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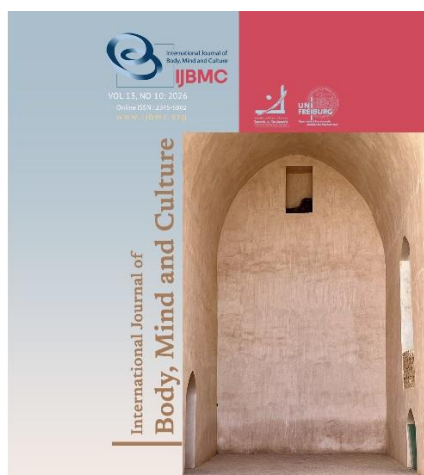
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Comparing the Effectiveness of Intensive Short-Term Psychodynamic Therapy and Acceptance and Commitment Therapy on Empathy in Adolescents with High-Risk Behaviors

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ABSTRACT

Objective: This study compared the effectiveness of intensive short-term psychodynamic therapy (ISTDP) and acceptance and commitment therapy (ACT) in improving empathy among adolescents with high-risk behaviors.

Methods and Materials: A quasi-experimental pretest-posttest control-group design with a two-month follow-up was used. The final sample comprised 48 male ninth-grade adolescents referred to Tehran Department of Education counseling centers during the 2024-2025 academic year. Participants were selected purposively and randomly assigned to ISTDP, ACT, and control groups ($n = 16$ each). Screening and outcome assessment used the Iranian Adolescents Risk-Taking Scale and the Empathy Quotient. ISTDP was delivered in 15 sessions and ACT in eight weekly sessions. Data were analyzed using mixed analysis of variance and Bonferroni pairwise comparisons in SPSS version 26.

Findings: Empathy scores increased in both intervention groups and remained largely unchanged in the control group. The time $\times$ group interaction was significant, $F(2.66, 50.48) = 4.55$, $p = .01$, $\eta^2 = .19$, and the between-group effect was significant, $F(2, 38.002) = 4.95$, $p = .01$, $\eta^2 = .21$. Pairwise comparisons showed significant differences between each treatment group and the control group, and ACT showed a significant advantage over ISTDP at follow-up ($p = .02$).

Conclusion: Both ISTDP and ACT were associated with improved empathy in adolescents with high-risk behaviors. The pattern of follow-up scores suggests a more pronounced sustained improvement following ACT, although the small, purposively selected sample warrants cautious interpretation.

Keywords: Intensive Short-Term Psychodynamic Therapy, Acceptance and Commitment Therapy, Empathy, High-Risk Behaviors, Adolescents.

Introduction

Adolescence is a developmental period in which autonomy, peer influence, identity exploration, and rapidly changing social contexts can increase opportunities for experimentation and risk taking. Although risk taking is not uniformly higher across all behaviors during adolescence, the onset of several maladaptive behaviors commonly occurs in this period and may have important educational, interpersonal, and health consequences (Willoughby et al., 2021). In the Iranian context, the Iranian Adolescents Risk-Taking Scale was developed to capture culturally relevant dimensions of adolescent risk behavior, including violence, substance-related behaviors, risky driving, and risky interpersonal or sexual behaviors (Zadeh-Mohammadi et al., 2011). Recent Iranian intervention research has also emphasized the value of psychological approaches for reducing adolescents' tendency toward risky behaviors (Beyranvand et al., 2025).

Empathy is particularly relevant to the interpersonal dimension of adolescent functioning. It is generally understood as a multidimensional capacity involving the recognition and understanding of another person's perspective together with an affective response that remains differentiated from one's own experience (Cuff et al., 2016). Empathic functioning can support perspective taking, social communication, and prosocial behavior; however, empathy should not be treated as a single or sufficient explanation for aggressive or risky behavior. A meta-analysis found only a small overall association between empathy and aggression, underscoring the importance of examining empathy as one component within a broader developmental and psychosocial system (Vachon et al., 2014). The Empathy Quotient provides a widely used self-report approach to assessing individual differences in empathy (Baron-Cohen & Wheelwright, 2004).

