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Comparison of the Effectiveness of the Successful Intelligence Training Package Focused on Risky Behaviors with the Executive Functioning Improvement Package on the Inclination to Risky Behavior and Family Affinity among Female Middle School Students Engaged in Risky Behaviors

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A B S T R A C T

The present study aimed to compare the effectiveness of the Successful Intelligence Training Package focused on risky behaviors (Baramkeh et al., 2024) with the Executive Functioning Improvement Package (Karimi et al., 2023) on the inclination to risky behavior and family affinity among female middle school students engaged in risky behaviors. The research method was a quasi-experimental design with pre-test, post-test, and follow-up phases, involving two experimental groups and one control group. The population consisted of all middle school students engaged in risky behaviors, from which 60 students were purposively selected based on inclusion and exclusion criteria and randomly assigned to two experimental groups and one control group. All subjects were assessed at three stages of the research using research instruments. These tools included the Inclination to Risky Behavior scale (Paki et al., 2020) and Family Affinity (Yousefi, 2022, cited from Karimi et al., 2023). While the control group was on a waiting list, the experimental groups received eight 120-minute sessions of Executive Functioning training and the Successful Intelligence Training Package focused on risky behaviors. Data were analyzed using descriptive statistics (mean and standard deviation) and analysis of variance with repeated measures. The results indicated that both methods were effective on the dependent variables, and except for self-management, there was no significant difference in effectiveness between the two methods, with executive functioning having more effectiveness on the mentioned variable. Based on the findings, it can be said that both training packages are suitable for improving the dependent variables of this research.

Keywords: *Successful Intelligence, Executive Functioning, Inclination to Risky Behavior, Family Affinity*

1. Introduction

During adolescence, physical and psychosocial changes are accompanied by intense emotions, and many of the neural or cognitive systems that regulate emotion mature during this period. On one hand, the predominance of emotion in adolescents' decision-making, and on the other, their inclination and attraction toward peers, increase the likelihood of engaging in risky behaviors at this age. Adolescents face numerous issues and problems, among which risky behaviors pose a significant challenge. In today's societies, adolescence for some is fraught with numerous physical, psychological, and social problems, laying the foundation for many risky behaviors and social harms. Risky behavior is defined as actions that increase the likelihood of negative and destructive physical, psychological, and social outcomes for the individual. Given that social, familial, and economic factors play a crucial role in an individual's behavioral orientation, failure of these factors to fulfill their roles satisfactorily can lead to challenges, possibly pushing individuals toward risky behaviors (e.g., sexual activities, violence, drug use) due to the pressures of these challenges and problems (1). Risky behaviors, in some cases, can lead to death and disease, predominantly starting from adolescence and young adulthood. These behaviors disrupt the lives of others and may harm individuals or their property, including premature relationships with the opposite sex, breaking the law, such as property damage, theft, violence, or using cigarettes, alcohol, drug use, truancy, arson, and sexual assault or threats. Such actions increase the likelihood of negative and destructive physical, psychological, and social outcomes for the individual. Risky behaviors in adolescents are among the most significant health and social issues in current societies, affecting the individual, family, and community. Adolescents, due to their developmental nature, are more thrill-seeking than other individuals, which is among other significant factors influencing the inclination towards risky behaviors (2). However, adolescents who are fond of their families are more capable of self-management in controlling risky behavior than others (3).

Having proper relationships with family and family affinity is considered an important variable that, if achieved during adolescence, can resolve many of the adolescent's issues (4). Given the importance of the family system as the first societal structure foundational for the upbringing and education of children and formal and legal relationships between men and women in an accepted and legitimate standard, the importance of maintaining such a structure considering its psychological, emotional, social, and behavioral role and the emulation by children in a fully emotional environment is evident. Despite numerous changes, the family as a social institution still plays a foundational role in the normal psychological growth and cultural values transmission of any society, and global, national, and regional planning is necessary for the stability and strengthening of its position. The growth and development and activation of talents and abilities of each person require the presence of a healthy family, society, and situation (effective temporal-spatial conditions) (5-7). Family affinity means that the individual values loving, sacrificing, spending time and material, physical, and psychological resources for the family and its members, and strives for their success.

