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Research Article

Effectiveness of a parenting program on children's academic self-control and parents' competence

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Abstract: Self-control is a determining factor for academic success. Fortunately, it can be strengthened through positive parenting practices, especially during childhood. This study aims to investigate the effects of a parent training program designed to enhance the academic self-control skills of children aged 11 to 14. The research had an experimental design with pre-test and post-test for experimental (n = 11) and control groups (n = 11) attended randomly. The program was held online, individually, and once a week for eight weeks. A three-month follow-up data was collected from the experimental group. In this study, Academic Self-Control Scale and Parenting Sense of Competence Scale were used. In analysis, the difference scores of the experimental and control groups were compared using Mann-Whitney U Test; for the difference between the experimental group pre-test, post-test and three-month follow-up mean scores the Friedman Test were run. According to the findings, it was observed that the academic self-control total scores and academic perseverance sub-scores of the children and parenting competence scores of the mothers in the experimental group increased significantly after the intervention compared to the control group.

1. INTRODUCTION

In today's educational landscape, students spend extended hours at school and are expected to meet a wide range of academic demands, including attending classes, reviewing course material, submitting assignments, preparing projects, and taking examinations. The competitive structure of the education system requires substantial effort to meet established academic goals and succeed. This pursuit of academic achievement, which begins in the early years of formal education, continues throughout a student's academic trajectory.

Achieving success involves more than cognitive ability; it also necessitates the use of effective study strategies and sustained effort. Academic success is a critical factor that shapes access to higher education, influences career opportunities, and affects various aspects of personal and professional life. It may even impact the educational prospects of future generations (Feinstein *et al.*, 2008). As a result, identifying the variables that influence academic success has become a central concern in educational research.

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Self-control is recognized as a key predictor of academic success (Duckworth & Seligman, 2005; Robson *et al.*, 2020; Vazsonyi *et al.*, 2021). Muraven and Baumeister (2000) define self-control as the capacity to deliberately alter one's emotions, thoughts, and behaviors in pursuit of long-term goals. When a discrepancy arises between one's current state and desired outcomes, individuals are motivated to adjust their internal states and external actions. In such cases, self-control entails the conscious effort required to resolve this conflict through behavioral regulation (Baumeister & Vohs, 2007).

Self-control influences not only academic performance but also various other domains of life. It has been linked to consistent work habits, adherence to dietary routines, the maintenance of healthy interpersonal relationships (Tangney *et al.*, 2004), organizational skills, and problematic behaviors such as obesity, alcohol use, gambling, and drug addiction (Galla & Duckworth, 2015). Core abilities such as achieving goals, planning, impulse regulation, behavioral inhibition, and managing social conduct are strongly associated with self-control. Individuals with higher levels of self-control are more capable of resisting distractions, sustaining focus, and disengaging from obsessive or intrusive thoughts (Smithers *et al.*, 2018; Steinberg, 2018). Moreover, self-control shows positive associations with academic competence, psychological adjustment, and the avoidance of substance use and risky sexual behavior (Dishion & McMahon, 1998).

1.1. Academic Self-Control

Students who are able to focus on lessons, ignore distractions while studying, complete their assignments regularly, prepare for exams more meticulously, work in a planned manner, and set academic goals are more likely to achieve higher grades compared to their peers (Duckworth *et al.*, 2019; Tangney *et al.*, 2004). The ability to postpone that desire (e.g. putting the phone away because of an exam the next day) and to wait with an awareness of the long-term gain (e.g. getting a good grade on the exam), rather than experiencing the short-term pleasure of the current desired action (e.g. checking social media) contributes significantly to personal success. Self-control is a skill that requires students to complete their academic tasks without procrastination and to set aside impulsive desires that offer momentary gratification. The relationship between self-control and academic success, and its comparison with intelligence in this context, highlights the importance of self-control in academic settings. The self-control behavior of individuals in the academic context is referred to as "academic self-control" (Rebecca, 2015).

Students with high academic self-control tend to set personal goals, maintain a positive outlook when facing difficulties and expectations, and trust both social and nonsocial sources of support (e.g., going to the library). They take notes, organize their environment to promote learning, rely on self-evaluation strategies (e.g., rewarding themselves), and review written materials (Galla *et al.*, 2018). Even when they perform poorly on an exam or assignment, they are likely to reflect on the possible causes of failure and adjust their learning goals and strategies accordingly (Kennett & Maki, 2014).

According to Kennett's (1994) Academic Self-Control Model, individual self-control and self-efficacy, defined as the regulation of one's cognitions, meet the academic challenges and obstacles faced by students. These two systems interact and jointly give rise to both self-control behaviors and academic hardship behaviors. In turn, these behaviors contribute to positive academic outcomes. According to the model, the components of academic self-control are academic strength, general resourcefulness, academic self-efficacy, and attributions for failure (lack of effort, difficulty of task, bad luck/fate, lack of talent). On the other hand, it can be said that although all of these variables are necessary and interact, general resourcefulness skills are fundamental in explaining academic self-control (Kennett, 1994; Rosenbaum, 1990, 2000). In short, no matter how strongly a student believes in their academic abilities (self-efficacy) or attributes past failures to effort and skill (attribution), the ability to change habits ultimately

depends on personal initiative. Without essential skills, such as delaying immediate gratification or engaging in positive self-talk, it becomes difficult to manage everyday life challenges and academic demands (Rebecca & Kennett, 2018).

