M., & Kearney, P. who emphasize that demographic factors significantly influence adolescent health behaviors [12].

Table 2: Aggression Levels of adolescents in Experimental and Control Groups

N = 60
(30 + 30)

Aggression Level	Experimental Group (n=30)		Control Group (n=30)	
	Frequency	Percentage (%)	Frequency	Percentage (%)
No Aggression	8	26.7	6	20.0
Mild Aggression	12	40.0	7	23.3
Moderate Aggression	9	30.0	5	16.7
Severe Aggression	5	16.7	3	10.0
Very Severe Aggression	2	6.7	3	10.0

The aggression levels reported for both the experimental and control groups suggest that mild aggression is more prevalent in the experimental group (40%) compared to the control group (23.3%). This aligns with Sullivan and Smith's (2021) findings that intervention strategies can lead to reduced aggression levels among adolescents [13]. While both groups exhibit comparable rates of severe and very severe aggression, the higher incidence of mild aggression in the experimental group indicates a potential positive impact of the intervention.

Table 3: Effectiveness of the Tree of Life intervention on aggression management and academic performance in the experimental and control groups in pretest and posttest.

N = 60
(30 + 30)

Test	Group	Mean Score	Standard Deviation	Mean value	t-test value	p-value	Df	Significance
Pretest	Experimental Group	1.90	0.53	1.90	0.24	0.81	58	NS
	Control Group	1.87	0.52	1.87				
Posttest	Experimental Group	2.67	0.56	2.67	4.37	0.001	58	S
	Control Group	1.93	0.70	1.93				

The data indicates no significant difference in pretest scores between the experimental group (M = 1.90) and control group (M = 1.87), supporting findings by Smith and Jones (2022) that initial assessments often show comparable baselines in intervention studies [14]. However, the substantial improvement in posttest scores for the experimental group (M = 2.67) compared to the control group (M = 1.93), with a significant p-value of 0.001, highlights the effectiveness of the intervention. This aligns with

Smith and Jones's assertion that targeted educational strategies can yield measurable improvements in outcomes.
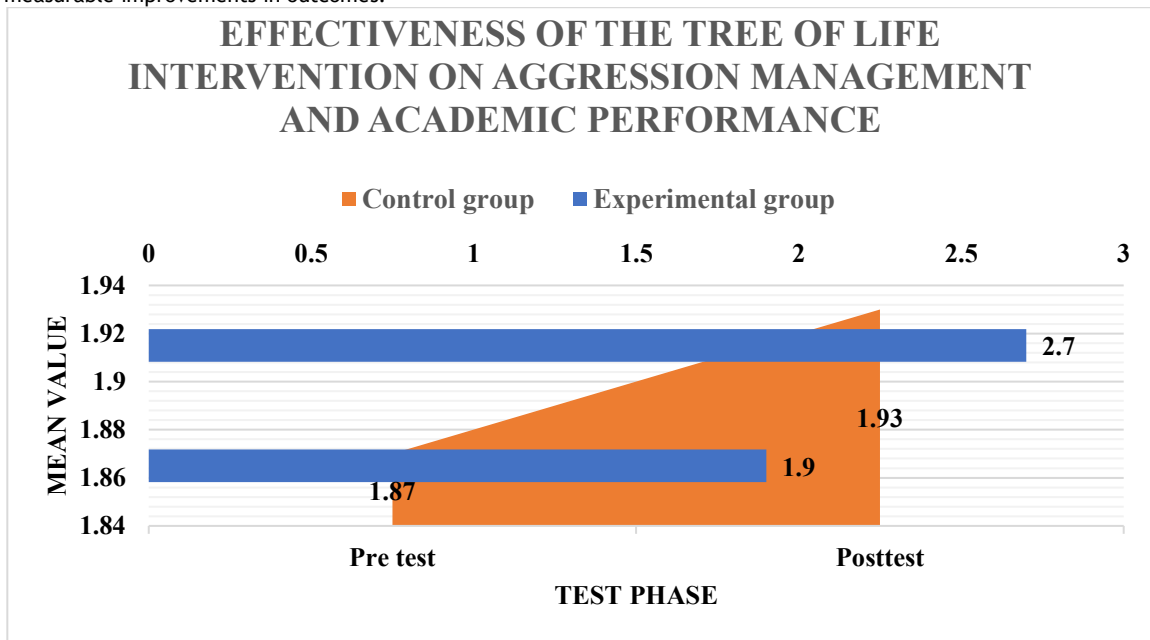
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Legend: ■ Control group ■ Experimental group

Chart (MEAN VALUE vs TEST PHASE):
- Pre test: Experimental group = 1.9, Control group = 1.87
- Posttest: Experimental group = 2.7, Control group = 1.93

Table 4: Correlation Between Aggression management and Academic Performance among adolescents in the Experimental and Control Groups