Nevertheless, peer influence and thrill-seeking in adolescence increase the likelihood of engaging in risky behaviors; therefore, addressing these behaviors and reducing their occurrence can cover one of the major concerns of adolescents, their families, and specialists in adolescent psychology. One of the methods that can help improve adolescent constructs is the method of improving executive functioning (6). In this method, the concept of executive functioning (8) was transformed into an educational package. Thus, the content of this package is designed to cover interpersonal communications, including the axes: organization, selective inhibition, response preparation, goal orientation, planning, flexibility, and future-oriented behavior. This package includes strategies and techniques to improve these axes. Therefore, it seems that improving these capabilities in adolescence can facilitate family affinity through the improvement of executive functioning and consequently reduce risky behavior.

On the other hand, in recent years, successful intelligence is one of the psychological constructs that has attracted specialists' attention for improvement. Successful intelligence is defined as an individual's ability to determine and achieve meaningful personal goals in their life, considering the cultural context. A successfully intelligent person achieves these goals by identifying their strengths

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and weaknesses and then investing in their strengths and correcting or compensating for their weaknesses. Strengths and weaknesses are based on four types of skills: creative, analytical, practical, and wisdom-based. In particular, a person needs creativity to generate new and useful ideas. The analytical dimension is considered to ensure that the ideas one has (and others have) are good ones. The practical dimension is focused on applying those ideas and convincing others of their value. In the wisdom dimension, it is ensured that implementing ideas through the mediation of positive ethical principles helps ensure the common good (9).

Based on this, authors (In Press) developed Successful Intelligence Training Package focused on risky behavior, previously mentioned for its goals and axes, and used in this research to change the inclination to risky behavior and family affinity. In general, considering the importance of adolescence in shaping an individual's life on one hand, and the inclination of some adolescents towards risky behavior, which causes personal and social issues for themselves, their families, and their educational environments on the other, it is necessary for research to be conducted to improve these adolescents. Given what has been said, this research addressed this important issue, and the results of such research will not only pave the way for further studies in this field but also imply preventive and corrective interventions for psychological constructs in adolescence. Therefore, this study aimed to answer the question: Is the Successful Intelligence Training Package focused on risky behavior more effective than the Executive Functioning Improvement Package in reducing the inclination to risky behavior and increasing family affinity among students engaged in risky behaviors?

2. Methods and Materials

2.1. Study Design and Participants

In this study, an experimental research method (pre-test - post-test design with a control group) accompanied by a follow-up phase (one month) was employed. The research population consisted of all female adolescents with risky behaviors during the academic year 2023-2024. For sample selection among adolescent girls with risky behaviors according to inclusion and exclusion criteria, 60 individuals were chosen through a convenient sampling method and then were randomly assigned into three research groups (the Successful Intelligence Training Package group, the Executive Functioning Improvement group, and the control group), each comprising twenty individuals.

Inclusion Criteria for this study were: 1. Ability to attend sessions, 2. A minimum age of 12 years, 3. A score above the midpoint on the Inclination to Risky Behavior questionnaire, 4. No severe neuropsychological disorders such as depression (verified through the student's health record), 5. Being a student. Exclusion Criteria included: participation in other psychological therapies or trainings simultaneously, absence in more than two sessions, and lack of parental consent for participation.

2.2. Measures

2.2.1. Inclination to Risky Behavior

This scale was developed and initially normalized by Paki et al. (2023). The statistical population in their study was all 15 to 18-year-old female high school students in Isfahan. The scale consists of 29 items scored on a five-point scale ranging from strongly disagree to strongly agree and contains three subscales: concealment, thrill-seeking, and law-breaking. The researchers reported appropriate internal consistency, test-retest reliability, and congruence of questions and subscales for the Inclination to Risky Behaviors scale. Evidence of divergent and convergent validity with the Mental Health Scale and Iranian Adolescents' Risk-Taking showed that this scale possesses both divergent and convergent validity. The results of the exploratory factor analysis also indicated that the scale comprises three factors, each significantly correlated with the total score, supporting the scale's construct validity. For this questionnaire, percentile and standard norms have been established.

2.2.2. Family Affinity

To assess the family affinity variable, the Family Affinity Questionnaire was used. This questionnaire includes 13 questions. Its content validity was examined by a family expert, and unnecessary questions were omitted, reducing the total to 13 questions. Its face validity was then confirmed by 10 adolescents. The scoring of this scale was done on a five-point scale from strongly disagree (score 1) to strongly

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agree (score 5) and includes two subscales: attachment to the family and detachment from the family. Karimi et al. (2023) reported its internal consistency as 0.80 (6). In this study, the internal consistency of this scale was obtained as 0.94.

