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Mary Nisha KV
Research Scholar, Dept. of Psychology, Manipur International University, Imphal, Manipur, India

Irom Shirly
Professor & Research Officer, Dept. of Psychology, Manipur International University, Imphal, Manipur, India

Arjunan NK
Principal, Adi Sankara Training College, Kalady, Kerala, India

Corresponding Author:
Mary Nisha KV
Research Scholar, Dept. of Psychology, Manipur International University, Imphal, Manipur, India

Effectiveness of TA-based Group Therapy in Promoting Emotional Intelligence of School Students

Mary Nisha KV, Irom Shirly and Arjunan NK

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Abstract
The study investigated the effectiveness of Transactional Analysis (TA)-based group therapy in enhancing the emotional intelligence of secondary school students and examined the differential influence of gender and academic achievement level on the effectiveness of the intervention. A quasi-experimental pre-test–post-test control group design was adopted. The sample consisted of 158 ninth-grade students selected from a secondary school in Ernakulam district, Kerala. Emotional intelligence was measured using the Student Emotional Intelligence Scale (SEIS) developed on the basis of Goleman's Trait Model, showing strong reliability and validity indices. The treatment groups received a TA-based psycho-educational intervention named TAP-3, consisting of 14 group sessions of about 40 minutes each. Post-test data were analyzed using ANCOVA, independent sample t-test, and one-way ANOVA. The findings revealed a significant improvement in emotional intelligence among students who underwent the TA-based intervention, with a large effect size, establishing the effectiveness of the programme. No significant gender differences were found in intervention outcomes, indicating equal benefit for boys and girls. However, significant differences emerged based on academic achievement level, with low achievers showing the greatest improvement. The findings highlight the value of TA-based group therapy as a viable school-based strategy for promoting emotional intelligence.

Keywords: Transactional Analysis, Emotional Intelligence, TA-based group therapy, Secondary School Students

Introduction
Transactional Analysis (TA) based group therapy offers a theoretically coherent and practically accessible approach to promoting emotional intelligence (EI) among school-aged youth. EI has been linked to better social adjustment, reduced anxiety, improved academic outcomes and greater resilience in adolescents, making it a priority target for school-based mental-health promotion. TA's core constructs (ego-states, transactions, life-scripts, and strokes) explicitly focus on interpersonal patterns and self-awareness; when delivered in a group format, TA activities (e.g., ego-state identification, role exercises, strucEI (analysis of transactions) can foster reflective insight, emotion-labelling, perspective-taking and interpersonal problem-solving—skills that overlap strongly with the components of EI (Kahn & Raza, 2014) [6]. Empirical evidence supports the promise of TA-based psychoeducational programs for increasing emotional and regulatory capacities. For example, a quasi-experimental psycho-educational TA + EI program with health-professions undergraduates produced statistically significant gains in overall EI at post-training and follow-up, indicating that TA methods can be translated into measurable improvements in emotional competencies (Seow *et al*., 2022; Whitley-Hunter, 2014) [8, 10]. Complementary recent work in higher-education and clinical training populations shows that TA training can also improve related constructs such as emotion regulation and cognitive flexibility—capacities that underpin adaptive emotional intelligence and promote better coping under academic stress (Abbasszade *et al*., 2025; Powell *et al*., 2024) [1, 7].
Despite accumulating positive findings in tertiary and clinical samples, there remains a gap in well-controlled research that evaluates TA-based group therapy specifically within school contexts (primary and secondary) (Eiraldi *et al*., 2016; Gouda *et al*., 2016) [2, 4]. School settings present unique developmental, logistical and cultural dynamics; interventions must

therefore be brief, group-oriented, feasible for school staff delivery, and sensitive to adolescents' peer ecology. Recent systematic reviews of school-based programs for academic stress and emotional outcomes highlight that while some universal and targeted programs (particularly CBT-based) reduce stress and improve emotional functioning, there is a shortage of randomized controlled trials testing non-CBT approaches (including TA) and studies with longer follow-ups (Zbukvic *et al*., 2023; Feiss *et al*., 2019; Werner-Seidler, 2017) [11, 3, 9]. This gap creates both a rationale and an imperative for rigorous evaluation of TA-based group therapy as a potentially scalable, relationally focused alternative for promoting EI in school students (Jagiello, *et al*. 2024) [5]. Accordingly, this study investigates the effectiveness of a TA-based group therapy program in promoting emotional intelligence among school students. The investigation responds to theoretical convergence (TA's mechanisms map onto EI components), promising empirical results in proximate populations, and the practical need identified by recent reviews for diverse, school-suitable interventions tested with robust designs.

Objective

1. To find out the effectiveness of TA-based group therapy in promoting emotional intelligence of secondary school students.
2. To find out the differential influence of gender on the effectiveness of TA-based group therapy in promoting emotional intelligence of secondary school students.
3. To find out the differential influence of level of academic achievement on the effectiveness of TA-based group therapy in promoting emotional intelligence of secondary school students.

