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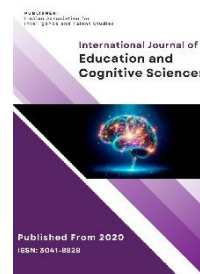
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Determining the Effectiveness of Emotion-Focused Therapy on Psychological Well-being, Self-efficacy, and Happiness Among Lower Secondary School Female Students in Shiraz

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ABSTRACT

Purpose: The purpose of this study is to identify the components and indicators influencing the selection process of textbook authors within Iran's educational system.

Methods and Materials: Given the nature of the study, the research design is descriptive, and considering its objective, it is of an applied type. Methodologically, the study employed a survey approach. The statistical population consisted of experts, faculty members, and curriculum specialists involved in the selection of textbook authors. Data collection tools included interviews and questionnaires, and the fuzzy Delphi technique was applied. A total of 50 participants were selected using a non-random snowball sampling method.

Findings: The results indicated that out of 18 identified components, 13 were considered significant based on a significance threshold of 8.94. These components included: teaching experience at various levels of the formal education system (9.35), participation in authorship, research, or prior curriculum planning (10.48), familiarity with learning psychology and instructional design principles (10.82), commitment to the Fundamental Reform Document of Education (9.36), familiarity with the National Curriculum (10.41), adherence to localization approaches (9.68), understanding of overarching educational goals (9.09), recognition of cultural and civilizational identity requirements (10.44), ability to simplify complex concepts (10.94), use of age-appropriate language (14.61), incorporation of practical examples and applications (11.90), proficiency in Persian writing style (11.36), and attention to students' individual differences (11.36). These components were deemed key factors in shaping the indicators for selecting textbook authors.

Conclusion: Based on the analyzed dimensions and indicators, it can be concluded that the selection of textbook authors is not only a technical process but also a strategic issue that ensures educational quality, reinforces cultural identity, and aligns the education system with scientific advancements and contemporary societal needs. The results highlighted that the three dimensions—"academic expertise and teaching experience," "alignment with policy documents," and "educational writing

ability”—interact synergistically to establish a framework capable of producing content that is scientific, localized, engaging, and learner-centered. Neglecting any of these dimensions or their associated indicators could result in textbooks that are scientifically weak, lack identity-building value, or fail to achieve educational effectiveness. Therefore, rethinking the policy-making and design of the author selection system is an urgent and strategic necessity for the future of national education.

Keywords: *Emotion-Focused Therapy; Psychological well-being; Self-Efficacy; Happiness*

1. Introduction

Adolescence is a sensitive and formative stage of human development characterized by profound biological, psychological, and social transitions that shape the foundation of future well-being. Within this dynamic period, the regulation of emotions, beliefs about personal competence, and the pursuit of happiness play pivotal roles in determining one's psychological stability and adjustment. In particular, adolescent girls face a range of challenges—both internal and external—that may compromise their psychological well-being, diminish their sense of self-efficacy, and reduce their capacity for sustained happiness. These psychological constructs are not only central to academic performance and social integration but also serve as protective buffers against future psychopathology (Rivas et al., 2022; Williams, 2019).

The rise in emotional disturbances such as anxiety, low self-esteem, and social withdrawal among adolescents has prompted a growing interest in therapeutic interventions that target affective and metacognitive processes. One such approach is Emotion-Focused Therapy (EFT), originally developed to address adult distress but increasingly recognized for its effectiveness in youth populations. EFT emphasizes the processing, exploration, and transformation of maladaptive emotional experiences into adaptive ones through guided affective awareness and interpersonal interactions (Wells & Nordahl, 2023; Zekri et al., 2024). By helping adolescents identify and regulate their emotional responses, EFT enables them to reinterpret their experiences in more empowering and psychologically integrated ways. This emotional restructuring fosters not only cognitive

clarity but also enhanced self-efficacy and emotional balance (Kazemi, 2024; Luther et al., 2016).

Cognitive well-being, a central construct in this study, refers to an individual's subjective evaluation of life satisfaction, psychological coherence, and inner harmony. Research underscores the multidimensionality of well-being, highlighting that emotional regulation, self-appraisal, and perceived competence significantly contribute to its development (Bahr & et al., 2019; Parola et al., 2020). Moreover, self-efficacy—the belief in one's ability to initiate and sustain goal-directed actions—has emerged as a robust predictor of adolescent resilience, academic achievement, and interpersonal competence (Güner & Erbay, 2021; Mahmoud Alilou et al., 2020). Adolescents with higher levels of self-efficacy tend to approach challenges with confidence and adaptability, qualities that are increasingly critical in today's complex and often unpredictable social environment.

