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Comparing the Effectiveness of Resilience Training and Acceptance and Commitment Group Training on Quality of Life in Students from Divorced Families, Controlling for Age at Divorce and Time Since Divorce

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A B S T R A C T

Objective: This study aimed to compare the effectiveness of resilience training and acceptance and commitment group training on improving quality of life in male students from divorced families, while controlling for age at the time of parental divorce and the duration since the divorce.

Methods and Materials: This quasi-experimental study was conducted on 90 male students in grades 5 to 9 from Kouhchenar County, whose parents were divorced. Participants were selected using convenience sampling from six schools with the highest prevalence of students from divorced families and were randomly assigned to three groups: resilience training (n = 30), acceptance and commitment training (n = 30), and control (n = 30). The interventions included ten 50-minute weekly sessions based on Kruger's (2006) resilience protocol and eight weekly sessions based on Hayes and Rose's (2008) ACT protocol. All participants completed the WHOQOL-BREF before the intervention, immediately after, and at a one-month follow-up. Data were analyzed using repeated measures ANOVA and MANCOVA while adjusting for confounding variables.

Findings: Significant improvements were observed in all four domains of quality of life—physical health, psychological health, social relationships, and environmental health—in both intervention groups across time ($p < 0.001$). The time × group interaction effect was also significant for all components ($p < 0.001$). Between-subjects analysis showed significant differences in posttest mean scores among the three groups ($p < 0.001$), and Bonferroni post hoc comparisons confirmed that both experimental groups outperformed the control group ($p < 0.001$), with the ACT group showing significantly greater improvements than the resilience group in all domains ($p < 0.001$).

Conclusion: Both resilience training and ACT-based group training effectively enhanced the quality of life of students from divorced families; however, ACT demonstrated superior and more sustained improvements. These findings highlight

the potential of ACT as a preferred school-based intervention for adolescents coping with familial disruption.

Keywords: *resilience training, acceptance and commitment therapy, quality of life, divorced families, adolescents, psychological intervention.*

1. Introduction

Divorce is a life-altering event that not only reshapes the structure of the family but also significantly impacts the psychological and social well-being of children. Among the most vulnerable populations are school-aged children and adolescents who are navigating identity formation and emotional regulation in the midst of familial disruption. Research has shown that children of divorced parents are at greater risk for emotional distress, diminished quality of life, and maladaptive social functioning due to the upheaval in their support systems and daily routines (Heydaryan & Salehyan, 2023; Wang, 2023). Particularly during adolescence, which is already a time of psychosocial instability, parental divorce can compound challenges related to self-concept, emotional regulation, and social competence (Fatollahzadeh et al., 2023; Karimi Dastaki & Mahmudi, 2024).

Quality of life (QoL) is a multidimensional construct encompassing physical health, psychological well-being, social relationships, and environmental context. In children and adolescents experiencing parental separation, these domains are often compromised, particularly psychological health and social adjustment (Liu et al., 2024; Priyanggono, 2023). QoL is not merely an outcome but a dynamic indicator of developmental resilience and adaptation to stressors. Accordingly, interventions aimed at enhancing the quality of life in children of divorced families must address emotional resilience, psychological flexibility, and social functionality simultaneously (Konstantinou et al., 2023; Rose et al., 2023).

Two intervention models that have shown empirical support for improving quality of life among clinical and at-risk populations are resilience training and Acceptance and Commitment Therapy (ACT). Resilience training equips individuals with adaptive coping mechanisms, emotional self-awareness, and social competence, allowing them to respond constructively to adversity (Pione et al., 2023; Taherkhani et al., 2023). Such interventions typically target protective factors like self-efficacy, optimism, and interpersonal problem-solving, which are particularly relevant to students struggling with the emotional aftermath of parental divorce. Studies have confirmed the positive effects of resilience-based programs on students' well-being, psychological resilience, and academic adjustment (Karimi Dastaki & Mahmudi, 2024; Shin & Choi, 2023).

ACT, on the other hand, is a third-wave behavioral therapy that emphasizes psychological flexibility, values-based action, and acceptance of emotional experiences rather than avoidance. ACT has demonstrated substantial effectiveness in enhancing the quality of life in various populations, including individuals with chronic illness, psychological disorders, and trauma histories (Spencer, 2023; Zhang et al., 2023). A growing body of literature highlights ACT's utility in improving emotional regulation, reducing experiential avoidance, and fostering a sense of purpose—all of which are crucial for adolescents adapting to familial breakdown (Jin et al., 2023; Rouhi et al., 2023). Particularly noteworthy is ACT's emphasis on helping individuals disengage from unhelpful thoughts and commit to valued actions, a process especially beneficial for young individuals caught in the emotional turbulence of divorce (Asadalah Salmanpour & Pasha, 2023; Fang et al., 2023).