One treatment approach that may influence interpersonal and emotional functioning is intensive short-term psychodynamic therapy (ISTDP). The approach developed from Davanloo's work and focuses on identifying and working through defenses, anxiety, and avoided or

conflicted affect within an active therapeutic relationship (Davanloo, 1990). Evidence syntheses have reported beneficial effects of ISTDP across clinical outcomes in adults (Abbass et al., 2012), while reviews of short-term psychodynamic psychotherapy in children and adolescents suggest that psychodynamic approaches can be effective across a range of youth mental health problems, although the evidence base remains methodologically heterogeneous (Abbass et al., 2013). A later narrative synthesis likewise concluded that psychodynamic psychotherapy has a growing evidence base for children and adolescents while emphasizing the need for more rigorous trials (Midgley et al., 2021).

Acceptance and commitment therapy (ACT) offers a different pathway by targeting psychological flexibility through acceptance, cognitive defusion, present-moment awareness, self-as-context, values clarification, and committed action (Hayes et al., 2011). Reviews indicate that ACT can be adapted developmentally for adolescents (Petersen et al., 2024), and randomized evidence suggests benefits for adolescent emotional symptoms through changes in psychological flexibility (López-Pinar et al., 2025). ACT has also improved interpersonal skills in adolescents with social and school adaptation difficulties (Bernal-Manrique et al., 2020). Of particular relevance to the present study, a recent intervention among adolescents involved in crime reported improvement in empathy following an ACT-based program (Genç et al., 2026). Related studies in the International Journal of Body, Mind and Culture have reported favorable ACT effects on risky behaviors and on social-emotional outcomes such as perceived rejection and self-efficacy in adolescents (Beyranvand et al., 2025) (Nakhaeimoghdam et al., 2026).

Despite the clinical relevance of both approaches, direct comparative evidence regarding ISTDP and ACT for empathy among adolescents identified with high-risk behaviors remains limited. Comparing these interventions is theoretically useful because ISTDP emphasizes emotional access and the restructuring of defensive interpersonal patterns, whereas ACT emphasizes flexible engagement with internal experiences and values-guided behavior.

Accordingly, the present study aimed to compare the effectiveness of ISTDP and ACT on empathy in adolescents with high-risk behaviors across pretest, posttest, and two-month follow-up assessments.

Methods and Materials

Study Design and Participants

The study used a quasi-experimental pretest-posttest control-group design with a two-month follow-up. The statistical population consisted of male ninth-grade adolescents with high-risk behaviors who were referred to counseling centers affiliated with the Tehran Department of Education during the 2024-2025 academic year. Based on the study screening procedure, 48 eligible adolescents were selected through purposive sampling and then randomly allocated to three groups: ISTDP ($n = 16$), ACT ($n = 16$), and control ($n = 16$).

Inclusion criteria were identification of high-risk behavior by a psychology professional; a score above 50 on the Iranian Adolescents Risk-Taking Scale according to the study protocol; informed consent to participate; male sex and enrollment in ninth grade; no concurrent psychotherapy; no use of psychiatric medication during the month preceding assessment; and sufficient physical and psychological ability to complete the study procedures. Exclusion criteria were absence from more than two treatment sessions, withdrawal of consent, concurrent participation in another counseling or psychotherapy program, or failure to complete the assessment instruments at pretest, posttest, or follow-up.

Procedure and Ethical Considerations

After administrative coordination with the Tehran Department of Education and the selected counseling centers, potentially eligible adolescents were screened using the risk-taking scale and a clinical interview. Participants and their legal guardians received information about the purpose and procedures of the study, confidentiality, voluntary participation, and the right to withdraw without penalty. The 48 eligible participants were randomly allocated to the three groups before the pretest. The ISTDP and ACT interventions were then implemented separately, while the

control group received no psychological intervention during the study period. The posttest was administered immediately after completion of the interventions, and the follow-up assessment was conducted approximately two months later. The control group was offered access to psychological support after the study period.