Responding sensitively to the child's needs and signals is associated with various developmental outcomes, ranging from secure attachment and social-emotional growth to cognitive development and academic success (Sroufe, 2005). Through appropriate behaviors and practices, parents can help their children learn to regulate their emotions, thoughts, and behaviors. High levels of parental acceptance, consistent behavioral control, and parental monitoring, as well as minimal use of psychological control, create a supportive environment for fostering a child's self-control. Family-related factors, including parent-adolescent relationships, adequate parental monitoring, and positive parenting practices play a central role in preventing negative developmental outcomes in adolescence (Cho *et al.*, 2018). Parental practices play a crucial role in the development of self-control. Parents who express love and warmth, offer support, show approval and acceptance, and consistently enforce rules and boundaries create the conditions for children to learn how to follow rules effectively and delay immediate gratification (Finkenauer *et al.*, 2010).

Self-control skills can change over time, influenced by familial and external factors. While Gottfredson and Hirschi (1990) emphasize early socialization in the development of self-control, they also acknowledge that self-control is a form of individual difference or biological variability. There is also a strong genetic basis in the persistence of self-control over time (Coyne & Wright, 2014). The strong influence of genetics does not suggest that socialization processes, including effective parenting, are insignificant in the development of self-control. Moreover, biological factors are known to predict developmental outcomes in interaction with environmental influences (Vazsonyi & Huang, 2010).

Several intervention programs aimed at enhancing self-control incorporate specific self-regulation strategies. These strategies, both cognitive and situational, are based on Bandura's Social Cognitive Theory (1977). The primary objective of self-control techniques, such as behavioral self-control training, cognitive self-regulation, and self-management techniques, is to reduce behavioral deficits or excesses. In a study examining the impact of using self-regulation strategies on academic goal achievement (Williamson, 2021), the most commonly used situational strategies were distraction elimination and distraction avoidance. The most frequently employed cognitive strategy was goal focusing. In the process of developing self-control, it is recommended that rewards be associated with effort, enabling individuals to gradually derive satisfaction from the effort itself. According to Strayhorn (2002), individuals can use techniques such as imaginary rehearsal, learning adaptive skills, and introspection to avoid being misled by momentary physical or mental distractions and to regulate their behavior.

There are several studies focusing on self-control development in school-aged children through parental and teacher involvement, particularly by setting limits and assigning responsibilities (Duckworth *et al.*, 2014). It is argued that the most critical period for learning self-control and problem-solving strategies is middle childhood (Piquero *et al.*, 2016). Interventions implemented during this stage are considered especially effective in producing lasting behavioral changes (Moffitt *et al.*, 2011), as middle childhood coincides with the pre-adolescent developmental phase.

In order to protect children from risks and ensure that they benefit fully from opportunities, it is necessary to address not only the children themselves but also the environments in which they develop. Adolescence is an important period for risk and protective factors (O'Connell *et al.*, 2009; Zahn-Waxler *et al.*, 2000). The fact that early adolescence coincides with the transition period from elementary to secondary school can be challenging as children encounter new academic demands. During this period, parents' interactions, emotional validation, and appropriate guidance are essential. Such guidance should aim to strike a balance between what

the child is currently capable of and what they can potentially accomplish. This supportive process, known as "scaffolding" (Vygotsky, 1984), involves the gradual transfer of autonomy and responsibility to the child. As the children's self-regulation abilities develop, the degree of parental control should correspondingly decrease and eventually be withdrawn. Effective parental scaffolding fosters the development of self-control by shaping children's executive functioning and emotion regulation skills during critical developmental periods. This theoretical perspective highlights that while self-control may have a genetic basis, its development and long-term stability are profoundly shaped by early socialization experiences and the quality of caregiver-child interactions (Moffitt *et al.*, 2011).

Therefore, it is important to foster adolescents' capacity for self-control, enabling them to experience a more successful and healthy developmental trajectory in both psychosocial and educational domains. Studies indicate that self-control continues to develop throughout adolescence as a function of the adolescent's neuroplasticity, that parents play an important role in this development, and that positive parenting behaviors contribute to the enhancement of self-control (Beaver *et al.*, 2010; Bolger *et al.*, 2022). Parental academic support closely reflects parents' expectations for their children and the value they place on academic success, and it also represents a culturally embedded approach (Chen, 2005). In a collectivist cultural orientation, families tend to interpret a child's academic success or failure as reflective of the entire family (Kağıtçıbaşı, 2005); consequently, their willingness to support the child is typically high. It has been found that when parents create a suitable environment at home for studying (Gottfried *et al.*, 1994) and when they are more involved in their children's school-related activities (Chen, 2005), children show greater academic achievement and school adjustment.