Comparative research has revealed ACT to be not only effective in isolation but often superior to other psychological approaches in enhancing life satisfaction, mental well-being, and adaptive functioning (Konstantinou et al., 2023; Taghvaeinia et al., 2024). For example, ACT has shown better outcomes compared to Dialectical Behavior Therapy (DBT) and Mindfulness-Based Stress Reduction (MBSR) in populations with anxiety, depression, and psychosomatic complaints (Taghvaeinia et al., 2024). Furthermore, ACT has been successfully adapted for adolescents, with interventions designed to engage youth through metaphor, experiential exercises, and value clarification, resulting in sustained improvements in psychological health and life quality (Enayati Shabkolai et al., 2023; Rose et al., 2023).

In the context of Iranian educational and cultural settings, there is a growing recognition of the need for culturally adapted interventions to support at-risk youth. Studies have affirmed the effectiveness of ACT and resilience training among Iranian populations, demonstrating significant improvements in emotional well-being, social functioning, and perceived quality of life (Karimian et al., 2023; Pouryounes Abkenar et al., 2024). For instance, Pouryounes

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Abkenar et al. (Pouryounes Abkenar et al., 2024) found that mindfulness-based cognitive therapy, which shares theoretical foundations with ACT, significantly enhanced both resilience and quality of life among women with chronic pain in Iran. Similarly, Karimi Dastaki and Mahmudi (Karimi Dastaki & Mahmudi, 2024) reported that life meaning workshops had notable effects on resilience and perceived social support among students. These findings underscore the potential of structured, evidence-based interventions in educational environments facing psychosocial challenges.

Despite accumulating evidence supporting these interventions, comparative studies specifically targeting children of divorced families remain limited. Most existing studies have either evaluated each intervention in isolation or have not controlled for confounding variables such as the child's age at the time of divorce or the duration since the divorce occurred—factors which are known to moderate psychological outcomes (Liu et al., 2024; Spencer, 2023). To address this gap, the present study aims to compare the effectiveness of resilience training and ACT-based group training on the quality of life of male students from divorced families, while statistically controlling for the child's age at the time of divorce and the time elapsed since the divorce.

Given that resilience training focuses on enhancing internal protective mechanisms and social functioning, while ACT targets psychological flexibility and value-based behavior, it is crucial to determine whether one method offers superior long-term benefits over the other in real-world educational contexts. Several meta-analyses and systematic reviews have supported the broad applicability of ACT in clinical populations (Fang et al., 2023; Konstantinou et al., 2023; Zhang et al., 2023). In contrast, resilience training is particularly valuable in non-clinical, school-based settings and has shown a strong association with positive developmental trajectories (Pione et al., 2023; Taherkhani et al., 2023). Both approaches align with the growing emphasis on life skills education and the promotion of mental health in schools, particularly among vulnerable student populations.

Moreover, it is imperative to consider that quality of life is not a static indicator but evolves with the individual's developmental stage and contextual factors. Adolescents from divorced families may exhibit variability in outcomes based on emotional maturity, support systems, and socio-cultural expectations (Heydaryan & Salehyan, 2023; Priyanggono, 2023). Thus, interventions must be evaluated not only for their immediate effects but also for their sustainability over time. ACT's emphasis on present-moment awareness and future-directed action may offer adolescents tools for managing uncertainty and reestablishing a sense of agency (Fang et al., 2023; Rose et al., 2023). Similarly, resilience training can empower youth to rebuild self-efficacy and social bonds, thereby enhancing perceived life satisfaction (Pione et al., 2023; Taherkhani et al., 2023).

In summary, this study positions itself at the intersection of psychological intervention research and family studies by directly comparing the effectiveness of two well-established therapeutic models—resilience training and ACT—on improving the quality of life in a specific, vulnerable adolescent group.