2.3. Intervention

To implement the educational packages, necessary permissions were obtained from the university and the Department of Education. A densely populated middle school was then selected through convenient sampling, and after discussing the target population, which consisted of girls with risky behaviors, with the counselor and school principal, sixty individuals were introduced. These individuals were randomly assigned into experimental groups and a control group, with twenty participants in each group. While the control group was on a waiting list, the experimental groups were exposed to the trainings. The trainings were conducted over eight 120-minute sessions, once a week, and presented by a trainer and a facilitator, other than the researcher, each session held twice a week in the afternoons at the school.

2.3.1. Successful Intelligence Training

Session One: Introduction to Key Adolescent Risks and Risky Behavior

The goal of the first session is to introduce the main dangers of adolescence, the issue of risky behavior, and the role of cognition and intelligence in committing such behaviors, with a focus on analytical intelligence within the framework of successful intelligence. The content includes understanding risky behavior and the cognitive role in these behaviors through comparing unhealthy risky behaviors with healthy ones, evaluating and judging the outcomes of risky behaviors, and finally explaining the reasons for risky behavior considering emotional reasoning in adolescence, weak relationships, emphasizing peer pressure and psychological factors.

Session Two: Familiarity with Manifestations of Risky Behavior and Emotion Regulation

The objective is to acquaint participants with the manifestations of risky behavior and emotion regulation as a deterrent factor against risky behavior. The session covers recognizing risky behavior manifestations through analytical intelligence, judging, and evaluating various adolescent behaviors with a focus on violence, interactions with the opposite sex, and behavioral addictions.

Session Three: Teaching Compatible Emotion Regulation

This session aims to teach compatible emotion regulation within the four dimensions of successful intelligence (creative, analytical, practical, and wisdom). The content involves emotion regulation training through situation selection and modification, cognitive development, and changing attention to prevent risky behavior using successful intelligence strategies.

Session Four: Self-Management Training

The goal is to teach self-management through goal setting and impulse control to reduce risky behavior in the context of behavioral addictions, considering the four dimensions of successful intelligence. Participants learn about the importance of purposefulness and how to achieve it in life, understanding impulse control for achieving set goals towards self-management to prevent risky behavior.

Session Five: Maintaining Motivation and Self-Monitoring

This session focuses on how to maintain motivation and self-monitoring for self-management to reduce risky behavior, especially behavioral addictions, based on the dimensions of successful intelligence. Participants learn how to keep motivated and monitor their progress towards their goals to reduce abandonment behavior and the likelihood of engaging in risky behavior.

Session Six: Coping Skills for Loneliness and Improving Self-Esteem

The objective is to teach skills for coping with loneliness and improving self-esteem to prevent risky behaviors, using the dimensions of successful intelligence. Group members discuss loneliness and coping strategies (self-development, improving self-esteem, and distancing from negative thoughts) through strategies of analytical intelligence, creative intelligence, practical intelligence, and wisdom.

Session Seven: Empathy and Refusal Skills

The aim is to teach empathy and refusal skills to improve and control peer pressure with the goal of reducing risky behaviors, utilizing successful intelligence techniques. Adolescents become familiar with two important skills, empathy and refusal, to improve feelings of loneliness and

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thereby reduce risky behavior using the dimensions of successful intelligence.

Session Eight: Problem-Solving Skills, Review, and Practice

The goal is to acquaint participants with problem-solving skills, review, and practice strategies and techniques learned in previous sessions for reducing risky behavior within the dimensions of successful intelligence. Adolescents are taught problem-solving skills and practice previously learned skills for reducing risky behavior based on the dimensions of successful intelligence.

2.3.2. Executive Functioning Training

Session One: Course Introduction and Introduction to Adolescence

The first session focuses on introducing the course and its objectives, outlining the session plan, and discussing adolescence as a bridge between the past and the future. Adolescents are asked about their current concerns and problems, how much of these issues relate to past mistakes, present concerns, and future worries. They are also asked about their future plans. The task involves completing a time perspective worksheet.

Session Two: Familiarity with the Time Perspective Theory in Adolescence Language

This session covers the time perspective theory and its history, introducing temporal perspectives such as past-oriented, present-oriented, and future-oriented individuals, their characteristics, and which orientations are beneficial or risky. Discussions include students' understanding of time, sharing real-life examples, and analyzing films and stories based on time perspective.

