



Journal Website

Article history:
Received 30 October 2025
Revised 13 February 2026
Accepted 20 February 2026
Initial Published 22 February 2026
Final Publication 01 June 2026

Iranian Journal of Neurodevelopmental Disorders

Volume 5, Issue 2, pp 1-10



E-ISSN: 2980-9681

Effectiveness of Anger Management Training on Aggression and Social Adjustment of Working Children in Sari City

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Article Info

Article type:

Original Research

How to cite this article:

Amirnezhad, E., Heydari, S., & Eshaghi Gorji, H. (2026). Effectiveness of Anger Management Training on Aggression and Social Adjustment of Working Children in Sari City. *Iranian Journal of Neurodevelopmental Disorders*, 5(2), 1-10.

<https://doi.org/10.61838/kman.jndd.729>



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ABSTRACT

Purpose: The present study aimed to investigate the effectiveness of anger management training on reducing aggression and improving social adjustment among working children in Sari City.

Methods and Materials: This applied study employed a quasi-experimental design with a pretest–posttest structure and a control group. The statistical population consisted of working children supported by the Behesht-e Koodakan Institute under the supervision of the Sari Welfare Organization. Thirty children aged 12–15 years were selected using convenience sampling based on inclusion and exclusion criteria and were randomly assigned to an experimental group ($n = 15$) and a control group ($n = 15$). The experimental group participated in a cognitive–behavioral anger management training program conducted in 12 weekly sessions lasting 90 minutes each, while the control group received no intervention. Data were collected using the Buss–Perry Aggression Questionnaire and the California Social Adjustment Questionnaire. Statistical analysis was conducted using multivariate analysis of covariance (MANCOVA) and univariate ANCOVA in SPSS version 27 after verifying statistical assumptions.

Findings: Results of multivariate analysis of covariance indicated a statistically significant effect of anger management training on the combined dependent variables. Univariate analyses demonstrated significant differences between the experimental and control groups in aggression and social adjustment at posttest after controlling for pretest scores ($p < .05$). The intervention produced a substantial reduction in aggression levels and a significant increase in social adjustment scores in the experimental group compared with the control group. Effect size indices indicated that a considerable proportion of variance in aggression and social adjustment outcomes was attributable to participation in the anger management training program.

Conclusion: The findings suggest that cognitive–behavioral anger management training is an effective psychological intervention for reducing aggressive behaviors and enhancing social adjustment among working children.

Keywords: anger management training, aggression, social adjustment, working children

1. Introduction

Child labor represents one of the most persistent social and psychological challenges affecting children worldwide, particularly in developing and transitional societies where economic hardship, family instability, migration, and limited access to social protection systems increase children's vulnerability to early employment. Working children are frequently exposed to stressful environments, hazardous living conditions, social marginalization, and disrupted educational experiences, all of which influence their psychological development and behavioral adjustment. Research indicates that child labor is not merely an economic phenomenon but a multidimensional psychosocial issue that profoundly affects emotional regulation, interpersonal functioning, and long-term mental health outcomes (Pirkhandan et al., 2021; Vosoughi Asl & Abbasi, 2023). The pressures associated with work responsibilities during developmental periods often deprive children of opportunities necessary for adaptive emotional growth, increasing susceptibility to aggression, impulsivity, and maladaptive coping responses.

From a developmental psychology perspective, childhood and early adolescence constitute critical stages for acquiring emotional self-regulation and social competence. When children encounter chronic stressors such as economic exploitation, family dysfunction, or exposure to unsafe work environments, the formation of adaptive emotional regulation mechanisms becomes compromised. Studies comparing working children with non-working peers have consistently demonstrated elevated levels of anger, anxiety, and behavioral dysregulation among working children, highlighting their heightened psychological vulnerability (Afkhani Ardakani & Choobforoushzadeh, 2021). These findings underscore the importance of preventive and therapeutic psychological interventions targeting emotional regulation and behavioral adjustment within this population.