2. Methods and Materials

2.1. Study Design and Participants

This study adopted a quasi-experimental design with three groups: two experimental groups and one control group. The target population consisted of all male students in grades five, six, and the first stage of secondary school (middle school) in Kohnchar County who had experienced parental divorce. This specific age range was chosen to ensure the inclusion of adolescents, who are developmentally at greater risk for emotional challenges following divorce. According to data obtained from student records in the district's educational administration, there were 163 male students with divorced parents enrolled in the aforementioned grades during the 2024–2025 academic year. From this population, a total sample of 90 students was selected. The sample was divided equally into three groups: 30 students in the resilience training group (experimental group 1), 30 in the acceptance and commitment group training (experimental group 2), and 30 in the control group. Sampling was conducted using a convenience sampling method. Among the six elementary boys' schools and five boys' middle schools in the county, three elementary and three middle schools were chosen based on higher rates of students from divorced families. These schools were selected alphabetically, and students were randomly assigned to one of the three groups. The allocation ensured that all three groups were comparable in size and demographic characteristics, and the interventions were implemented uniformly across the groups. Prior to the intervention, all participants completed a set of pretest measures to assess their baseline levels of quality of life, academic well-being, psychological distress, and feelings of

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guilt. The two intervention programs were then implemented: the resilience training program based on Kruger's (2006) resilience protocol over 10 weekly sessions, and the group training based on Hayes and Rose's (2008) acceptance and commitment therapy protocol over 8 weekly sessions. Each session lasted one hour and was conducted once a week. The control group received no psychological intervention during this period but participated in the pretest and posttest assessments.

2.2. Measures

2.2.1. Quality of Life

To assess the quality of life among the participating students, this study utilized the World Health Organization Quality of Life Questionnaire – Short Form (WHOQOL-BREF, 1996). Originally developed as a 100-item instrument, the WHO later created this abbreviated 26-item version to enhance usability in broader clinical and community settings. The WHOQOL-BREF evaluates four core domains: physical health, psychological health, social relationships, and environmental well-being, as well as providing an overall quality of life score. Each domain yields a raw score that is converted to a standardized score ranging from 0 to 100, where higher scores indicate better perceived quality of life. This instrument has been validated in various cultural contexts, including Iran, where Nasiri and colleagues (2006) translated it into Persian and reported satisfactory psychometric properties. Their study demonstrated good internal consistency with a Cronbach's alpha of 0.84. Confirmatory factor analysis further supported the structural validity of the scale by affirming the presence of the four primary subscales. Additional studies on a representative sample of 1,167 residents of Tehran confirmed the test-retest reliability coefficients for each subscale: 0.77 for physical health, 0.77 for psychological health, 0.75 for social relationships, and 0.84 for environmental well-being (Yesurak, 2019). In the current study, construct validity was confirmed through confirmatory factor analysis (CFA), and internal consistency was verified via Cronbach's alpha, demonstrating satisfactory reliability and validity of the instrument for use with adolescent student populations.

2.3. Interventions

The resilience training package designed by Kruger (2006), a faculty member at the University of Pretoria in South Africa, is a structured psychoeducational intervention that has gained popularity and credibility among academic and clinical communities. The version used in the present study is a Persian translation by Gholanji and colleagues (2014), whose content validity was confirmed by several psychology professors from Shahid Chamran University of Ahvaz. The training program consists of emotional, social, and cognitive components, each encompassing various instructional sub-units. The emotional component focuses on recognizing and managing emotions by teaching participants to identify appropriate contexts for emotional expression. Educators and psychologists act as facilitators, helping students cultivate positive emotions through structured activities. These activities include visual emotion recognition tasks, progressive muscle relaxation techniques, and guided imagery exercises aimed at enhancing emotional literacy. The program also fosters empathy development through discussion and experiential learning. Following informed consent from participants, the sessions are conducted by the researcher, with efforts made to ensure random assignment into the experimental and control groups. The intervention comprises ten weekly group sessions, each lasting 50 minutes, implemented over a period of approximately one to one and a half months. The session content is sequenced as follows: the first session introduces the structure, goals, and tasks of the program; the second session addresses emotional identification and regulation; the third session teaches empathy-building strategies and prosocial behaviors such as helping, sharing, and comforting; the fourth session differentiates between self-regulation and self-resilience; the fifth session focuses on forming and maintaining positive interpersonal relationships through verbal and nonverbal communication; the sixth session incorporates humor and effective group participation; the seventh session cultivates self-awareness, positive self-perception, and self-efficacy; the eighth session includes metacognitive strategies, problem-solving skills, and the restructuring of negative thought cycles; the ninth session explores spiritual and religious beliefs and future goal-setting; and the tenth and final session consolidates all previously learned skills to ensure long-term retention and application.