Hypothesis

1. TA-based group therapy is not effective in promoting emotional intelligence of secondary school students.
2. Gender has no significant differential influence on the effectiveness of TA-based group therapy in promoting emotional intelligence of secondary school students.
3. Level of academic achievement has no significant differential influence on the effectiveness of TA-based group therapy in promoting emotional intelligence of secondary school students.

Methodology

The present investigation employed a quasi-experimental approach using a pre-test–post-test control group design. The broader population consisted of students aged 14 to 16 years enrolled in grades eight, nine, and ten in schools recognized by the Kerala Board of Public Examinations (Government of Kerala, India). This population is estimated at 12,65,348 students distributed across 2,936 secondary schools in the 14 revenue districts of the state. The sample for the study comprised four intact ninth-grade classes (n = 158) from St. Philomena's Higher Secondary School, Koonammavu, North Paravur, functioning under the jurisdiction of the District Educational Office, Aluva, in Ernakulam district. One class was randomly assigned as the waitlist control group, while the remaining three classes served as the experimental groups.

To measure emotional intelligence, the researchers used the Student Emotional Intelligence Scale (SEIS), a 40-item instrument based on a five-point Likert response format (ranging from Strongly Agree to Strongly Disagree). The scale was developed according to Daniel Goleman's Trait Model and assessed five domains: self-awareness, self-regulation, motivation, empathy, and social skills. The SEIS demonstrated acceptable psychometric properties, with a criterion validity coefficient of 0.81 and a test–retest reliability of 0.88.

The experimental intervention consisted of a Transactional Analysis (TA)-based group therapeutic program, implemented through the Transactional Analysis-based Psycho-Pedagogic Programme (TAP-3), developed by the investigator. After collecting baseline (pre-test) emotional intelligence scores, the treatment groups participated in 14 psycho-educational sessions, each lasting about 40 minutes. Post-test data were collected the day immediately following the final session. The hypotheses were examined using statistical procedures available in IBM SPSS Statistics Version 21.

Analysis and Interpretation

The data were analysed to test the hypotheses, and the results obtained are presented under appropriate subheadings.

Effectiveness of TAGT in Promoting Emotional Intelligence

As the first step, the treatment group and control group were compared regarding the pre-test scores of EI to find out the significant difference, if any, between the groups in the baseline. Table 1 presents the result of the independent sample t-test conducted incidentally.

Table 1: Comparison of Treatment Group and Control Group Regarding the Pre-test Scores of EI

Groups	Statistical Indices				t	Sig
	N	M	SD	SE_M		
Control Group	39	114.21	19.42	3.11	0.159	NS
Treatment group	119	114.77	19.39	1.78		

The t-value estimated on comparing treatment group and control group regarding the pre-test scores of EI is insignificant (t = 0.159; p>.05). It shows that there is no significant difference between the treatment group and control group before the TAP-3 intervention.

The groups were then compared regarding the post-test scores of EI to find out the effectiveness of TAGT in promoting EI. The comparison was done by employing ANCOVA after adjusting for the effect of pre-test scores as covariate. The data and results of the ANCOVA conducted is given in Table 2.

Table 2: Summary of ANCOVA for the Comparison of Post-Test Scores of Treatment Group and Control Group

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	57201.077	2	28600.538	4260.120	.000	.982
Intercept	254.957	1	254.957	37.976	.000	.197
Pre-test	55209.907	1	55209.907	8223.650	.000	.982
Group	1733.348	1	1733.348	258.186	.000	.625
Error	1040.601	155	6.714			
Total	2364507.000	158				
Corrected Total	58241.677	157				
a. R Squared = .982 (Adjusted R Squared = .982)						

The F-ratio obtained is significant ($F_{(1,\ 155)}$ = 258.186; p<.001) showing a true difference between treatment group and control group regarding the post-test scores of EI even after promoting for the pre-test scores as covariate. As per Cohen (1988)'s guidelines, the estimated valued of the partial Eta Squared value indicates that (η^2_{patial} = 0.625), the effect size is very large. It further points out that 62.5% of the variance in the post-intervention score of EI can be explained by the group membership, after adjusting the pre-intervention scores. The treatment group and control group were compared regarding the mean post-test scores obtained after adjusting for the covariates to find out the significance of the differences between the scores, the result of the same is given in Table 3.

Table 3: Mean Difference between Treatment Group and Control Group in Post-Test Scores of EI after Adjusting for the Covariate

Groups	Mean	Std. Error	95% Confidence Interval		Mean Difference	Sig.
			Lower	Upper		
Control Group	115.03	.415	114.21	115.85	7.682	.001
Treatment group	122.71	.238	122.24	123.18		

The mean difference estimated between the groups even after adjusting for the effect of covariate is significant (Mean difference = 7.682; p<.001), exposing an actual differential effect of treatment and the control condition. The mean estimate for treatment group (M = 122.71) is considerably lower than that for the control group (M = 115.03), showing that the TAP-3 intervention was successful in promoting EI of the treatment group.