Aggression is one of the most commonly reported behavioral outcomes among children exposed to adverse social conditions. Aggressive behavior often emerges as a maladaptive response to frustration, perceived injustice, chronic stress, and lack of supportive social networks. School-based and community psychosocial studies suggest that unmanaged anger plays a central mediating role linking environmental stressors to aggressive conduct (Healy et al., 2020). In working children, aggression may serve both defensive and communicative functions, reflecting unmet emotional needs, perceived threats, or accumulated

psychological strain. Without structured intervention, such patterns can persist into adolescence and adulthood, increasing risks of delinquency, academic disengagement, and social isolation.

Social adjustment constitutes another fundamental domain affected by early labor experiences. Social adjustment refers to an individual's ability to establish effective interpersonal relationships, comply with social norms, regulate emotions in social contexts, and adapt constructively to environmental demands. Cognitive and emotional competencies are strongly associated with successful social adaptation across developmental stages (Curran, 2020; Warren et al., 2022). Children engaged in labor frequently experience reduced peer interaction, limited participation in educational environments, and stigmatization, all of which hinder the development of social skills and adaptive communication patterns. Consequently, interventions designed to enhance emotional awareness and behavioral self-control may simultaneously improve both aggression levels and social adjustment capacities.

Anger, as a basic human emotion, plays a functional role when expressed appropriately; however, chronic or poorly regulated anger can lead to destructive behavioral outcomes. Cognitive-behavioral theories emphasize that anger reactions are largely influenced by cognitive appraisals, irrational beliefs, and learned behavioral responses rather than external events alone. Cognitive-behavioral anger management approaches therefore focus on identifying dysfunctional thought patterns, restructuring maladaptive beliefs, and teaching adaptive coping strategies (Rielly & Shopshire, 2019). These interventions aim to transform anger from an impulsive reaction into a manageable emotional experience guided by cognitive control and self-awareness.

Anger management training has gained substantial empirical support across diverse populations. Evidence suggests that structured anger management programs improve emotional regulation, reduce aggression, and enhance psychological well-being in educational, clinical, and occupational contexts. For example, anger management interventions have been shown to strengthen self-leadership and emotional self-regulation among students, indicating their broader developmental benefits beyond symptom reduction (Park, 2025). Similarly, research examining teachers demonstrated that anger management skills contribute to improved stress management and quality of professional life through enhanced coping mechanisms (Hivertas, 2025). These findings highlight the adaptability of



anger management approaches across age groups and social environments.

Within educational and therapeutic settings, anger management programs grounded in cognitive restructuring and emotional awareness have demonstrated effectiveness in improving psychological functioning. Studies among nurses and other high-stress professional groups revealed that anger management interventions significantly reduced perceived stress and emotional exhaustion while improving emotion regulation capacities (Aghbolaghi et al., 2022; Turan, 2021). Comparable outcomes have been reported among prisoners and individuals experiencing psychosocial stressors, where anger management training effectively reduced aggressive behavior and enhanced emotional control (Sadrollah & Mirtalebian, 2023). These findings support the generalizability of anger management interventions as evidence-based psychosocial strategies.

Research focusing specifically on children and adolescents further confirms the efficacy of anger management programs. Intervention studies among students have demonstrated reductions in depression, anxiety, stress, and aggressive behaviors following structured anger management training (Shokouhi Yekta et al., 2019). Mindfulness-based and positive psychology interventions targeting adolescents similarly report improvements in aggression regulation and emotional adjustment (Taheri et al., 2022). Moreover, anger management programs integrated into educational environments have shown positive effects on discipline, emotional awareness, and behavioral regulation among youth populations (Agus & Denis, 2025). These findings indicate that early intervention during developmental periods can prevent the consolidation of maladaptive emotional patterns.

In addition to reducing aggression, anger management interventions contribute to broader psychosocial competencies, including resilience, assertiveness, and social functioning. Empirical evidence suggests that training programs emphasizing emotional awareness and behavioral skills significantly enhance social adjustment and adaptive interpersonal behaviors among students (Mashalchian et al., 2024). Comparative studies further demonstrate that anger management training improves social self-efficacy and psychosocial empowerment, suggesting that emotional regulation skills facilitate more effective social participation (Ghobadi et al., 2021). Such outcomes are particularly relevant for working children, whose social development may be disrupted by occupational demands and environmental adversity.