Instruments

Iranian Adolescents Risk-Taking Scale (IARS): The IARS was developed for Iranian adolescents and consists of 38 items assessing seven dimensions of risk taking: dangerous driving, violence, cigarette smoking, drug use, alcohol use, relationships with the opposite sex, and sexual relationships/behaviors. Items are rated on a five-point Likert scale, producing a total score ranging from 38 to 190, with higher scores indicating greater risk-taking tendency. In the original psychometric study, the seven-factor structure explained 64.84% of the variance, Cronbach's alpha was .94 for the total scale, and subscale alpha coefficients ranged from .74 to .93 (Zadeh-Mohammadi et al., 2011). In the present study, Cronbach's alpha for the total scale was .83.

Empathy Quotient (EQ): Empathy was assessed using the Empathy Quotient developed by Baron-Cohen and Wheelwright. The original instrument contains 60 statements, of which 40 contribute to the empathy score and 20 are filler items. Responses are scored to yield a total empathy score from 0 to 80, with higher scores indicating greater empathic functioning (Baron-Cohen & Wheelwright, 2004). In an Iranian validation study among 720 high-school students, factor analysis supported cognitive empathy, social skills, and emotional reactivity components; internal consistency was .88 and four-week test-retest reliability was .80 (Abolghasemi, 2010).

Intensive Short-Term Psychodynamic Therapy Protocol

ISTDP was delivered in 15 90-minute sessions. The intervention followed core Davanloo principles, including trial therapy, attention to the triangles of conflict and person, identification of tactical defenses, clarification, challenge, pressure, and work with avoided affect (Davanloo, 1990). Because the source protocol summarized its content in eight thematic blocks rather than providing distinct content for all

15 meetings, Table 1 presents the principal intervention components implemented across the treatment course.

Table 1.

Core Components of the Intensive Short-Term Psychodynamic Therapy Protocol

Component	Treatment content (interventions)
Component 1	In the first session, the rules for conducting the treatment sessions will be explained and an initial interview will be conducted using a dynamic sequence, which is called trial therapy, in order to provide an initial assessment of the individual's problem.
Component 2	In the second session, if the person gives an adequate response to the trial therapy, follow-up will be carried out. From this point onward, that is, from the second session, depending on the ongoing movement within the triangle of conflict, the triangle of person, and the eleven types of defenses used by the individual, the appropriate and effective interventions related to each one will be implemented; and this process will continue up to the final sessions, depending on the type of defenses employed by the person. The common tactical defenses and the effective interventions related to each of them are briefly described below.
Component 3	Working with tactical defenses of veiled words (speaking in an indirect or wrapped-up manner) and overinclusive/umbrella words. Effective interventions: doubting, challenging, and challenging the defense.
Component 4	Examining the specialized terms used by individuals; tactical defenses of indirect speech and pathological and potential pathological thoughts. Effective intervention: challenging the person's defenses and expressing doubt about the defense.
Component 5	Examining the defenses of mental rumination and rationalization. Effective interventions, in order: clarification, requesting a definite response, doubting the defense, challenging the defense, and blocking the defense.
Component 6	Defenses of rationalization, overgeneralization, and broad, sweeping statements. Effective interventions: clarification, blocking (barrier building), challenging and specifying, and challenging the defense.
Component 7	Tactics of diversion and forgetting. Effective interventions: blocking the defense and expressing doubt about the defense, and challenging the defense.
Component 8	Denial and rejection. Effective interventions: clarification, expressing doubt about the defense, and challenging the defense. Preparing to terminate treatment; focusing on feelings of loss in relation to the ending of therapy; terminating treatment and administering the posttest.

Acceptance and Commitment Therapy Protocol

ACT was delivered in eight weekly 90-minute group sessions based on the psychological flexibility model described by Hayes and colleagues (Hayes et al., 2011). The

program incorporated creative hopelessness, acceptance, cognitive defusion, present-moment awareness, self-as-context, values clarification, and committed action. The session structure is summarized in Table 2.