Happiness, defined as the prevalence of positive affect, life satisfaction, and the absence of negative affect, serves as a core indicator of positive mental health. Multiple studies reveal that happiness is not merely a fleeting emotion but a stable psychological trait influenced by internal cognitive and affective patterns as well as external environmental factors (Rezazadeh et al., 2023; Suda & et al., 2022). In adolescence, happiness is closely tied to a sense of belonging, perceived autonomy, and the ability to manage emotional experiences. Consequently, therapeutic approaches that enhance emotional intelligence and cognitive restructuring hold promise for significantly improving happiness levels among adolescents (Benjamin et al., 2021; Tabassum et al., 2023).

The theoretical rationale for employing Emotion-Focused Therapy in the adolescent population is further supported by research linking emotional regulation to cognitive processes such as metacognition, social cognition, and executive function. According to Wells and Nordahl (2023), effective mental regulation requires an integrative understanding of one's emotions and beliefs, a domain directly addressed by EFT. Similarly, research on populations with emotional and cognitive impairments has shown that targeted emotion-based interventions can restore functional neural pathways and improve outcomes related to mood and motivation (Diop et al., 2022; Motut et al., 2023). These findings highlight the neuropsychological and behavioral relevance of emotion-focused interventions in enhancing adolescent well-being.

Moreover, there is compelling evidence that emotion-focused approaches are particularly effective in contexts marked by developmental vulnerability, including early adolescence. Studies by Goodarzi et al. (2019) and Jokar Kamalabadi et al. (2021) illustrate how emotion-based cognitive remediation can lead to improved executive function and affective stability among adolescents with clinical and subclinical psychological symptoms. These improvements are typically mediated by gains in emotional processing speed, cognitive flexibility, and meta-awareness—all of which are actively cultivated in EFT sessions (Aghighi Ravan, 2018; Motavallibashi Naeini, 2018).

In addition, research in the domain of metacognition—the capacity to reflect on and regulate one's own thinking—has reinforced the significance of integrative therapies like EFT in facilitating mental health among adolescents. Metacognitive awareness enables young individuals to identify emotional triggers, reframe negative thought patterns, and deploy adaptive coping strategies (Asdolahzadeh et al., 2021; Kul et al., 2024). The dialogic structure of EFT, which invites participants to explore their internal narratives and emotional memories, serves as a powerful metacognitive tool for promoting psychological insight and emotional growth (Afar & Bilgiç, 2021; Rivas et al., 2022).

Emotion-Focused Therapy also complements contemporary educational psychology research, which emphasizes emotional well-being and self-directed learning as foundational to student success. For example, Rezazadeh et al. (2023) demonstrated that research-based teaching strategies that cultivate metacognition and emotional intelligence significantly enhance learning outcomes and psychological resilience. These findings align with the goals

of EFT, which aims to foster emotional literacy and personal empowerment among adolescents. When implemented in school settings, EFT can serve as both a preventive and remedial tool to address emotional difficulties before they escalate into more severe psychological disorders (Kazemi, 2024; Zekri et al., 2024).

Additionally, several empirical investigations have explored the physiological correlates of emotion dysregulation and their responsiveness to therapeutic interventions. For instance, heart rate variability (HRV)—a biomarker of autonomic nervous system functioning—has been used to evaluate the efficacy of interventions like EFT. Findings by Afar and Bilgiç (2021) and Benjamin et al. (2021) indicate that improved emotional regulation through therapeutic practices is associated with enhanced HRV, reflecting better autonomic flexibility and reduced stress reactivity. Such physiological markers add a layer of objective validity to the subjective improvements observed in emotion-focused therapies.

Cultural considerations also play an essential role in determining the relevance and effectiveness of therapeutic modalities in different populations. In Iranian adolescent populations, for instance, emotional suppression and lack of self-expression are often reinforced by sociocultural norms. Therapeutic models like EFT, which provide structured yet empathetic spaces for emotional exploration, offer culturally sensitive methods for challenging maladaptive beliefs and enhancing emotional openness (Ashayeri, 2018; Jokar Kamalabadi et al., 2021). This cultural alignment enhances therapeutic engagement and facilitates deeper psychological change.