Family context and caregiver stress also play important roles in the psychosocial functioning of working children. Research examining mothers of working children indicates that anger management and self-awareness training improve quality of life and emotional functioning within family systems (Seifi & Askari, 2022). Because children's emotional regulation skills are strongly influenced by family interactions and modeling processes, interventions targeting anger regulation may generate systemic benefits extending beyond individual participants. Addressing emotional regulation at both individual and relational levels may therefore enhance the sustainability of intervention outcomes.

Despite increasing evidence supporting anger management interventions, relatively limited research has focused specifically on working children as a high-risk population. Studies investigating anger management training among working children have reported significant reductions in aggressive behaviors following intervention programs, emphasizing the necessity of targeted psychosocial support for this vulnerable group (Khankesh et al., 2020). Given the cumulative psychosocial risks associated with child labor—including exposure to violence, economic stress, and limited educational engagement—developing structured intervention programs tailored to their developmental needs is essential.

Taken together, the literature suggests that aggression and poor social adjustment among working children are influenced by complex interactions between environmental stressors, cognitive processes, emotional regulation deficits, and social deprivation. Cognitive-behavioral anger management training provides a theoretically grounded and empirically supported framework capable of addressing these multidimensional challenges simultaneously. By teaching children to recognize emotional triggers, challenge irrational beliefs, employ adaptive coping strategies, and practice constructive interpersonal behaviors, anger management interventions may promote psychological resilience and healthier social functioning.

Considering the increasing prevalence of working children and the psychological risks associated with child labor, implementing evidence-based emotional regulation programs represents an important preventive and rehabilitative strategy. While prior research has demonstrated the effectiveness of anger management training across diverse populations, further empirical investigation is needed to evaluate its impact on aggression reduction and social adjustment improvement among

working children within community support institutions. Therefore, the aim of the present study was to investigate the effectiveness of anger management training on aggression and social adjustment among working children in Sari City.

2. Methods and Materials

2.1. Study Design and Participants

The present study was applied in terms of purpose and quasi-experimental in nature, employing a pretest–posttest design with a control group. The statistical population consisted of all working children supported by the Behesht-e Koodakan Institute in Sari County, operating under the supervision of the Sari Welfare Organization, who had active case records at the center. In this study, 30 participants who met the inclusion and exclusion criteria were selected using convenience sampling. Participants were randomly assigned to an experimental group ($n = 15$) and a control group ($n = 15$). Inclusion criteria included being between 12 and 15 years of age, acceptance following the initial interview, and being classified as a working child. Exclusion criteria included absence from more than two training sessions, simultaneous participation in psychotherapy or counseling sessions, lack of adequate physical condition to respond to questionnaire items, and unwillingness to continue participation in the study.

2.2. Measures

The Aggression Questionnaire was developed by Buss and Perry (1992) to assess multiple dimensions of aggression, including physical aggression, verbal aggression, anger, and hostility. The original version consisted of six factors and 52 items. After combining the resentment and suspicion factors under the hostility dimension and removing or modifying several items, the final version included 29 items across four primary factors: physical aggression (9 items), verbal aggression (5 items), anger (7 items), and hostility (8 items). Responses to the Buss–Perry Aggression Questionnaire are scored using a five-point Likert scale. The total aggression score is obtained by summing the scores of the subscales. The overall questionnaire score reflects general aggression, whereas subscale scores represent different manifestations of aggressive behavior.

Social adjustment was assessed using the California Personality Inventory (CPI) Social Adjustment Questionnaire developed by Clark et al. (1953). This

instrument was designed to measure various life adjustment domains encompassing both personal and social adjustment poles. The questionnaire consists of 180 dichotomous (Yes/No) items. It includes 12 subscales, half of which measure personal adjustment (Items 1–90) and the other half assess social adjustment (Items 91–180). Scoring is conducted based on Yes/No responses. The questionnaire was validated in the study by Bahmani (2015). In the study conducted by Yazdian Esfahani (2011), test–retest reliability over a one-month interval was reported as 0.652.