Table 2.

Acceptance and Commitment Therapy Program

Session	Main content	Content type	Objectives
1	Administration of the pretest; participants' acquaintance with one another and with the therapist; explanation of group rules, goals, and group structure; therapeutic commitments; introductory discussion about acceptance and commitment therapy	Semantic-procedural knowledge	Becoming familiar with the rules and general principles of acceptance and commitment therapy.
2	Assessing clients' problems from the perspective of acceptance and commitment therapy; identifying experiences of experiential avoidance, cognitive fusion, and personal values; preparing a list of the advantages, disadvantages, and typical control strategies used to manage problems	Semantic-procedural knowledge	Becoming familiar with some core ACT concepts, including experiential avoidance, cognitive fusion, and psychological acceptance; identifying avoidance situations and allowing negative thoughts to come and go without fighting them or deliberately trying to prevent them.
3	Clarifying the ineffectiveness of controlling negative events using metaphors; teaching and implementing the therapeutic techniques of cognitive defusion, mindfulness/psychological awareness, and self-as-context (self-imagery)	Semantic-procedural knowledge	Developing awareness of the here-and-now and an interest in staying with what is currently happening rather than escaping it; learning to manage negative events using metaphors and to practice cognitive defusion, psychological awareness, and self-as-context.
4	Teaching therapeutic techniques of emotional awareness and wise awareness (using the "victim of your mind" metaphor); separating evaluations from personal experiences; adopting an observing stance toward thoughts without judgment	Semantic-procedural knowledge	Focusing on the entire mental state, thoughts, and behaviors in the present moment without any judgment, in a way that leads to psychological flexibility and positive emotions.
5	Teaching the therapeutic technique of self-as-context and practicing mindfulness techniques; connecting with the present moment and viewing the self as context; teaching mindfulness skills to foster acceptance of negative emotions	Semantic-procedural knowledge	Striving to gain a sense of transcendence and to accept negative emotions using the techniques learned.
6	Teaching therapeutic techniques related to personal values, clarifying values, and teaching emotion regulation (using the "bad cup" metaphor)	Semantic-procedural knowledge	Identifying core personal values and planning goals based on those values; preparing a list of obstacles to realizing values and generating positive emotions.
7	Teaching therapeutic techniques related to personal values and committed action, and enhancing interpersonal effectiveness (using the "chessboard" metaphor)	Semantic-procedural knowledge	Using metaphors and planning to commit to pursuing personal values and to create a sense of meaning in life.

8	Reviewing and practicing the therapeutic techniques taught, with an emphasis on emotion regulation and a sense of meaning in life in the real world; administration of the posttest	Semantic-procedural knowledge	Explaining the outcomes of the sessions and applying the learned techniques in real-life situations in order to create a sense of meaning and positive emotions; arranging the follow-up session to be held two months later.
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Analysis

Data were analyzed using SPSS version 26. Means and standard deviations were used to describe empathy scores across groups and measurement occasions. Assumptions for mixed analysis of variance were examined using tests of normality, Levene's test for homogeneity of variances, Box's M test for homogeneity of variance-covariance matrices, and Mauchly's test of sphericity. Because the sphericity assumption was violated, Greenhouse-Geisser corrected degrees of freedom were used for within-subject effects. Mixed analysis of variance was then conducted to evaluate time, group, and time $\times$ group effects, followed by Bonferroni-adjusted pairwise comparisons. Statistical significance was set at $p < .05$.

Table 3.