Furthermore, existing literature suggests that adolescents undergoing EFT report increased internal coherence, improved relational quality with peers and family, and a greater sense of personal agency. These findings resonate with the work of scholars such as Parola et al. (2020), who demonstrate that therapeutic interventions enhancing emotional clarity and executive control contribute meaningfully to psychosocial integration and academic functioning. EFT thus represents a comprehensive approach to fostering both intrapersonal and interpersonal growth in adolescence (Mahmoud Alilou et al., 2020; Wells & Nordahl, 2023).

In sum, this study seeks to evaluate the effectiveness of Emotion-Focused Therapy in enhancing three critical dimensions of adolescent mental health: cognitive well-being, self-efficacy, and happiness.

2. Methods and Materials

2.1. Study Design and Participants

This applied study employed a quantitative, quasi-experimental method using a pretest–posttest design with a two-month follow-up period and a control group. The statistical population comprised all female lower secondary school students aged 13 to 15 in Shiraz during the 2024–2025 academic year. After obtaining the ethics code from Islamic Azad University, Shiraz Branch, the researcher used a multistage cluster sampling method to select two girls' schools from educational districts in Shiraz. Then, based on prior studies and Delavar's (2019) research methods textbook, 46 students were randomly selected and assigned to the experimental group ($n = 23$) and the control group ($n = 23$). The sample was randomly selected and assigned through lottery. The sample size was determined according to quasi-experimental design guidelines, recommending a minimum of 30 participants (15 per group), but 46 participants were included (23 per group) to enhance the generalizability of results. Inclusion criteria were: girls aged 13–15, willingness to cooperate (with written informed consent from both the student and her parents), no prior engagement in similar therapy during the research, absence of diagnosed psychological disorders, and no use of specific medications. Exclusion criteria included absence from sessions, unwillingness to cooperate, failure to complete exercises and assignments during group sessions, incomplete responses to questionnaires, and the emergence of serious physical or psychological illnesses or family/academic issues affecting the research outcomes.

After receiving ethical approval (code: IR.IAU.SHIRAZ.REC.1403.279) from the ethics committee of Islamic Azad University, Shiraz Branch, the researcher selected two educational districts randomly through multistage cluster sampling. From two selected girls' lower secondary schools, two classrooms were chosen randomly. Based on previous studies and Delavar's (2019) statistics textbook, 46 participants were randomly selected and randomly assigned to either the experimental group ($n = 23$) or the control group ($n = 23$), matched for age. The researcher established rapport with the students and their parents and explained the purpose, significance, and confidentiality of the research. Upon obtaining written informed consent, the pretest was administered to both the experimental and control groups. The experimental group then received Emotion-Focused Therapy (EFT) based on Sue Johnson's (2004) protocol in 9 weekly sessions of 90

minutes each. These sessions trained students in identifying, understanding, and managing their emotions using various EFT techniques. After the intervention, both groups completed the posttest. Additionally, the experimental group participated in a follow-up assessment after two months. To express appreciation, a single therapy session was also held for the control group. Participants were fully informed about the research process, including potential risks and benefits. No harm or risk was posed to participants, and ethical approval was secured prior to the study.

2.2. Measures

The Oxford Happiness Inventory (OHI) consists of 29 items and measures individual happiness. Developed by Michael Argyle in 1989, it was based on the Beck Depression Inventory (BDI, 1976), with 21 reversed items from the BDI and 11 additional items to assess various aspects of mental health. Each item is rated on a 4-point Likert scale ($A = 0, B = 1, C = 2, D = 3$), with total scores ranging from 0 to 87. Higher scores indicate greater happiness, while lower scores suggest dissatisfaction or depression. The normative score range is 40–42. Argyle et al. reported a Cronbach's alpha of .90 and a test–retest reliability of .78 over seven weeks. Concurrent validity with peer ratings was .43. Correlations with the Bradburn Positive Affect Scale (.32), Argyle's Life Satisfaction Index (.57), and Beck's Depression Inventory (–.52) further confirmed its validity. A study by Alipour and Agha-Harris (2007) with 369 Tehran-based employees and students (mean age 24 years, 11 months; age range 18–53) reported a Cronbach's alpha of .85 for the OHI.