The group-based acceptance and commitment training package used in this study is derived from the original protocol developed by Hayes and Rose (2008) at the University of Oakland, California. This protocol has been employed in various clinical studies, including the one by Lotfi et al. (2021) examining its impact on cognitive fusion

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and self-management behaviors in diabetic patients. Its content validity has been affirmed by clinical psychologists and faculty members at Shahid Chamran University of Ahvaz. In the current study, the package was translated by the researcher and adapted for adolescents aged 11 to 18. The intervention is designed to help adolescents improve psychological flexibility, align their behaviors with personal values, and cope with distressing thoughts without avoidance. It emphasizes experiential learning through metaphors, mindfulness exercises, and value-based actions. The protocol includes eight sessions, each lasting between 60 to 120 minutes depending on the group dynamics, location, and specific needs of participants; however, shorter sessions are generally preferred as they allow for sustained engagement and gradual emotional openness among participants, as noted by Morton (2008). The program begins with establishing group norms, confidentiality, and member introductions, followed by a homework task of identifying how personal values can be translated into behaviors. In session two, participants review their homework, engage in experiential exercises related to cognitive defusion, and list problematic thoughts. Session three involves the practice of intentional forgetting, group activities to enhance willingness, and artistic tasks, with a follow-up assignment of ignoring unhelpful thoughts. The fourth session introduces the "letting go of the rope" metaphor and mental distancing techniques through artistic expression. Session five focuses on values clarification and present-moment awareness, followed by a committed action plan as homework. The sixth session guides participants in mapping their value-driven goals and creating a visual representation of these values. In session seven, participants review their creative outputs from prior sessions and engage in reflective writing. The final session offers a comprehensive review of the training content, provides space for questions, and includes the administration of posttest assessments to evaluate outcomes.

2.4. Data Analysis

Data analysis was conducted using the SPSS software. First, scores from all participants at the pretest, posttest, and follow-up phases were entered into the system for processing. Descriptive statistics were used to summarize the demographic data and baseline measures of the three groups. To assess the effectiveness of the two interventions while controlling for covariates such as age at the time of parental divorce and the time elapsed since the divorce, multivariate analysis of covariance (MANCOVA) was employed. This approach allowed for the comparison of the adjusted posttest means across the three groups while accounting for potential confounding variables. The significance level was set at $p < 0.05$ for all analyses, ensuring that observed differences between groups were statistically meaningful. The results of the MANCOVA enabled the researchers to determine whether either intervention produced superior outcomes in quality of life compared to the control group, as well as to each other, while controlling for relevant demographic and background factors.

3. Findings and Results

Table 1 presents the descriptive statistics (means and standard deviations) for the quality of life variable and its four subscales—physical health, psychological health, social relationships, and environmental health—across three measurement phases (pre-test, post-test, and follow-up) in each of the three groups: the control group, the resilience training group, and the acceptance and commitment group training.

Table 1

Descriptive Statistics for Quality of Life Scores and Subscales in Three Phases by Group

Group	Variable	Pre-test Mean (SD)	Post-test Mean (SD)	Follow-up Mean (SD)
Control	Physical Health	10.67 (2.77)	10.79 (2.72)	10.40 (2.51)
	Psychological Health	12.40 (2.16)	12.87 (1.93)	12.67 (1.95)
	Social Relationships	11.73 (2.98)	12.27 (3.12)	12.07 (4.26)
	Environmental Health	13.67 (1.85)	13.33 (1.27)	13.80 (1.75)
	Overall QoL Score	48.47 (5.41)	49.25 (4.63)	48.93 (4.73)
Resilience Training	Physical Health	10.80 (2.55)	14.40 (2.54)	14.07 (2.94)
	Psychological Health	12.60 (1.89)	15.84 (2.39)	15.45 (2.39)
	Social Relationships	12.60 (2.70)	16.47 (3.62)	16.73 (4.30)
	Environmental Health	13.47 (2.00)	16.23 (1.76)	15.81 (1.89)
	Overall QoL Score	49.47 (4.03)	62.94 (5.64)	62.06 (7.03)

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Acceptance & Commitment Group	Physical Health	11.13 (2.75)	17.87 (2.65)	17.36 (2.44)
	Psychological Health	12.03 (1.83)	18.87 (2.13)	18.53 (1.87)
	Social Relationships	12.67 (2.99)	21.30 (4.28)	21.60 (4.26)
	Environmental Health	13.97 (1.77)	18.33 (2.02)	17.91 (2.13)
	Overall QoL Score	49.80 (4.61)	76.37 (5.02)	75.41 (5.63)