2.3. Intervention

The anger management training program was implemented as the experimental intervention across 12 weekly sessions, each lasting 90 minutes, for participants in the experimental group. The protocol was grounded in cognitive–behavioral therapy (CBT) principles derived from Albert Ellis’s rational–emotive approach, emphasizing awareness of the relationship between irrational thoughts and maladaptive behavioral responses in order to promote more rational cognitive appraisal and adaptive behavioral regulation (Sarason & Sarason, 1999). The first session focused on introducing treatment goals, establishing group rules, presenting the conceptual framework and rationale of anger management, discussing misconceptions about anger, understanding anger as a habitual response, introducing anger measurement, and presenting initial anger-control guidelines. In the second session, previous assignments were reviewed and participants learned to analyze their personal anger cycles, identify triggering events, and recognize early warning signs of anger activation. The third session introduced cognitive–behavioral strategies and the development of individualized anger-control plans. The fourth session addressed the aggression cycle and included progressive muscle relaxation training to enhance physiological regulation. During the fifth session, participants were trained in the ABCD cognitive model and the thought-stopping technique, followed by structured practice assignments. The sixth session involved consolidation and review of previously learned anger management concepts along with evaluation and homework assignments. The seventh and eighth sessions emphasized assertiveness training, differentiation between aggression, passivity, and assertive behavior, and conflict resolution skills. The ninth and tenth sessions promoted deeper self-understanding of anger experiences, examined family-related anger dynamics, and included ongoing evaluation

and home practice. The eleventh and twelfth sessions were devoted to reviewing all therapeutic concepts, assisting participants in developing personalized anger management plans, and practicing learned skills to facilitate maintenance and generalization of treatment outcomes.

2.4. Data Analysis

In this study, descriptive statistical methods (frequency, percentage, graphical representation, and mean) were used to describe and classify the data. Cronbach's alpha coefficient was applied to determine questionnaire reliability. To test the research hypotheses, after examining homogeneity of variance, normality of data distribution, and

other assumptions required for parametric statistics, multivariate analysis of covariance (MANCOVA) was employed. All statistical analyses were performed using SPSS software, version 27.

3. Findings and Results

As indicated by the data, 53.33% of participants in the experimental group were girls and 46.67% were boys. In the control group, 40% of participants were girls and 60% were boys. Regarding age distribution, 40% of participants in the experimental group were aged 12–13 years and 60% were aged 14–15 years. In the control group, 66.67% were aged 12–13 years and 33.33% were aged 14–15 years.

Table 1

Descriptive Statistics of Research Variables

Variable	Experimental Group Pretest Mean (SD)	Experimental Group Posttest Mean (SD)	Control Group Pretest Mean (SD)	Control Group Posttest Mean (SD)
Physical Aggression	33.13 (1.846)	28.33 (2.093)	33.00 (1.852)	32.93 (1.438)
Verbal Aggression	19.73 (1.033)	16.47 (1.125)	19.40 (1.121)	19.53 (0.990)
Anger	27.33 (1.718)	23.80 (2.042)	27.20 (1.821)	27.47 (1.457)
Hostility	29.27 (1.335)	25.07 (1.534)	29.40 (1.242)	29.27 (0.961)
Total Aggression	109.47 (4.033)	93.67 (3.976)	109.00 (2.699)	109.20 (2.178)
Personal Adjustment	43.87 (2.066)	49.13 (2.200)	44.20 (2.366)	43.27 (2.463)
Social Adjustment	40.73 (2.251)	45.27 (1.870)	41.13 (2.326)	41.60 (1.502)
Overall Social Adjustment	84.60 (3.269)	94.40 (3.225)	85.33 (3.498)	84.87 (2.900)

As shown in Table 1, in the experimental group the pretest mean scores for physical aggression, verbal aggression, anger, and hostility were 33.13, 19.73, 27.33, and 29.27, respectively, whereas posttest mean scores decreased to 28.33, 16.47, 23.80, and 25.07. In the control group, pretest mean scores for physical aggression, verbal aggression, anger, and hostility were 33.00, 19.40, 27.20, and 29.40, respectively, and posttest means were 32.93, 19.53, 27.47, and 29.27. The total aggression mean score in the experimental group decreased from 109.47 at pretest to 93.67 at posttest, whereas in the control group the mean score changed minimally from 109.00 at pretest to 109.20 at posttest.