The Psychological Well-being Scale developed by Ryff in 1980 (revised in 2002) contains 18 items in its short form (originally 129 items). It includes six subscales: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. Correlation analyses indicated significant positive associations with life satisfaction, Oxford Happiness, and Rosenberg Self-esteem Scales at $p < .001$ ($r = .47, .58$, and $.46$, respectively), supporting the scale's validity. Cronbach's alpha coefficients ranged from .70 to .78 in Iranian samples and .80 in international studies. Test–retest reliability was reported as .82. Subscale reliabilities were also strong: self-acceptance (.71), positive relations (.77), autonomy (.78), environmental mastery (.77), purpose in life (.70), and personal growth (.78), all significant at $p < .001$. The overall Cronbach's alpha of the scale was .86.

Developed by Morris (2001), this questionnaire measures self-efficacy across three domains: social, academic, and emotional. It consists of 23 items rated on a 5-point Likert scale (1 = not at all, 5 = very much), with items like “How well can you express your opinion when classmates disagree with you?” Total scores range from 23 to 115: 23–38 = low self-efficacy, 39–76 = moderate, above 76 = high. In a validation study by Tahmasian (2005), test–retest reliability confirmed stability across dimensions, and Cronbach’s alpha was reported at .93.

2.3. Intervention

In the present study, Sue Johnson’s (2004) Emotion-Focused Therapy protocol was implemented over nine weekly sessions, each lasting 90 minutes. The intervention followed a structured three-phase model. In the first phase (identification), the initial sessions focused on building therapeutic rapport, assessing the nature of the participant’s difficulties, introducing the rationale of EFT, identifying negative interaction cycles, and uncovering attachment insecurities and emotional patterns. In sessions three and four, the focus shifted to exploring and reconstructing emotional experiences, highlighting key emotional responses, and facilitating client insight into maladaptive cycles. The second phase (change) involved deepening emotional engagement through the recognition of unmet attachment needs, fostering personal emotional experiences, and enhancing internal and interpersonal functioning. Sessions five and six aimed to increase emotional responsiveness, facilitate new patterns of interaction, and help clients articulate desires and needs more clearly. The

third phase (consolidation) emphasized the development of new solutions to recurring problems, transforming maladaptive interaction cycles into positive ones, and reinforcing a coherent sense of self and relational security. The final sessions (seven to nine) focused on applying therapeutic gains to daily life, strengthening the emotional bond with the therapist, reviewing changes made during therapy, comparing past and present interaction patterns, and administering the post-test to evaluate treatment effectiveness.

2.4. Data Analysis

Descriptive statistics (mean and standard deviation) were used to describe the main variables. For inferential statistics, the hypotheses were tested using Repeated Measures Analysis of Variance (RM-ANOVA) to examine the effectiveness of Emotion-Focused Therapy on psychological well-being, self-efficacy, and happiness. Assumptions for parametric RM-ANOVA—including absence of outliers, normality, homogeneity of variances, homogeneity of variance–covariance matrices, and equality of error covariances—were assessed using appropriate statistical tests. Data were analyzed using SPSS version 28.

3. Findings and Results

In this study, participants were between the ages of 13 and 15, and the two groups were matched in terms of age. In each group, 9 participants (18 in total) were 13 years old, 8 participants in each group were 14 years old, and 6 participants were 15 years old.

Table 1

Descriptive Statistics of Psychological well-being and Its Components by Group and Time

Dependent Variable	Stage	Experimental (M)	SD	Control (M)	SD
Psychological well-being	Pre-test	64.61	7.10	68.83	7.76
	Post-test	76.83	7.08	69.57	7.35
	Follow-up	74.48	7.15	69.61	7.61
Self-efficacy	Pre-test	67.09	7.45	70.70	6.28
	Post-test	73.26	7.70	70.83	7.70
	Follow-up	72.43	8.41	71.35	7.16
Happiness	Pre-test	36.87	9.47	37.52	5.77
	Post-test	41.43	8.53	39.13	5.92
	Follow-up	42.13	8.68	38.43	6.62

In the emotion-focused therapy group, Psychological well-being improved significantly from a pre-test mean of 64.61 to 76.83 at post-test (an increase of 12.22), and remained elevated at 74.48 in the follow-up stage (a

sustained increase of 9.87). Similarly, self-efficacy improved from 67.09 to 73.26 (an increase of 6.17) and remained stable at 72.43 (a total increase of 5.34). Happiness also rose from 36.87 to 41.43 (an increase of 4.56), and

reached 42.13 at follow-up (a total increase of 5.26). In contrast, the control group showed negligible changes, with

happiness increasing by only 1.61 points post-test and dropping slightly at follow-up.