As shown in Table 1, the control group exhibited minimal fluctuations in all dimensions of quality of life across the three measurement phases, indicating stability and lack of significant change without intervention. In contrast, both experimental groups demonstrated substantial improvements from pre-test to post-test, which were largely sustained at follow-up. The resilience training group showed moderate increases in all subscales, with the mean overall quality of life score increasing from 49.47 at pre-test to 62.94 post-intervention and slightly decreasing to 62.06 at follow-up. However, the acceptance and commitment training group exhibited the most pronounced gains, with the overall quality of life score rising from 49.80 at pre-test to 76.37 post-intervention and remaining high at 75.41 during follow-up. These patterns suggest that while both interventions were effective, the acceptance and commitment training had a greater impact on improving students' quality of life.

Prior to performing the multivariate analysis of covariance (MANCOVA), the relevant statistical assumptions were examined. The assumption of normality was assessed using the Kolmogorov–Smirnov test and confirmed through Q–Q plots, indicating that the distribution of scores was approximately normal across the groups. Homogeneity of variance-covariance matrices was evaluated using Box's M test, which was non-significant, supporting this assumption. Levene's test results were also non-significant for all dependent variables, confirming the homogeneity of variances across groups. The linearity of relationships between the covariates and dependent variables was supported by scatterplot analysis, and the assumption of homogeneity of regression slopes was met, as no significant interaction was observed between the covariates and the group variable. Multicollinearity diagnostics indicated that correlations among dependent variables were within acceptable limits. However, Mauchly's test of sphericity was violated, indicating that the assumption of sphericity was not met. Therefore, appropriate corrections such as Greenhouse-Geisser adjustments were applied in subsequent analyses to account for this violation.

Table 2

Univariate Within-Subjects Effects Test for Quality of Life Components Across Groups

Source	Variable	Test Type	SS	df	MS	F	p-value	Effect Size (η^2)
Time	Physical Health	Greenhouse-Geisser	653.383	1.739	375.727	301.588	0.001	0.776
	Psychological Health	Greenhouse-Geisser	681.222	1.894	359.767	281.420	0.001	0.764
	Social Relationships	Greenhouse-Geisser	1165.207	1.596	730.269	123.082	0.001	0.586
	Environmental Health	Greenhouse-Geisser	292.003	1.828	159.704	158.293	0.001	0.645
Time × Group	Physical Health	Greenhouse-Geisser	430.440	3.478	123.762	99.341	0.001	0.695
	Psychological Health	Greenhouse-Geisser	400.181	3.787	105.672	82.660	0.001	0.655
	Social Relationships	Greenhouse-Geisser	704.504	3.191	220.766	37.209	0.001	0.461
	Environmental Health	Greenhouse-Geisser	192.788	3.657	52.721	52.255	0.001	0.546
Error	Physical Health	Greenhouse-Geisser	188.484	151.292	1.246	—	—	—
	Psychological Health	Greenhouse-Geisser	210.597	164.735	1.278	—	—	—
	Social Relationships	Greenhouse-Geisser	823.622	138.816	5.933	—	—	—
	Environmental Health	Greenhouse-Geisser	160.489	159.071	1.009	—	—	—

These results demonstrate that the main effect of time was statistically significant across all four dimensions of quality of life, with large effect sizes (η^2 ranging from 0.586 to 0.776), indicating substantial improvements over time. Additionally, the significant interaction between time and group membership confirms that the observed changes varied depending on the intervention received. Specifically, participants in the resilience training and acceptance and commitment group training conditions experienced significantly greater gains compared to the control group, with the acceptance and commitment group showing the most pronounced improvements across all domains.