Differential Influence of Gender on the Effectiveness of TAGT in Promoting EI

The gender based sub-samples of the treatment group were compared by using independent sample t-test to examine whether boys and girls differ significantly in terms of their gain scores (pre-test scores subtracted from post-test scores). The result of the t-test is given in Table 4.

Table 4: Comparison of boys and girls in the treatment group regarding the gain scores of EI

Sub-samples	Statistical Indices				t	Sig
	N	M	SD	SE_M		
Boys	55	8.22	2.80	.38	0.541	NS
Girls	64	7.95	2.55	.32		

Comparison of the gender based sub-samples in the treatment group regarding the gain scores of EI produced an insignificant t-value (t = 0.541; p>.05). It indicates that boys and girls are alike regarding the effectiveness of TA-based group therapy in enhancing their EI.

Differential Influence of Level of Academic Achievement on the Effectiveness of TAGT in Promoting EI

The differential influence of achievement level on the effectiveness of TAGT in promoting the EI of students was studied by comparing the 'gain scores' of high, average and low achieving students in the treatment group. The comparison was done by using one-way ANOVA, the result of the same is given in Table 5.

Table 5: Comparison of low-, Average-, And High Achievers in the Treatment Group Regarding the Gain Scores of EI

AST	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	144.889	2	72.444	12.189	.001
Within Groups	689.431	116	5.943		
Total	834.319	118			

The one-way ANOVA produced a significant F-ratio (F = 12.189; p<.001). It reveals that the low, average and high achieving students differ significantly regarding the effectiveness of TAGT in promoting their EI. In another words, achievement level is a significant decisive factor in the effectiveness of TA therapy in enhancing EI of the students. The F-test was followed by post-hoc test to find out the groups that exhibit the true difference in their gain scores of EI. The result of the Tukey HSD test performed to compare different groups pairs are given in Table 6.

Table 6: Post-hoc Tests for Comparison of High, Average and Low Achievers Regarding the Gain Scores of EI

(I) Exp	(J) Exp	(I-J) Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
LOW	Average	1.926	.649	.010	.39	3.47
	High	4.006	.814	.000	2.07	5.94
AVERAGE	Low	-1.926	.649	.010	-3.47	-.39
	High	2.080	.620	.003	.61	3.55
HIGH	Low	-4.006	.814	.000	-5.94	-2.07
	Average	-2.080	.620	.003	-3.55	-.61

The result of the post-hoc test conducted to examine the significant difference between students at different levels of academic achievement regarding the success of TAGT in promoting EI revealed the following:

1. There is significant difference between low achievers and average achievers regarding the enhancement in their EI when intervened with TAGT (Mean difference = 1.926; p<.001). The improvement in EI was highest in low achievers (M = 10.06) than in average achievers (M = 8.13).
2. The low achievers differ significantly from the high achievers regarding the improvement they made in EI when intervened with TAGT (Mean difference = 4.006; p<.001). The hike in EI occurred in low achievers (M = 10.06) is significantly greater than that happened in high achievers (M = 6.05).
3. Average achievers differed significantly from high achievers in the improvement they made in their EI when treated with TAGT (Mean difference = 2.080; p<.001). The improvement in EI made by average achievers (M = 8.13) is significantly greater than that made by high achievers (M = 6.05).

Conclusion

The present study examined the influence of Transactional Analysis (TA)-based group therapy on the emotional intelligence of secondary school students using a quasi-experimental pre-test–post-test control group design. The results indicated a significant improvement in emotional intelligence among students who participated in the TA-based intervention compared to those in the control group, even after controlling for initial differences in pre-test scores. The large effect size further confirmed the strong impact of the TAP-3 programme, leading to the rejection of the first null hypothesis and establishing the effectiveness of the intervention. The study also explored the role of gender in determining the outcomes of the programme, and the analysis of gain scores showed no significant difference between boys and girls, suggesting that both benefited equally; therefore, the second null hypothesis was accepted. However, when academic achievement levels were considered, the results revealed notable differences. Low achievers exhibited the highest improvement in emotional intelligence, followed by average achievers, while high achievers showed comparatively lesser gains, indicating that achievement level significantly influences responsiveness to the intervention. Consequently, the third null hypothesis was rejected. Overall, the findings demonstrate that TA-based group therapy is a meaningful and effective psycho-educational strategy for enhancing emotional intelligence in secondary school students. While it works similarly across genders, it is particularly beneficial for learners with lower academic achievement. These outcomes highlight the need to integrate structured emotional development programmes like TA-based group therapy into school settings to support students' emotional growth and interpersonal skill development.

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