Table 2

Multivariate Test Results for Differences Between Group Scores on Main Variables

Test	Value	F	df	p	Eta
Pillai's Trace	0.739	36.74	3	<0.001	0.739
Wilks' Lambda	0.261	36.74	3	<0.001	0.739
Hotelling's Trace	2.830	36.74	3	<0.001	0.739
Roy's Greatest Root	2.830	36.74	3	<0.001	0.739

As shown in Table 2, multivariate tests such as Wilks' Lambda and others indicated a statistically significant difference between the experimental and control groups across the combined dependent variables ($p < 0.001$). These

results suggest that the emotion-focused therapy intervention had a significant multivariate effect on at least one of the outcome variables.

Table 3

ANCOVA Results in MANCOVA for Effectiveness of the Intervention on Dependent Variables

Dependent Variable	SS	DF	MS	F	p	Eta
Psychological well-being	1231.95	1	1231.95	72.82	<0.001	0.640
Self-efficacy	426.47	1	426.47	50.99	<0.001	0.554
Happiness	83.56	1	83.56	9.22	0.004	0.184

According to Table 3, the ANCOVA results confirmed that emotion-focused therapy had a statistically significant effect on all three dependent variables: Psychological well-being, self-efficacy, and happiness ($p < 0.05$). The effect sizes were strongest for psychological well-being ($\eta^2 = 0.640$), followed by self-efficacy ($\eta^2 = 0.554$), and happiness ($\eta^2 = 0.184$), indicating that the intervention was most impactful in enhancing mental well-being. These results support the study's primary hypotheses regarding the effectiveness of emotion-focused therapy.

4. Discussion and Conclusion

The present study investigated the effectiveness of Emotion-Focused Therapy (EFT) on cognitive well-being, self-efficacy, and happiness in adolescent girls aged 13 to 15. The results from the pre-test, post-test, and follow-up stages confirmed the significant impact of EFT on all three dependent variables, with the experimental group showing substantial improvements across cognitive well-being (from $M = 64.61$ to $M = 76.83$), self-efficacy (from $M = 67.09$ to $M = 73.26$), and happiness (from $M = 36.87$ to $M = 41.43$), whereas the control group remained largely unchanged. Multivariate analysis also confirmed a significant group-by-time interaction effect (Wilks' Lambda = 0.261, $p < 0.001$),

indicating that the observed changes were not random but attributable to the EFT intervention. These findings affirm the central hypothesis that structured emotion-focused interventions significantly improve key domains of adolescent psychological functioning.

The significant increase in cognitive well-being among the experimental group aligns with previous studies emphasizing the role of emotional regulation in the construction and maintenance of psychological well-being. Research has consistently shown that adolescents who are better equipped to understand and manage their emotions exhibit greater coherence in thought and behavior, which directly enhances their sense of meaning, autonomy, and self-acceptance (Kazemi, 2024; Wells & Nordahl, 2023). As suggested by Zekri et al. (2024), EFT fosters self-reflective capacities by integrating emotion with cognitive processes, thereby promoting psychological insight and reducing internal conflict. This is consistent with the structure of the intervention used in this study, where participants learned to identify maladaptive emotional cycles and reconstruct these narratives using adaptive emotional scripts. Furthermore, the cognitive restructuring achieved through EFT complements findings by Rezazadeh et al. (2023), who highlighted the

mediating role of cognitive-emotional integration in enhancing well-being in educational contexts.

The observed improvements in self-efficacy are also in line with metacognitive frameworks that view emotional processing as integral to the development of personal agency and behavioral competence. Adolescents who understand the source and function of their emotions are more likely to feel in control of their actions and more confident in their ability to cope with challenges. This has been emphasized by Motut et al. (2023), who found that metacognition and self-awareness directly influence belief in one's capabilities. In the context of the present study, EFT facilitated such metacognitive shifts by encouraging participants to reframe emotional struggles not as personal failures but as meaningful indicators of unmet needs. This interpretation is supported by findings from Güner and Erbay (2021), who identified that metacognitive training improves problem-solving skills and boosts self-efficacy. By learning to identify emotional needs and respond constructively, participants in the experimental group likely experienced a shift in their perceived self-efficacy, which was evident in the post-intervention assessments.