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Table 3

Bonferroni Post Hoc Comparisons of Quality of Life Components by Group and Time

Group	Variable	Comparison	Mean Difference	Std. Error	Sig. (p)
Control	Physical Health	Pre vs. Post	-0.120	0.260	1.000
		Pre vs. Follow-up	0.267	0.314	1.000
		Post vs. Follow-up	0.387	0.225	0.269
	Psychological Health	Pre vs. Post	-0.467	0.297	0.358
		Pre vs. Follow-up	-0.267	0.304	1.000
		Post vs. Follow-up	0.200	0.248	1.000
	Social Relationships	Pre vs. Post	-0.533	0.423	0.634
		Pre vs. Follow-up	-0.333	0.674	1.000
		Post vs. Follow-up	0.200	0.559	1.000
	Environmental Health	Pre vs. Post	0.333	0.251	0.565
		Pre vs. Follow-up	-0.133	0.277	1.000
		Post vs. Follow-up	-0.467	0.211	0.088
Resilience Training	Physical Health	Pre vs. Post	-3.600	0.260	0.001
		Pre vs. Follow-up	-3.273	0.314	0.001
		Post vs. Follow-up	0.327	0.225	0.452
	Psychological Health	Pre vs. Post	-3.240	0.297	0.001
		Pre vs. Follow-up	-2.847	0.304	0.001
		Post vs. Follow-up	0.393	0.248	0.351
	Social Relationships	Pre vs. Post	-3.867	0.423	0.001
		Pre vs. Follow-up	-4.133	0.674	0.001
		Post vs. Follow-up	-0.267	0.559	1.000
	Environmental Health	Pre vs. Post	-2.767	0.251	0.001
		Pre vs. Follow-up	-2.340	0.277	0.001
		Post vs. Follow-up	0.427	0.211	0.138
Acceptance & Commitment Training	Physical Health	Pre vs. Post	-6.733	0.260	0.001
		Pre vs. Follow-up	-6.227	0.314	0.001
		Post vs. Follow-up	0.507	0.225	0.081
	Psychological Health	Pre vs. Post	-6.833	0.297	0.001
		Pre vs. Follow-up	-6.500	0.304	0.001
		Post vs. Follow-up	0.333	0.248	0.549
	Social Relationships	Pre vs. Post	-8.633	0.423	0.001
		Pre vs. Follow-up	-8.933	0.674	0.001
		Post vs. Follow-up	-0.300	0.559	1.000
	Environmental Health	Pre vs. Post	-4.367	0.251	0.001
		Pre vs. Follow-up	-3.947	0.277	0.001
		Post vs. Follow-up	0.420	0.211	0.148

Bonferroni comparisons indicate that the control group showed no statistically significant changes in any of the quality of life subscales between any time points ($p > 0.05$), confirming the stability of their scores over time. In contrast, both experimental groups demonstrated highly significant improvements from pre-test to post-test and from pre-test to follow-up across all domains ($p = 0.001$). However, no significant differences were found between post-test and follow-up scores, suggesting that the gains were maintained over time. Notably, the acceptance and commitment group training yielded the largest mean differences, particularly in the social relationships and psychological health components, highlighting its superior and sustained impact on improving students' quality of life.

Table 4

Between-Subjects Effects for Quality of Life Components by Group

Source	Variable	SS	df	MS	F	p-value
Group	Physical Health	1052.402	2	526.201	27.672	0.001
	Psychological Health	661.526	2	330.763	31.718	0.001
	Social Relationships	1901.252	2	950.626	30.829	0.001

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	Environmental Health	443.054	2	221.527	26.646	0.001
Error	Physical Health	1654.362	87	19.016	—	—
	Psychological Health	907.243	87	10.428	—	—
	Social Relationships	2682.678	87	30.835	—	—
	Environmental Health	723.284	87	8.314	—	—

Following the significant group effect in ANCOVA, Bonferroni post hoc pairwise comparisons were performed to identify which groups differed significantly from each other. As shown in the next table, the results demonstrated that both intervention groups—resilience training and acceptance and commitment group training—reported significantly higher quality of life scores across all subscales compared to the control group (p = 0.001). Furthermore, the acceptance and commitment training group showed significantly higher scores than the resilience training group in all subdomains of quality of life, indicating that it was the more effective of the two interventions.

Table 5

Bonferroni Post Hoc Pairwise Comparisons Between Groups

Variable	Group 1	Group 2	Mean Difference	Std. Error	Sig. (p)
Physical Health	Control	Resilience Training	-2.473	0.650	0.001
	Control	Acceptance & Commitment	-4.836	0.650	0.001
	Resilience Training	Acceptance & Commitment	-2.362	0.650	0.001
Psychological Health	Control	Resilience Training	-1.984	0.481	0.001
	Control	Acceptance & Commitment	-3.833	0.481	0.001
	Resilience Training	Acceptance & Commitment	-1.849	0.481	0.001
Social Relationships	Control	Resilience Training	-3.244	0.828	0.001
	Control	Acceptance & Commitment	-6.500	0.828	0.001
	Resilience Training	Acceptance & Commitment	-3.256	0.828	0.001
Environmental Health	Control	Resilience Training	-1.569	0.430	0.001
	Control	Acceptance & Commitment	-3.138	0.430	0.001
	Resilience Training	Acceptance & Commitment	-1.569	0.430	0.001

The post hoc analysis underscores that students in the acceptance and commitment group training benefited significantly more than both the resilience training group and the control group, across all four quality of life domains. These findings highlight not only the effectiveness of both interventions relative to no treatment, but also the superior impact of the acceptance and commitment protocol in improving physical, psychological, social, and environmental well-being among students from divorced families.