Session Three: Self-Knowledge Based on Time Perspective

Participants explore the characteristics of successful and unsuccessful individuals based on time perspective, discussing traits of individuals successful and unsuccessful in the present, future, and past.

Session Four: Introduction to Executive Functioning within a Balanced Perspective

The fourth session introduces executive functioning as a means to achieve a balanced perspective, with film and story analysis to better understand executive functioning. Participants complete self-knowledge worksheets based on time and executive functioning self-assessment worksheets.

Session Five: Introduction to Executive Functioning within a Balanced Perspective

Participants are introduced to the dimensions of "hot" executive functioning and learn necessary skills for "hot" executive functioning through film and story analysis. The session introduces skills for the two dimensions of "hot" executive functioning, including impulse control, emotion control, and movement control (delaying gratification).

Session Six: Familiarity with Components of Executive Functioning

This session continues exploring "hot" executive functioning dimensions and learning necessary skills based on a balanced perspective, with film and story analysis. Necessary skills for planning, working memory, and task initiation are introduced.

Session Seven: Mastery of Executive Functioning Components

Participants focus on mastering "hot" and "cold" executive functioning skills based on a balanced perspective, completing tasks related to mastering executive functioning skills.

Session Eight: Course Conclusion

The final session involves a review of all sessions, summarizing and concluding the course, and discussing the follow-up plan. Any questions or uncertainties are addressed.

This intervention protocol outlines a comprehensive approach to executive functioning training, incorporating interactive discussions, practical tasks, and reflective activities to enhance adolescents' executive functioning and time perspective understanding.

2.4. Data Analysis

For data analysis, descriptive statistics (mean and standard deviation) and inferential statistics (analysis of variance or repeated measures) were used. Calculations were performed using the SPSS (Version 22) computer software.

3. Findings and Results

As observed in Table 1, the Executive Functioning Training Group and the Successful Intelligence Training Group showed more significant changes compared to the

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control group in both the inclination to risky behaviors and family affinity variables in the post-test and follow-up stages.

Table 1

Mean and Standard Deviation of Inclination to Risky Behaviors and Family Affinity Across Research Groups at Three Time Points

Variable	Time	Control Group	Executive Functioning Training Group	Successful Intelligence Training Group
		M (SD)	M (SD)	M (SD)
Inclination to Risky Behaviors	Pre-test	57.65 (4.89)	60.00 (3.09)	60.10 (3.16)
	Post-test	57.30 (4.60)	49.45 (3.95)	49.65 (2.18)
	Follow-up	57.60 (4.74)	45.60 (3.70)	46.40 (2.78)
Family Affinity	Pre-test	29.30 (3.21)	31.65 (3.25)	29.75 (3.31)
	Post-test	29.05 (3.28)	38.75 (2.42)	39.35 (1.66)
	Follow-up	28.60 (3.15)	41.20 (2.33)	43.40 (2.19)

The inclination to risky behaviors at all three stages (pre-test, post-test, and follow-up) showed normal distribution ($p<0.01$), error variance homogeneity ($p<0.01$ and $p<0.05$), and variance-covariance matrix equality (via Box's M test) ($p<0.05$). Also, Mauchly's test was significant, meaning the assumption of sphericity was not met. In this case, due to the violation of the sphericity assumption, results were presented based on Greenhouse-Geisser estimates in the final analysis tables. Moreover, family affinity at all three stages (pre-test, post-test, and follow-up) also showed a normal distribution ($p<0.01$), error variance homogeneity ($p<0.01$ and $p<0.05$), and variance-covariance matrix equality (via Box's M test) ($p<0.05$). Additionally, Mauchly's test was significant, indicating the assumption of sphericity was not met. Therefore, results were presented based on Greenhouse-Geisser estimates. Table 4 presents the means and standard deviations for the risky behavior and family affinity variables across the research groups at the pre-test, post-test, and follow-up stages.

The results of the repeated measures analysis of variance for the inclination to risky behaviors and family affinity are presented in Table 2.