Happiness, conceptualized here as a balance between positive affect, life satisfaction, and absence of negative emotions, also improved significantly in the experimental group. These findings resonate with prior research indicating that the ability to process and reframe emotions is foundational to long-term emotional well-being (Benjamin et al., 2021; Suda & et al., 2022). According to Tabassum et al. (2023), the emotional awareness cultivated in therapy has a direct moderating effect on happiness, particularly in populations struggling with internal emotional turmoil. In this study, the structured format of EFT—comprising identification, transformation, and consolidation of emotional experiences—likely contributed to participants' improved emotional resilience and satisfaction with life. As Parola et al. (2020) noted, interventions that address both emotional and cognitive domains are more effective in sustaining positive affect over time, especially in adolescents who are neurologically and socially susceptible to affective instability.

Furthermore, the sustained improvement noted at follow-up for all three dependent variables underscores the durability of EFT's effects. This long-term retention can be attributed to the integrative nature of EFT, which combines emotional processing with interpersonal learning and self-reflection. As demonstrated by Diop et al. (2022), the inclusion of reflective and interpersonal components in

therapy leads to more enduring changes in emotional and cognitive functioning. The role of emotional insight in promoting psychological coherence was also emphasized by Luther et al. (2016), who found that interventions enhancing metacognitive insight resulted in lasting improvements in motivation and affect regulation in youth. Thus, the follow-up results in this study provide further support for EFT as a developmentally appropriate and neurologically informed intervention.

The alignment of these findings with previous empirical studies strengthens the case for using EFT with adolescent populations. For instance, studies by Mahmoud Alilou et al. (2020) and Asdolahzadeh et al. (2021) have confirmed the efficacy of emotion-oriented interventions in improving executive function and emotional regulation in adolescents with elevated risk profiles. Moreover, by addressing maladaptive emotional responses and enabling clients to reprocess their experiences, EFT supports the development of metacognitive clarity, which is crucial for long-term psychological resilience (Kul et al., 2024; Wells & Nordahl, 2023). These therapeutic gains mirror the mechanisms identified in cognitive-emotional models of adolescent mental health, where emotional insight, behavioral activation, and cognitive reframing operate synergistically.

The cultural relevance of EFT in the Iranian context further enhances its applicability. Adolescents in Iran often face cultural norms that discourage open emotional expression, which can contribute to emotional suppression and psychological distress. As highlighted by Ashaieri (2018), this suppression can lead to a rise in paranoid thoughts and emotional dysregulation. In this context, EFT provides a culturally adaptable therapeutic model that promotes emotional literacy in a structured, respectful, and empathetic framework. The findings of this study corroborate those of Jokar Kamalabadi et al. (2021), who emphasized the importance of emotional training in reducing cognitive distortions in youth from collectivist cultures. By offering a safe environment for emotional exploration, EFT facilitates self-understanding and improves intrapersonal and interpersonal dynamics among adolescents.

Physiological evidence also supports the psychological improvements observed in this study. As noted by Afar and Bilgiç (2021), emotional regulation therapies lead to changes in autonomic nervous system functioning, particularly heart rate variability (HRV), a biological marker of stress regulation. Improvements in HRV have been linked to increased emotional flexibility, decreased anxiety, and enhanced well-being, reinforcing the multidimensional

benefits of EFT. Similar conclusions were drawn by Bahr et al. (2019), who found that therapeutic regulation of emotional responses modulates neurobiological pathways associated with mood and motivation. Although the present study did not include physiological measurements, the psychological improvements align with these physiological findings, suggesting underlying neurobiological shifts consistent with improved emotional functioning.

Finally, this study contributes to the growing body of evidence advocating for integrative and developmentally sensitive approaches to adolescent mental health. The structured design of EFT, its grounding in attachment theory, and its focus on emotional transformation make it uniquely suited for addressing the complex emotional needs of adolescents. By focusing on internal emotional experiences rather than external behaviors alone, EFT empowers adolescents to become active agents in their psychological development. This therapeutic empowerment is not only clinically significant but also educationally relevant, as students with greater emotional and cognitive clarity are more likely to succeed in academic and social contexts (Rezazadeh et al., 2023; Rivas et al., 2022).