4. Discussion and Conclusion

The findings of the present study demonstrated that both resilience training and acceptance and commitment group training (ACT) significantly improved the quality of life in male students from divorced families. The results showed meaningful improvements in all four subdomains of quality of life—physical health, psychological health, social relationships, and environmental health—in both experimental groups, with the ACT group exhibiting the highest levels of improvement. In contrast, the control group showed no significant changes over time. These findings confirm the efficacy of both intervention models and particularly underscore the superior effectiveness of ACT-based group training in enhancing adolescents' overall quality of life.

The observed improvements in the resilience training group align with previous research indicating that resilience-enhancing programs improve adolescents' ability to cope with emotional challenges, develop prosocial behaviors, and strengthen their capacity to adapt to stressful life events, such as parental divorce (Pione et al., 2023; Taherkhani et al., 2023). Resilience training, by focusing on emotional regulation, empathy development, and problem-solving, likely facilitated improvements in students' psychological and social functioning. These findings resonate with the results of Karimi Dastaki and Mahmudi (Karimi Dastaki & Mahmudi, 2024), who reported that life meaning workshops significantly increased students' resilience and perceived social support. Given that emotional self-regulation and supportive social connections are essential components of adolescent well-being, it is unsurprising that participants in the resilience group showed notable improvements across

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quality of life domains. Furthermore, the findings support the broader conclusion that resilience is a malleable trait that can be fostered through structured interventions in school settings (Shin & Choi, 2023).

In comparison, students who participated in the ACT group training demonstrated the most substantial gains across all domains, indicating a higher level of efficacy than resilience training. ACT's emphasis on psychological flexibility, values-based living, and acceptance of distressing thoughts appears to have played a crucial role in transforming students' subjective experience of their circumstances. This finding is consistent with multiple studies showing ACT's broad effectiveness across clinical and non-clinical populations. For example, Konstantinou et al. (Konstantinou et al., 2023) in a meta-analysis of ACT interventions for chronic health conditions found significant improvements in quality of life and symptom reduction. Similarly, Rose et al. (Rose et al., 2023) showed that ACT significantly enhanced quality of life in patients with muscular diseases. These results highlight ACT's relevance not only in medical contexts but also in psychosocial interventions for adolescents facing family disruptions.

The particularly large effect sizes observed in the ACT group may be attributed to ACT's unique mechanism of action. By helping participants de-fuse from negative thoughts and focus on purposeful action, ACT empowers adolescents to view their parental divorce not as a defining trauma but as one part of their life experience. This shift toward acceptance and committed action likely contributed to their improvements in psychological and social domains. This explanation is reinforced by the findings of Fang et al. (Fang et al., 2023) and Zhang et al. (Zhang et al., 2023), both of whom reported that ACT interventions increased psychological flexibility and reduced emotional suffering in people facing chronic stressors, including cancer and fatigue. For adolescents, whose cognitive and emotional development is ongoing, the ability to separate oneself from self-defeating narratives and instead focus on values-aligned goals is a particularly powerful skill (Spencer, 2023).

The superiority of ACT over resilience training is further supported by evidence from comparative studies. Taghvaeinia et al. (Taghvaeinia et al., 2024) reported that ACT outperformed both dialectical behavior therapy and mindfulness-based stress reduction in enhancing quality of life and reducing anxiety and depression in patients with irritable bowel syndrome. Similarly, Rouhi et al. (Rouhi et al., 2023) found that ACT was more effective than dialectical behavior therapy in improving integrative self-knowledge and emotion regulation among patients on hemodialysis. These findings provide additional evidence for ACT's flexible application across diverse psychosocial contexts, and its particular strength in fostering acceptance, psychological insight, and adaptive action.