Table 2

Results of Repeated Measures ANOVA for Inclination to Risky Behaviors and Family Affinity

Variable	Source of Variation	Sum of Squares	df	Mean Square	F	p	Partial η^2	Power
Inclination to Risky Behaviors	Within-Group (Time)	2876.63	1.79	1604.52	366.85	<.001	.87	1
	Time × Group	1397.73	3.59	389.81	89.12	<.001	.76	1
	Error (Time)	446.97	102.19	4.37	-	-	-	-
	Between-Group (Group)	1280.93	2	640.47	18.22	<.001	.39	1
	Error	2003.48	57	35.15	-	-	-	-
Family Affinity	Within-Group (Time)	1807.68	1.49	1208.11	318.38	<.001	.85	1
	Time × Group	1147.36	2.99	383.40	101.04	<.001	.78	1
	Error (Time)	323.63	85.29	3.79	-	-	-	-
	Between-Group (Group)	2802.74	2	1401.37	77.33	<.001	.73	1
	Error	1032.92	57	18.12	-	-	-	-

Regarding the violation of the sphericity assumption, as seen in Table 2 for the inclination to risky behaviors variable, the within-group effect, the time factor ($F=366.85$, $df=1.79$, $p<0.01$), and the interaction of time and group ($F=89.12$, $df=3.59$, $p<0.01$) indicate significant differences over time and between the interaction of time and group (three research groups), with significant differences ($p<0.01$). The partial eta squared for the time factor is 0.87, and the test power is 1, and for the interaction of time with group, it is 0.76, with the test power being 1. This result indicates that for the time factor and the interaction of time and group, respectively, 87% and 76% of the difference in the inclination to risky behaviors was related to the application of the independent variable (either the Executive

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Functioning Training or Successful Intelligence Training), confirmed with 100% power. Similarly, as seen in Table 2 in the between-group effect section for the inclination to risky behaviors, a significant difference exists in the group factor ($p<0.01$). The partial eta squared for the group factor is 0.39, and the test power is 1. This means that the analysis of variance conducted with 100% power has shown a significant difference of at least 39% between one of the experimental groups (Executive Functioning Training or Successful Intelligence Training) either among themselves or with the control group in the inclination to risky behaviors. As observed in Table 2 for the family affinity variable, in the within-group effect section, the time factor ($F=318.38$, $df=1.49$, $p<0.01$) and the interaction of time and group ($F=101.04$, $df=2.99$, $p<0.01$) indicate significant differences over time and between the interaction of time and group (three research groups), with significant differences ($p<0.01$). The partial eta squared for the time factor is 0.85, and the test power is 1, and for the interaction of time with group, it is 0.78, with the test power being 1. This result indicates that for the time factor and the interaction of time and group, respectively, 85% and 78% of the difference in family affinity was related to the application of the independent variable (either the Executive Functioning Training or Successful Intelligence Training), confirmed with 100% power. Similarly, as seen in Table 2 in the between-group effect section for family affinity, a significant difference exists in the group factor ($p<0.01$). The partial eta squared for the group factor is 0.73, and the test power is 1. This means that the analysis of variance conducted with 100% power has shown a significant difference of at least 73% between one of the experimental groups (Executive Functioning Training or Successful Intelligence Training) either among themselves or with the control group in family affinity. Table 3 presents the results of the Bonferroni post hoc test for pairwise comparisons between the two experimental groups and the control group in the inclination to risky behaviors and family affinity.

Table 3

Bonferroni Post Hoc Test Results for Pairwise Comparison of Time and Group in Inclination to Risky Behaviors and Family Affinity

Variable	Base Group	Comparison Group	Mean Difference	Standard Error	p
Inclination to Risky Behaviors	Pre-test	Post-test	7.12	0.37	<.001
	Pre-test	Follow-up	9.38	0.40	<.001
	Post-test	Follow-up	2.27	0.30	<.001
Family Affinity	Control Group (Control)	Executive Functioning Training	5.83	1.08	<.001
	Control Group (Control)	Successful Intelligence Training	5.47	1.08	<.001
	Executive Functioning Training	Successful Intelligence Training	-0.37	1.08	1

As observed in Table 3, for the variables of inclination to risky behaviors and family affinity, significant differences exist between the pre-test and post-test, and between the post-test and follow-up ($p<0.01$). This means that from the pre-test to the post-test and follow-up stages, the level of inclination to risky behaviors decreased and family affinity increased. At the group level, significant differences exist between the Executive Functioning Training and Successful Intelligence Training groups and the control group ($p<0.01$), but no significant difference exists between the two educational groups themselves in the dependent variables ($p>0.05$). Therefore, based on the results presented in Table 3, the means of the two educational groups in the dependent variables significantly differ from the mean of the control group in the dependent variables ($p<0.01$), but no significant difference exists between the Executive Functioning Training and Successful Intelligence Training in family affinity ($p>0.05$). This means that the effectiveness of Executive Functioning Training and Successful Intelligence Training targeted at risky behavior in increasing family affinity was equal.