Regarding adjustment variables, the experimental group demonstrated increases in personal adjustment and social adjustment scores, rising from 43.87 and 40.73 at pretest to 49.13 and 45.27 at posttest, respectively. In contrast, the control group showed slight changes, with personal adjustment scores decreasing from 44.20 to 43.27 and social adjustment scores increasing marginally from 41.13 to 41.60. The overall social adjustment mean score in the

experimental group increased from 84.60 at pretest to 94.40 at posttest, whereas the control group showed a slight decrease from 85.33 to 84.87.

Prior to conducting multivariate analysis of covariance (MANCOVA), statistical assumptions were examined. The homogeneity of covariance matrices was assessed using Box's M test, which yielded a non-significant result (Box's $M = 7.065$, $F = 1.040$, $df_1 = 6$, $df_2 = 5680.302$, $p = .397$), indicating that the assumption of equality of variance-covariance matrices across groups was satisfied. Homogeneity of error variances was evaluated using Levene's test. The results demonstrated non-significant values for aggression ($F = 0.415$, $df_1 = 1$, $df_2 = 28$, $p = .524$) and social adjustment ($F = 2.421$, $df_1 = 1$, $df_2 = 28$, $p = .131$), confirming that error variances were equal across the experimental and control groups. Furthermore, the assumption of homogeneity of regression slopes was examined by testing the interaction effects between the intervention and the covariates. The interaction effects were not statistically significant for aggression ($F = 0.852$, $p = .361$) or social adjustment ($F = 0.051$, $p = .822$), indicating

that the relationship between covariates and dependent variables was consistent across groups. Therefore, all

prerequisite assumptions for conducting MANCOVA were adequately met.

Table 2

Results of Multivariate Analysis of Covariance (MANCOVA)

Test	Value	F	Hypothesis df	Error df	Significance Level	Eta Squared
Pillai's Trace	0.653	155.094	3	23	$p < .001$	0.653
Wilks' Lambda	0.347	155.094	3	23	$p < .001$	0.653
Hotelling's Trace	20.230	155.094	3	23	$p < .001$	0.653
Roy's Largest Root	20.230	155.094	3	23	$p < .001$	0.653

As shown in Table 1, the results of the multivariate analysis of covariance indicate that the multivariate F value for the effectiveness of anger management training on the study variables was statistically significant across all tests at $p < .05$. Therefore, a significant difference existed between the experimental and control groups in at least one dependent variable. The eta squared value, representing the

squared correlation between dependent variables and group membership, indicates that the overall difference between the two groups was significant, with an effect size of 0.653. This finding suggests that approximately 65.3% of the variance in group differences was attributable to the anger management training intervention.

Table 3

Results of Univariate Analysis of Variance Comparing the Two Groups

Component	Sum of Squares	df	Mean Square	F	Significance	Effect Size
Aggression	1692.617	1	1692.617	299.706	$p < .001$	0.723
Social Adjustment	675.035	1	675.035	68.233	$p < .001$	0.532

As shown in Table 3, the significance levels for aggression ($p < .05$) and social adjustment ($p < .05$) were statistically significant. Accordingly, the assumption of equal scores between the control and intervention groups was rejected. Based on the reported effect sizes, approximately 72.3% of the variance in aggression scores and 53.2% of the variance in social adjustment scores were attributable to anger management training. Examination of the mean scores indicates that anger management training resulted in improvement in these indices.

4. Discussion and Conclusion

The present study aimed to examine the effectiveness of anger management training on aggression and social adjustment among working children in Sari City. The findings demonstrated that participation in a structured anger management program significantly reduced aggression levels and significantly improved social adjustment among children in the experimental group compared with the control group. Multivariate and univariate analyses confirmed that anger management training accounted for a substantial proportion of variance in both aggression

reduction and enhancement of social adjustment outcomes, indicating strong intervention effectiveness.