Mean and Standard Deviation of Empathy Scores Across Measurement Phases

Group	Phase	Mean	Standard deviation
Control	Pretest	59.13	14.93
	Posttest	58.47	14.72
	Follow-up	58.87	14.28
Short-term psychodynamic therapy	Pretest	60.40	16.21
	Posttest	64.33	15.80
	Follow-up	74.13	15.70
Acceptance and commitment therapy	Pretest	59.27	13.45
	Posttest	76.93	19.34
	Follow-up	77.87	19.78

Before the mixed analysis of variance, the distribution of empathy scores was examined and was considered acceptable for parametric analysis. Levene's tests were nonsignificant at pretest ($F = 0.186$, $p = .20$), posttest ($F = 1.105$, $p = .123$), and follow-up ($F = 1.33$, $p = .263$). Box's M test was also nonsignificant ($M = 29.73$, $F = 1.04$, $p = .32$), supporting homogeneity of the variance-covariance matrix. Mauchly's test indicated violation of sphericity; therefore,

Findings and Results

The final sample included 48 male adolescents, with 16 participants in each group. The reported mean (SD) age was 15.43 (0.05) years in the ISTDP group, 15.63 (0.02) years in the ACT group, and 15.47 (0.04) years in the control group. Table 3 presents empathy scores at pretest, posttest, and follow-up. The control group showed little change over time, whereas both intervention groups showed higher empathy scores after treatment. The ACT group showed the largest immediate posttest increase, while both intervention groups maintained higher scores at follow-up than at pretest.

Greenhouse-Geisser corrected results are reported for within-subject effects.

As shown in Table 4, the main effect of time was not statistically significant, $F(1.33, 50.48) = 0.46$, $p = .56$, $\eta^2 = .01$. However, the time $\times$ group interaction was significant, $F(2.66, 50.48) = 4.55$, $p = .01$, $\eta^2 = .19$, indicating that the pattern of change in empathy differed among groups. The between-subjects group effect was also significant, $F(2, 38.002) = 4.95$, $p = .01$, $\eta^2 = .21$.

Table 4.
Mixed Analysis of Variance for Empathy

Variable	Source	Sum of squares	df	Mean square	F	p	Effect size (η^2)
Empathy	Within-subjects: Time	292.98	1.33	220.53	0.46	0.56	0.01
	Time $\times$ Group	5812.2	2.66	2187.5	4.55	0.01	0.19
	Error	24283.19	50.48	481.02	–	–	–
	Between-subjects: Group	2255.22	2	1127.61	4.95	0.01	0.21
	Error	8656.41	38.002	227.8	–	–	–

Bonferroni-adjusted pairwise comparisons are presented in Table 5. There were no statistically significant baseline differences between either intervention group and the control group. At posttest, both ISTDP and ACT differed significantly from the control condition ($p = .01$). At follow-up, ISTDP remained significantly different from the control

group ($p = .01$), and the reported comparison between ACT and ISTDP was statistically significant ($p = .02$). Considered together with the descriptive means, these findings indicate improvement in empathy following both interventions, with a larger sustained score in the ACT group at follow-up.

Table 5.
Bonferroni Pairwise Comparisons of Empathy Scores

Phase	Group 1	Group 2	Mean difference (Group 1 – Group 2)	Test statistic	p
Pretest	Short-term psychodynamic therapy	Control	–1.27	1.235	0.231
	Acceptance and commitment therapy	Control	1.13	1.36	0.37
Posttest	Short-term psychodynamic therapy	Control	–5.86	9.06	0.01
	Acceptance and commitment therapy	Control	–12.6	10.13	0.01
Follow-up	Short-term psychodynamic therapy	Control	–15.26	13.92	0.01
	Acceptance and commitment therapy	Short-term psychodynamic therapy	–3.74	5.79	0.02

Discussion and Conclusion

The present study compared ISTDP and ACT for improving empathy among adolescents with high-risk behaviors. The principal finding was that change in empathy differed across the three groups: both intervention groups improved relative to the control group, and the ACT group showed the highest empathy scores at posttest and follow-up. The statistically significant time $\times$ group interaction supports the interpretation that the observed pattern was associated with the intervention condition rather than a uniform change over time. At follow-up, the reported pairwise comparison also indicated a statistically significant difference between ACT and ISTDP.

The ACT findings are theoretically consistent with the psychological flexibility model. By learning to notice internal experiences without automatically reacting to them, adolescents may gain greater capacity to pause, take perspective, and respond in ways that are more consistent with personally meaningful social values (Hayes et al., 2011).