4. Discussion and Conclusion

The current research was conducted with the aim of comparing the effectiveness of the Successful Intelligence Training Package focused on risky behaviors with the Executive Functioning Improvement Package on the inclination to risky behavior and family affinity among adolescent girls involved in risky behaviors. The data analysis results indicated that both methods significantly

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affected the research variables without showing a significant difference in effectiveness between them.

Although no study with this exact title has been conducted before, there have been research studies in Iran and internationally targeting risky behaviors and family affinity as variables closely related to family affinity. For instance, Gheisari et al. (2021) demonstrated the effectiveness of motivational psychotherapy (10); Joghataei et al. (2022) showed the effectiveness of mindfulness training (5); Mohammad Beigi Salajegheh (2022) found the effectiveness of integrative transdiagnostic therapy (11); Momeni Mozdeh et al. (2022) revealed the effectiveness of meaning therapy on risky behavior (12). Among international studies, some have focused on reducing risky behaviors, for example, Bowen et al. (2014) on the effectiveness of mindfulness on substance use as a risky behavior; Zatzick et al. (2014) on the effectiveness of collective care in reducing violence and substance use; Enkema and Bowen (2017) on the effect of mindfulness in reducing substance use (13); Beck et al. (2020) on the effectiveness of mentalization in reducing risky behaviors among individuals with pathological symptoms (14). In the field of family affinity, studies such as Karimi et al. (2023) on the effectiveness of psychological enrichment (15); Sadeghi Dehkordi et al. (2022) on the effectiveness of Seligman's parenting style training (16); Karbasi Zadeh and Bahrami (2020), Khan Abadi and Choobdari (2021) on the effectiveness of Adlerian parenting training on reducing mother-daughter conflicts and improving communication with the family have shown improvements in the variable of family affinity (15, 17). Therefore, these methods, like other research, have been able to improve the variable of family affinity, and the results in terms of effectiveness on the inclination to risky behavior and the family construct are consistent with the findings of other studies.

In explaining the effectiveness of the Successful Intelligence Training Package focused on risky behavior on the inclination to risky behavior among adolescent girls involved in risky behaviors, it can be said that risky behaviors refer to actions that expose adolescents to significant harm or risk, including the risk of death or loss of physical and mental health (1). Adolescents may engage in these behaviors for various reasons, including peer approval, motivational reasons to meet certain psychological needs, soothing psychological distress, cognitive immaturity, or lack of social inhibitors of risky behaviors, feelings of loneliness, due to the influence of social media, familial reasons, and adolescent changes. These behaviors are classified into several categories, including substance and tobacco use, anger and violence, and incompatible sexual behaviors (Underwood, 2020). On the other hand, family affinity means love and affection for family members, motivation to make family members happy, avoiding making family members sad, desire for progress and cooperation with the family, and indicates that the family has balanced cohesion. Additionally, the parenting style has been such that it has transferred love and affection to the children, formed a secure attachment style in children, and as a result, children are fond of their family and willing to make sacrifices. However, due to adolescent changes, adolescents may gravitate towards peers and distance themselves from the family. The results of this study showed that both methods have been effective in improving family affinity; therefore, both methods have mechanisms that have contributed to the improvement of family affinity.

Similarly, the mechanisms of the Successful Intelligence Training Package focused on risky behavior pursued the overall goal and hidden maturity in cognitive development through specific goals, improving skills in interpersonal communications, life skills training, and emotion regulation with the help of strategies from the dimensions of successful intelligence, namely creative, practical, analytical, and wisdom intelligence. Essentially, in this method, adolescents with risky behaviors became familiar with the role of cognition in the occurrence of such behaviors, through comparing and contrasting unhealthy risky behavior with healthy risky behavior, evaluating and criticizing the results of risky behavior, and finally explaining the reasons for risky behavior considering emotional reasoning in adolescence, weak relationships, with an emphasis on peer pressure and psychological factors; they recognized manifestations of risky behavior in the form of analytical intelligence, judgment and evaluation of various adolescent behaviors with an emphasis on violence, incompatible behavior with the opposite sex, and behavioral addictions, gaining awareness in this area. Additionally, skill training in problem-solving, the ability to say no, improving communication skills with attention to dealing with feelings