The reduction in aggression observed among participants receiving anger management training aligns with theoretical assumptions derived from cognitive-behavioral models of emotional regulation. According to cognitive-behavioral theory, aggressive behavior is largely influenced by dysfunctional cognitive appraisals, impulsive emotional responses, and inadequate coping strategies. Anger management training enables individuals to identify emotional triggers, restructure irrational beliefs, and employ adaptive behavioral responses. These mechanisms likely contributed to the observed decline in physical aggression, verbal aggression, anger, and hostility among the working children who participated in the intervention. Similar findings have been reported in intervention research demonstrating that anger management programs significantly reduce aggressive tendencies across various populations, including students and high-risk individuals (Sadrollah & Mirtalebian, 2023; Shokouhi Yekta et al., 2019).

The results are also consistent with prior studies emphasizing the effectiveness of psychosocial and school-

based interventions in decreasing aggression among children and adolescents. Systematic reviews of psychosocial interventions indicate that programs targeting emotional regulation skills effectively reduce aggressive behaviors by enhancing self-control and emotional awareness (Healy et al., 2020). Working children often experience chronic stress, environmental instability, and limited emotional support, factors that intensify aggressive reactions. Therefore, structured anger management training may have provided participants with alternative coping strategies, replacing maladaptive aggressive responses with more constructive emotional regulation techniques.

Another important finding of the present study was the significant improvement in social adjustment among children who received anger management training. Social adjustment involves the capacity to interact effectively with others, adhere to social norms, and manage interpersonal conflicts constructively. Improvements in this domain suggest that anger management training not only addressed emotional dysregulation but also strengthened interpersonal competencies. Research demonstrates that cognitive and emotional regulation skills serve as strong predictors of social adjustment and successful interpersonal functioning (Curran, 2020; Warren et al., 2022). By learning communication skills, assertiveness, and conflict resolution strategies, participants likely developed greater confidence in social interactions, leading to enhanced adjustment outcomes.

The improvement in social adjustment found in this study corresponds with empirical evidence showing that anger management interventions promote broader psychosocial functioning beyond aggression reduction. Previous research has shown that anger management training improves resilience, assertiveness, and adaptive social behavior among students, thereby facilitating healthier interpersonal relationships (Mashalchian et al., 2024). Similarly, studies comparing anger management with psychosocial empowerment programs have demonstrated significant improvements in social self-efficacy, indicating that emotional regulation training contributes to positive social engagement (Ghobadi et al., 2021). These converging findings support the notion that emotional regulation skills act as foundational competencies underlying social adaptation.

The findings also reinforce evidence suggesting that anger management training enhances overall psychological functioning. Studies among nursing students and professionals indicate that improved anger regulation

contributes to better self-leadership, emotional stability, and coping capacity (Park, 2025). Likewise, anger management interventions have been linked to improved stress tolerance and quality of life in occupational settings through enhanced emotional awareness and adaptive coping (Hivertas, 2025). Although the present study focused on working children rather than adults, similar psychological mechanisms appear to operate across developmental stages, highlighting the universal importance of anger regulation skills.

The effectiveness of the intervention may also be explained through developmental and environmental considerations specific to working children. Child labor is associated with multiple psychosocial stressors, including economic pressure, social marginalization, and reduced access to supportive educational environments (Pirkhandan et al., 2021; Vosoughi Asl & Abbasi, 2023). These conditions increase vulnerability to emotional dysregulation and maladaptive behavioral responses. Previous comparative research has demonstrated that working children exhibit higher levels of anger and anxiety compared with non-working peers (Afkhani Ardakani & Choobforoushadeh, 2021). Consequently, anger management training may function as a compensatory developmental intervention by providing emotional and social learning opportunities otherwise lacking in their daily environments.

The observed outcomes are also consistent with studies examining anger management training in vulnerable or high-stress populations. Interventions incorporating cognitive restructuring, mindfulness, and emotional awareness have successfully reduced perceived stress and emotional exhaustion while improving emotion regulation abilities (Aghbolaghi et al., 2022). Similarly, psychoeducational anger management programs have enhanced psychological resilience and affect regulation among healthcare professionals exposed to intense occupational stress (Turan, 2021). These findings suggest that anger management training operates through transdiagnostic mechanisms that address core emotional regulation processes across diverse populations, including working children.