Developmentally informed reviews describe ACT as adaptable to adolescent cognitive and interpersonal needs (Petersen et al., 2024), while adolescent trials have demonstrated improvement in interpersonal functioning (Bernal-Manrique et al., 2020). Most directly, an ACT-based intervention in adolescents involved in crime produced gains in empathy alongside improvements in psychological flexibility (Genç et al., 2026). These findings offer a plausible empirical context for the increase in empathy observed in the present ACT group.

The present results are also compatible with emerging Iranian evidence on ACT in adolescent populations. ACT has been associated with lower risky-behavior tendencies among adolescents experiencing parent-child conflict (Beyranvand et al., 2025), and with improved social-emotional outcomes including lower perceived social rejection and greater self-efficacy (Nakhaeimoghadam et al., 2026). These outcomes are conceptually relevant because empathic responding requires engagement with interpersonal information rather than rigid avoidance, self-

protective withdrawal, or impulsive responding. The present study extends that line of work by focusing specifically on empathy as the outcome.

ISTDP also produced meaningful improvement, particularly by follow-up. From a psychodynamic perspective, adolescents who rely on defensive avoidance, projection, intellectualization, or other strategies to manage difficult affect may have less access to nuanced emotional information in themselves and others. ISTDP explicitly focuses on recognizing defenses, regulating anxiety, and facilitating direct experience of underlying feelings within the therapeutic relationship (Davanloo, 1990). Meta-analytic and review evidence suggests that short-term psychodynamic treatments can be beneficial, including for younger populations, although study quality and clinical heterogeneity remain important considerations (Abbass et al., 2012) (Abbass et al., 2013) (Midgley et al., 2021). Greater access to affect and less defensive distortion may therefore provide one pathway by which psychodynamic work could enhance empathy.

The larger ACT scores at posttest and follow-up should be interpreted as a finding of this specific study rather than evidence of general superiority across clinical outcomes. ACT directly rehearses observable skills such as present-moment attention, defusion, acceptance, perspective taking, values clarification, and committed interpersonal action; these skills may map more immediately onto questionnaire-based empathy responses. Evidence syntheses of adolescent ACT also support psychological flexibility as a relevant process of change (López-Pinar et al., 2025). ISTDP, in contrast, may involve a more individualized course of affective and relational change whose expression can vary substantially across clients. Direct comparative studies with treatment-fidelity assessment and larger samples are needed to determine whether the difference observed here replicates.

Several limitations should be considered. Participants were male adolescents recruited purposively from counseling centers in one city, limiting generalizability to girls, adolescents in other age groups, community samples, and other regions. The final sample was relatively small.

Empathy was measured by self-report rather than by behavioral or informant-based methods, and variables such as motivation for treatment, family functioning, concurrent stressors, and baseline severity of specific risk behaviors were not modeled as covariates. The follow-up period was limited to two months. In addition, the study did not report formal treatment-fidelity ratings or therapist effects. Future research should use larger multisite samples, blinded or multimethod empathy assessment, longer follow-up intervals, and predefined fidelity procedures.

In conclusion, both ISTDP and ACT were associated with increased empathy among adolescents with high-risk behaviors compared with the control condition. ACT showed the largest descriptive gains and a statistically significant advantage over ISTDP at the reported follow-up comparison. These findings support further investigation of both emotion-focused psychodynamic processes and psychological flexibility-based interventions as potential approaches for strengthening interpersonal functioning in adolescents at behavioral risk.

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Declaration of Interest

The authors declare no conflict of interest.

Ethical Considerations

Participation was voluntary. Adolescents and their legal guardians were informed about the study procedures, confidentiality, and the right to withdraw. Data were analyzed and reported at the group level, and identifying information was not included in the manuscript.

Transparency of Data

Data supporting the findings may be made available by the corresponding author upon reasonable request, subject to ethical and confidentiality requirements.

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Authors' Contributions

All authors contributed to the conception of the study, implementation, data interpretation, manuscript preparation, and final review.

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