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of loneliness and empathy, and training related to emotion regulation were provided in the form of 1) Analytical intelligence strategies: recalling own or others' experiences in the context of engaging in risky behaviors, evaluating the outcomes of engaging in risky behaviors by individuals, and critiquing these behaviors; 2) Creative intelligence strategies: creating the same situation in the form of healthy risky behavior, inventing new situations that respond to their needs while leading to healthy and exciting behaviors, and rewriting the same situation in a way that, while experiencing new things, does not lead to risky behavior; 3) Practical intelligence strategies in presenting hypothetical situations and confronting those situations considering what they have learned, and 4) Wisdom intelligence strategies in observing behaviors from different temporal perspectives, different situations, and different positions, and achieving a cost-effective and effective viewpoint for achieving a significant position among peers and in society. Overall, it seems these trainings have ultimately helped improve the attitudes of these girls, leading them to an attitude that includes the following set of characteristics: 1) Attention to the outcomes and evaluating the outcomes before engaging in behavior; 2) Redefining problems, analyzing solutions, and identifying and evaluating the positives and negatives of each solution; 3) Attention to experience and empirical reasoning rather than solely relying on emotional reasoning; 4) How to apply what they have learned in practice; and 5) Attention to time, place, and situation in engaging in behavior. It seems that these aspects together have helped improve the inclination to risky behavior among participants in this training.

Therefore, based on what has been said, it seems that this set of competencies has helped adolescents have more thoughtful behaviors in everyday life with people, friends, and peers in various situations, thereby managing to balance what they do in relation to peers and what they do in relation to their family, understand the importance of the family, receive better feedback from the family, and consequently, enhance family affinity among them.

In explaining the effectiveness of the Executive Functioning Training method on risky behavior, it can be said that this method also contains mechanisms that have been able to reduce the inclination to risky behavior as previously mentioned, including familiarity with the role and importance of cognitive abilities, the power to inhibit impulses and effectively prevent their occurrence in everyday life, and considering the importance of adolescence as one of the important periods of life that can be divided into successful and failed adolescents after this period. They also became familiar with techniques of impulse control skills, which included thinking before acting, recognizing what needs to be done rather than what feelings suggest, asking for help from others, controlling emotions, and delaying gratification. Familiarity with planning techniques, how to manage attention, and how to monitor emotions and reactions were other areas of skill enhancement in this period; therefore, it can be said that this method has helped individuals pay closer and deeper attention to conditions and consequently experience less inclination to engage in risky behavior. Also, improving executive functioning has helped them manage themselves, improving responsible behavior among them and causing the family to have a more positive view of their adolescent, better understand them, and believe in them. Such feedback has helped adolescents have a better perception of their family and consequently enhance family affinity.

In explaining the lack of a significant difference in effectiveness between the two methods on the inclination to risky behavior, it can be said that perhaps both educational methods have ultimately led to a type of cognitive maturity that has reduced the inclination to engage in risky behavior among them, causing them not to have a significant difference in effectiveness.

Based on the results obtained, it can be concluded that the Successful Intelligence Training Package focused on risky behaviors has had a significantly improving effect on the dependent variables. This study, like other studies, had limitations, including non-random selection of participants and limiting the population to adolescent girls involved in risky behaviors, thus caution should be exercised in generalizing the results to other communities.

Authors' Contributions

K.P. led the concept and design of the study, as well as the drafting and critical revision of the manuscript. S.K. and S.S. were involved in the acquisition of data and the analysis and interpretation of the data. B.K. contributed to the critical revision of the manuscript for important intellectual content

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and provided expertise in sports science. K.I. oversaw the statistical analysis, contributed to the study design, and played a key role in supervising the study. All authors contributed to the writing of the manuscript, reviewed the final version, and approved it for publication.

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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Ethics Considerations

The study placed a high emphasis on ethical considerations. Informed consent obtained from all participants, ensuring they are fully aware of the nature of the study and their role in it. Confidentiality strictly maintained, with data anonymized to protect individual privacy. The study adhered to the ethical guidelines for research with human subjects as outlined in the Declaration of Helsinki.

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