Furthermore, the structured CBT-based framework used in the present intervention likely contributed to its effectiveness. Cognitive-behavioral anger management manuals emphasize skill acquisition through psychoeducation, cognitive restructuring, relaxation training, and behavioral rehearsal (Rielly & Shopshire, 2019). Such structured learning promotes gradual internalization of adaptive coping strategies. Educational

research similarly shows that integrating anger management training into structured learning contexts enhances behavioral discipline and emotional self-regulation among youth (Agus & Denis, 2025). The sequential design of sessions in the present study—progressing from awareness to skill practice and behavioral planning—likely facilitated sustained behavioral change.

Family and contextual influences may also explain improvements in participants' functioning. Evidence suggests that interventions targeting emotional awareness indirectly improve family interactions and overall quality of life, particularly in families of working children (Seifi & Askari, 2022). As children learn to regulate anger more effectively, interpersonal conflicts decrease, creating more supportive relational environments that reinforce adaptive behaviors. This systemic influence may have contributed to the observed gains in social adjustment beyond individual emotional changes.

In addition, the results confirm previous findings specifically addressing working children. Research investigating anger management interventions among working children reported significant reductions in aggression following structured training programs (Khankesh et al., 2020). The replication of these findings in the present study strengthens the empirical evidence supporting anger management as an effective psychosocial intervention for this vulnerable population. Taken together, the findings indicate that anger management training functions not only as a behavioral intervention but also as a developmental support strategy that enhances emotional competence, social functioning, and psychological well-being.

Overall, the present findings demonstrate that anger management training provides an effective and practical intervention for reducing aggression and improving social adjustment among working children. By addressing cognitive distortions, emotional awareness deficits, and maladaptive behavioral responses simultaneously, the intervention appears capable of mitigating psychosocial risks associated with child labor and promoting adaptive developmental outcomes.

One limitation of the present study relates to the relatively small sample size, which may restrict the generalizability of findings to broader populations of working children. The participants were recruited from a single support institution in Sari City, and therefore cultural, socioeconomic, and institutional differences across regions were not represented. Another limitation concerns reliance on self-report

questionnaires, which may be influenced by response bias, social desirability, or limited self-awareness among younger participants. Additionally, the absence of a long-term follow-up assessment prevented evaluation of the durability of treatment effects over time. Finally, potential moderating variables such as family environment, type of work activity, and educational engagement were not controlled, which may have influenced outcomes.

Future studies are encouraged to employ larger and more diverse samples drawn from multiple institutions and geographical regions to enhance external validity. Longitudinal research designs incorporating follow-up measurements are needed to determine whether improvements in aggression and social adjustment remain stable over time. Researchers may also examine mediating variables such as emotional intelligence, resilience, self-efficacy, or parenting style to better understand mechanisms underlying intervention effectiveness. Comparative studies evaluating different therapeutic approaches—such as mindfulness-based interventions, trauma-informed programs, or social skills training—could further clarify optimal intervention strategies for working children. Incorporating qualitative methods may also provide deeper insight into participants' lived experiences and perceived changes following intervention.

From a practical perspective, anger management training can be integrated into psychosocial support programs provided by welfare organizations, schools, and child protection centers working with vulnerable children. Mental health professionals, social workers, and educators may incorporate structured anger management curricula into preventive and rehabilitative services for working children. Training programs should emphasize emotional awareness, communication skills, and conflict resolution while adapting content to developmental levels and cultural contexts. Collaboration between educational institutions, social services, and family support systems may strengthen intervention outcomes and promote sustainable behavioral change. Establishing routine psychological screening and early emotional regulation training within community centers could play an essential role in preventing behavioral problems and supporting healthy social development among working children.

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.

Acknowledgments

We hereby thank all individuals for participating and cooperating us in this study.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

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 study and participated in the research with informed consent.

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