Despite its contributions, this study is not without limitations. First, the relatively small sample size ($n = 46$) limits the generalizability of the findings. Larger and more diverse samples are necessary to strengthen external validity. Second, the study exclusively targeted female adolescents within a specific age range (13–15 years) in Shiraz, which may restrict the applicability of findings to male adolescents or different age groups and cultural settings. Third, the study relied solely on self-report instruments, which may introduce bias due to social desirability or limited self-awareness among participants. Additionally, the absence of physiological or behavioral outcome measures limits the depth of interpretation regarding the full impact of the intervention. Lastly, while the follow-up period (two months) offered insights into short-term retention of therapeutic effects, longer follow-up durations are needed to assess the sustainability of outcomes.

Future studies should aim to replicate these findings using larger, more heterogeneous samples that include adolescents of different genders, socio-economic backgrounds, and geographical regions. Incorporating longitudinal designs with follow-up periods extending beyond six months would help determine the long-term efficacy and stability of EFT's outcomes. Researchers should also consider integrating multi-method assessment approaches, such as observational measures, behavioral tasks, or neurophysiological indicators

like HRV, to triangulate self-reported data. Moreover, comparative studies examining the differential effectiveness of EFT versus other therapeutic approaches—such as cognitive-behavioral therapy, dialectical behavior therapy, or mindfulness-based interventions—would provide a clearer understanding of EFT's unique contributions. Finally, future research could explore the mediating and moderating roles of cultural variables, attachment styles, and baseline metacognitive abilities in the efficacy of EFT.

Practitioners working with adolescents are encouraged to integrate Emotion-Focused Therapy into school-based and clinical mental health programs, particularly for those struggling with emotional regulation, low self-efficacy, and dissatisfaction with life. Given its structured yet flexible format, EFT can be adapted to individual, group, and family settings, making it a versatile tool for intervention. Educators and school counselors should receive specialized training in EFT techniques to foster emotionally supportive educational environments. Moreover, integrating emotional literacy and self-reflection exercises into the school curriculum may enhance the effectiveness of therapeutic efforts. Policymakers in mental health and education should consider supporting the implementation of emotion-focused interventions as preventive strategies to bolster adolescent mental health across diverse contexts.

Authors' Contributions

All authors significantly contributed to this study.

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

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the interview and participated in the research with informed consent (Ethics Code: IR.IAU.SHIRAZ.REC.1403.279).