Moreover, the results align with findings by Enayati Shabkolai et al. (Enayati Shabkolai et al., 2023), who demonstrated that ACT-based intervention improved social adaptation and cognitive flexibility in students with learning disorders. The improvements seen in our study in the social relationships domain among ACT participants can similarly be attributed to the method's capacity to increase students' willingness to engage with others authentically, even when experiencing emotional discomfort. ACT helps students develop an internal sense of direction anchored in their values rather than external validation or fear of emotional pain (Fang et al., 2023; Jin et al., 2023). In the case of children of divorce, this shift in perspective is crucial for building resilience, social competence, and ultimately, a better quality of life.

Notably, while both interventions were effective, the ACT group maintained more stable improvements during the follow-up period compared to the resilience group, which showed slight decreases in some domains. This sustained effect suggests that ACT may promote deeper cognitive and emotional restructuring, while resilience training may depend more on external reinforcement and continued practice. This hypothesis finds support in the study by Pouryounes Abkenar et al. (Pouryounes Abkenar et al., 2024), which found long-term benefits of mindfulness-based cognitive therapy (a related third-wave approach) on quality of life and resilience in women with chronic pain. The psychological skills taught in ACT, such as mindfulness and defusion, may lead to more durable internal changes than those developed through behavioral techniques alone.

Another noteworthy aspect of the current findings is that even though resilience training was less effective than ACT, it still yielded statistically and clinically significant improvements in participants' quality of life. This reinforces the idea that different therapeutic approaches can be effective in different ways. While ACT may offer a more profound reorganization of cognitive and emotional processes, resilience training offers practical tools for navigating adversity and strengthening internal resources. Both are valuable, especially when implemented in a school-based framework where access to individualized therapy may be limited (Fatollahzadeh et al., 2023; Pione et al., 2023).

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Finally, the study contributes to the growing body of Iranian research supporting the adaptation and localization of Western-derived therapies. The current findings echo those of Karimian et al. (Karimian et al., 2023), who demonstrated ACT's effectiveness in improving quality of life in patients with irritable bowel syndrome in an Iranian clinical setting. Likewise, Asadalah Salmanpour and Pasha (Asadalah Salmanpour & Pasha, 2023) found that ACT improved happiness, mental health, and life quality in mothers of autistic children. These culturally grounded studies, alongside our findings, demonstrate that ACT can be effectively tailored for Iranian adolescents dealing with complex emotional and familial challenges.

5. Suggestions and Limitations

Despite its strengths, this study is not without limitations. First, the sample was limited to male students from a single geographic region, which restricts the generalizability of the findings to female students and other populations. Second, the sample size, although adequate for statistical analysis, was relatively small, and participants were selected through convenience sampling, which may introduce selection bias. Third, while follow-up data were collected, the duration of follow-up was limited, making it difficult to draw conclusions about the long-term stability of intervention effects. Additionally, the use of self-report questionnaires may have introduced response bias due to social desirability or lack of introspective accuracy. Finally, although the study controlled for age at the time of divorce and the duration since divorce, other potentially influential variables—such as parental conflict, socioeconomic status, and current custody arrangements—were not accounted for.

Future research should consider larger and more diverse samples, including female students and students from different cultural and socioeconomic backgrounds, to improve the generalizability of the findings. Longitudinal studies with extended follow-up periods are needed to assess the durability of intervention effects over time. Researchers should also explore the combined effects of resilience training and ACT to determine whether an integrated approach could yield even greater improvements. Moreover, qualitative methods such as interviews or focus groups could provide deeper insights into participants' subjective experiences and the mechanisms through which these interventions exert their effects. Investigating mediators such as psychological flexibility, emotional intelligence, and social support could help clarify how each intervention brings about change.

Given the positive outcomes observed in this study, schools and counseling centers should consider implementing both resilience training and ACT as part of their mental health services, particularly for students dealing with the emotional consequences of parental divorce. ACT, in particular, should be prioritized when aiming for long-term, value-oriented change. Training school counselors and psychologists in delivering these interventions can help increase access to effective, evidence-based support. Moreover, group formats allow for cost-effective delivery and the added benefit of peer interaction, which may enhance intervention outcomes. Policymakers in education should also promote the inclusion of life skills training and psychological support programs in school curricula to improve student well-being and academic engagement.

Authors' Contributions

This article is derived from the first author's master's thesis at the Ashtian Branch of Islamic Azad University, Ashtian, Iran. All authors have contributed significantly to the research process and the development of the manuscript.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants. It received ethical approval under the identifier IR.IAU.ARAK.REC.1403.064 from the Research Ethics Committee of the Faculty of Medicine at Islamic Azad University, Arak Branch.

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