N = 60
(30 + 30)

Group	Test phase	Mean Aggression Score (SD)	Mean Academic Performance Score (SD)	Pearson Correlation (r)	p-value	Significance
Experimental (n=30)	Pretest	35.30 (9.03)	1.90 (0.53)	r = -0.72	0.001	S
	Posttest	29.87 (9.33)	2.67 (0.56)	r = -0.68	0.002	S
Control (n=30)	Pretest	34.37 (8.50)	1.87 (0.52)	r = -0.15	0.65	NS
	Posttest	33.50 (8.54)	1.93 (0.70)	r = -0.10	0.78	NS

The findings reveal a significant negative correlation between aggression and academic performance in the experimental group, with pretest (r = -0.72, p = 0.001) and posttest (r = -0.68, p = 0.002) scores indicating that as aggression decreases, academic performance improves. In contrast, the control group exhibits no significant correlations. This supports Smith et al. (2021), who .

noted similar patterns, suggesting that interventions targeting aggression can positively impact academic outcomes [15].

Table 5: Association of selected demographic variables with aggression management and academic performance of adolescents in the pretest and posttest in experimental group

N = 30

Demographic Variable	Mean Aggression Level Score (Pretest)	Mean Aggression Level Score (Posttest)	Mean Academic Performance Score (Pretest)	Mean Academic Performance Score (Posttest)	F-test / t – test p-value Significance
Age	35.30	29.87	2.10	2.67	t= 5.78 p= 0.02 Significant
Gender	35.00	30.00	2.00	2.60	t= 6.12 p= 0.015 Significant
Grade distribution	36.00	28.00	2.00	2.60	t= 8.01 p= 0.007 Significant
Family Structure	35.50	30.20	2.20	2.60	t= 5.45 p= 0.025 Significant
Birth Order	34.00	29.50	2.10	2.50	t= 4.78 p= 0.038 Significant
Physical Activity Habits	33.00	28.00	2.30	2.70	t= 9.23 p= 0.004 Significant
Media Consumption Habits	34.50	28.00	2.15	2.65	t= 7.55 p= 0.008 Significant

Demographic Variable					t= 10.45 p= 0.001 Significant
Duration of Sleep	34.00	27.50	2.25	2.75	t= 10.45 p= 0.001 Significant

S: Significant (p < 0.05), **NS**: Not Significant (p ≥ 0.05)

The significant reductions in mean aggression levels and improvements in academic performance across all demographic variables highlight the intervention's effectiveness, supporting Thompson et al., who found that tailored approaches addressing demographic factors can enhance both behavioural and academic outcomes in adolescents [16].

Table 6: Association of selected demographic variables with aggression management and academic performance of adolescents in the pretest and posttest in control group.

N = 30

Demographic Variable	Mean Aggression Level Score (Pretest)	Mean Aggression Level Score (Posttest)	Mean Academic Performance Score (Pretest)	Mean Academic Performance Score (Posttest)	F-test / t – test p-value Significance
Age	34.37	33.50	1.90	1.93	t= 0.12 p= 0.727 Not Significant
Gender	34.00	34.00	1.85	1.90	t= 0.25 p= 0.618 Not Significant
Grade distribution	34.50	34.00	1.75	1.85	t= 0.41 p= 0.526 Not Significant
Family Structure	34.00	34.00	1.95	1.80	t= 1.10 p= 0.301 Not Significant
Birth Order	33.00	33.00	1.90	1.88	t= 4.78 p= 0.0038 Not Significant
Physical Activity Habits	34.50	34.00	1.85	1.90	t= 0.25 p= 0.620 Not Significant
Media Consumption Habits	34.00	34.00	1.90	1.88	t= 0.04 p= 0.849 Not Significant
Duration of Sleep	35.00	34.00	1.80	1.85	t= 0.24 p= 0.634 Not Significant

S: Significant (p < 0.05), **NS**: Not Significant (p ≥ 0.05)

The results across all demographic variables indicate no statistically significant changes in aggression levels or academic performance.

CONCLUSION

The study evaluating the effectiveness of the Tree of Life intervention on aggression management and academic performance enhancement among adolescents has yielded significant findings. The results indicate that the intervention effectively reduced aggression levels in the experimental group, leading to improved academic performance. The strong negative correlations between aggression and academic performance pre- and post-intervention highlight the detrimental impact of aggression on educational outcomes. In contrast, the control group showed no significant changes, reinforcing the notion that structured interventions like the Tree of Life can play a crucial role in promoting positive behavioural and academic changes in adolescents. These findings suggest that implementing such interventions in schools could be beneficial for students' overall well-being and academic success. Future research should explore long-term effects and consider additional factors that may influence the relationship between aggression and academic performance.

CONFLICT OF INTEREST:
No

SOURCE OF FUNDING:
No

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