References

- Afar, & Bilgiç. (2021). Analysis of heart rate variability during auditory stimulation periods in patients with schizophrenia. *J. Clin. Monit. Comput.*, 29, 153-162. <https://doi.org/10.1007/s10877-014-9580-8>
- Aghighi Ravan, F. (2018). *Investigating the effectiveness of cognitive rehabilitation on executive functions of attention and working memory in elderly stroke patients* Payame Noor University, South Tehran Branch].
- Asdolazadeh, P., Sadeghi, J., & Abbasi Asfajir, A. A. (2021). Modeling the Structural Equations of Mode Metacognition with a Tendency to Cyberspace Mediated by Self-efficacy in Gifted Students [Research Article]. *Iranian Journal of Educational Sociology*, 4(2), 14-23. <https://doi.org/10.52547/ijes.4.2.14>
- Ashaieri, F. (2018). *The role of social cognition, social defeat sensation, and emotional empathy in predicting paranoid thoughts in individuals with schizophrenia* Mohaghegh Ardabili University]. Faculty of Educational Sciences and Psychology.
- Bahr, & et al. (2019). Use of the second-generation antipsychotic, risperidone, and secondary weight gain associated with an altered gut microbiota in children. *Transl. Psychiatry*, 5, e652. <https://doi.org/10.1038/tp.2015.135>
- Benjamin, et al., Güner, P., & Erbay, H. N. (2021). Heart rate variability is associated with disease severity in psychosis spectrum disorders. *Prog. Neuro-Psychopharmacol.* <https://doi.org/10.1016/j.pnpbp.2020.110108>
- Diop, S., Turmes, L., Specht, C., Seehagen, S., Juckel, G., & Mavrogiorgou, P. (2022). Capacities for meta-cognition, social cognition, and alexithymia in postpartum depression. *Psychiatry research*, 309, 114430. <https://doi.org/10.1016/j.psychres.2022.114430>
- Güner, P., & Erbay, H. N. (2021). Metacognitive skills and problem-solving. *International Journal of Research in Education and Science (IJRES)*, 7(3), 715-734. <https://doi.org/10.46328/ijres.1594>
- Jokar Kamalabadi, N., Ghamari Kivi, H., & Khaleghkhah, A. (2021). *The effectiveness of motor exercises on time perception in patients with schizophrenia and normal individuals* Mohaghegh Ardabili University]. <https://elmnnet.ir/article/10640306-2941/>
- Kazemi, N. (2024). *Metacognition in Teaching Social Skills*. Tavanai Publications.
- Kul, A. T., Uğurlu, G. K., & Gündoğmuş, İ. m. (2024). The Effects of Metacognition on Social Functioning in Patients With Obsessive-Compulsive Disorder. *Psychiatric Annals*, 54(4). <https://doi.org/10.3928/00485713-20240131-01>
- Luther, L., Firmin, R. L., Minor, K. S., Vohs, J. L., Buck, B., Buck, K. D., & Lysaker, P. H. (2016). Metacognition deficits as a risk factor for prospective motivation deficits in schizophrenia spectrum disorders. *Psychiatry research*, 245, 172-178. <https://doi.org/10.1016/j.psychres.2016.08.032>
- Mahmoud Alilou, M., Samad, H., & Shirvani, A. (2020). Comparison of executive functions and sustained attention in students with obsessive-compulsive symptoms, high schizotypy, and overlapping symptoms with a normal group. *Journal of Behavioral Sciences*, 9(3), 216-220. <https://rbs.mui.ac.ir/article-1-204-fa.html>
- Motavallibashi Naeini, A. (2018). *Investigating the model of the relationship between executive functions and aggression in male adolescents in the first secondary school period* Payame Noor University, Baharestan Isfahan Branch].
- Motut, A., Isaac, C., Castillo, M.-C., & Januel, D. (2023). Link Between Metacognition and Social Cognition in Schizophrenia: A Systematic Review and Meta-Analysis. *Frontiers in Psychiatry*, 14. <https://doi.org/10.3389/fpsy.2023.1285993>
- Parola, A., Salvini, R., Gabbatore, I., Colle, L., Berardinelli, L., & Bosco, F. M. (2020). Pragmatics, theory of mind and executive functions in schizophrenia: disentangling the puzzle using machine learning. *PLoS One*, 15(3), e0229603. <https://doi.org/10.1371/journal.pone.0229603>
- Rezazadeh, M., Hosseinzadeh, B., & hosseini daroon kalaie, z. (2023). The Designing a Model of Effect of Research-Based Teaching Management on Metacognition Management with Mediating Role of Organizational Climate (Case Study: Mazandaran Education Department). *Sociology of Education*, 9(1), 215-230. <https://doi.org/10.22034/ijes.2023.560574.1345>
- Rivas, S. F., Saiz, C., & Ossa, C. (2022). Metacognitive Strategies and Development of Critical Thinking in Higher Education. *Front Psychol*, 13, 913219. <https://doi.org/10.3389/fpsyg.2022.913219>
- Suda, & et al. (2022). Effects long-acting injectable antipsychotics versus oral antipsychotics on autonomic nervous system activity in schizophrenic patients. *Neuropsychiatr. Dis. Treat.*, 14, 2361-2366. <https://doi.org/10.2147/NDT.S173617>
- Tabassum, S., Hussain, S. D., & Shafiq, S. (2023). Metacognitions and Obsessive-Compulsive Symptoms in Ocd Patients: Moderating Role of Guilt Sensitivity. *Pakistan Journal of Social Research*, 05(02), 1037-1049. <https://doi.org/10.52567/pjsr.v5i02.1216>
- Wells, A., & Nordahl, H. (2023). Metacognition and mental regulation. In D. J. A. Dozois & K. S. Dobson (Eds.), *Treatment of psychosocial risk factors in depression*, 383-406. <https://psycnet.apa.org/record/2023-26212-017>
- Williams. (2019). Cardiac autonomic neuropathy in obesity, the metabolic syndrome and prediabetes: a narrative review. *Diabetes Ther.*, 10, 1995-2021. <https://doi.org/10.1007/s13300-019-00693-0>
- Zekri, S. M., Yasagh, F., Jalalvand, A., Mokarram, M., & Eghbalpour, F. (2024). The Effectiveness of Integrative Approach Logo Therapy and Hope Therapy on Dysfunctional Metacognitive Beliefs of Mothers of Autistic Children: The effectiveness of integrated method on mothers of autistic children. *International Journal of Body, Mind and Culture*, 11(5), 687-701. <https://doi.org/10.22122/ijbmc.v11i5.646>