In Türkiye, an educational program including positive parental behaviors to support directly academic self-control of children wasn't come across. This study was carried out to contribute to the elimination of this gap in self-control literature. The problem of this study is the lack of a psychoeducation program for parents that has been developed and tested as effective to support students' academic self-control skills through their parents. To this end, it has been investigated whether the Family Support on Academic Self-Control Program (FSASC) prepared for parents of middle school students aged between 11-14, is effective in developing the academic self-control skills of the children. In this connection, answers to the following questions were sought:

1. Do the academic self-control skills of the children whose parents participated in the training improve significantly after the training?

2. Do the parenting competence of the parents who participated in the training improve significantly after the training?

2. METHOD

2.1. Research Model

This study is an experimental research conducted within the quantitative research methodology. Pre-test and post-test measurements were taken with both experimental and control groups. Follow-up measurements of the experimental group were taken three months after the post-tests. In experimental designs, cause-and-effect relationships between variables are examined. In such studies, it is desirable that the groups are equivalent in terms of participant characteristics and external variables. If it is ensured that the groups are equivalent in all aspects except the independent variable applied, establishing causality is more meaningful. The most important and best control technique is accepted as random assignment (Christensen *et al.*, 2015). In the current study, participants were randomly assigned to the groups.

2.2. Procedure

This study aimed to support children's academic self-control skills through their parents. For this purpose, a psychoeducational program designed to enhance positive parenting skills was developed and implemented for parents. Due to the conditions imposed by the COVID-19 pandemic, the training was delivered individually and online. Based on expert opinions, certain group activities originally designed for face-to-face sessions were adapted for online and individual implementation. PowerPoint presentations were prepared for the program and shared with participants via the Zoom platform. Daily sharings and contact between the trainer and the participants was maintained using WhatsApp and e-mail. A total of 22 mothers participated in the program (11 in the experimental group and 11 in the control group).

Although the training was provided exclusively to parents, data were collected from both children and their parents. The study examined whether there were changes in children's academic self-control skills and parents' parenting competence levels before and after the training. Follow-up measurements were conducted three months after the training. The research design is shown in Table 1. The control group also received the training after the post-test assessments were completed.

Table 1. *Research design.*

Group	Assignment	Measurement	Treatment	Measurement	Measurement
Experimental group	R	Pre-test	FSASC	Post-test	Follow-up
Control group	R	Pre-test	-	Post-test	-

R: Random assignment

2.3. Study Group

The study was conducted through a random sampling method. Initial contact was made with volunteer families from three different state middle schools in Etimesgut district of Ankara province via email and WhatsApp using a poster of the program. Since the age group was limited 11–14, 5th and 8th grade students were excluded. Contact was made only with the parents of 6th and 7th grade students. Fifth graders may be younger than 11 years old so they were excluded due to age. Meanwhile, 8th grade students are dealing with the high school entrance exam in Türkiye and their families may be busy and focused on it. Therefore, they were also excluded from the study.

Initially, only 29 mothers expressed interest in participating in the program, while the fathers were reluctant. Five mothers who did not want to complete the pre-test measurements for various reasons were excluded. As a result, 24 mothers (12 in the experimental group and 12 in the control group) were randomly assigned to the groups. One participant from the experimental group did not continue the training after the first session, so the program was completed with 11 mothers using the Zoom platform with one session per week for eight weeks. Following the training, post-tests were administered to 11 mothers from the experimental group and 11 mothers from the control group (excluding one mother who did not complete the post-tests).

After the post-test measurements, for study ethical reasons, the training was offered to seven mothers from the control group who wished to participate. In summary, the study group consists of mothers (n = 22; 11 in experimental group, 11 in control group) and their children aged 11–14 (n = 22; 11 in experimental group, 11 in control group). The average age of the mothers is 39 years, and of children is 11.73 years. In the experimental group, 63.64% (n = 7) of the children are girls, while in the control group, 54.55% (n = 6) are girls. Half of the children in the study group are in the 6th grade, the other half are in the 7th grade.

2.4. Data Collection Tools

Data were collected from both parents and children within the study. Rather than demographic information, the level of parenting skills of parents was measured using Parenting Sense of

Competence Scale (Gibaud-Waliston & Wandersman, 1978), and the academic self-control level of children was evaluated with Academic Self-Control Scale (ASCS), which was developed by the researchers (Büyük *et al.*, 2020). Additionally, a psychoeducational program "Family Support on Academic Self-Control Program" (FSASC), was developed to improve children's academic self-control through parental support.

2.4.1. *Parenting Sense of Competence Scale*

The Parenting Sense of Competence Scale (PSCS) developed by Gibaud-Waliston and Wandersman (1978) was used to assess parents' satisfaction with their parenting and their self-efficacy in the parenting role. The PSCS consists of two subscales- satisfaction and effectiveness/usefulness- and contains 16 items like "Being a parent is manageable, and any problems are easily solved." Items are rated on a 6-point Likert scale ranging from 1 ("*Strongly Disagree*") to 6 ("*Strongly Agree*"). On the PSCS, items 2, 3, 4, 5, 8, 9, 12, 14, and 16 are reverse coded.

The adaptation studies for Turkish culture were conducted by Çokamay and Kapçı (2016). The Turkish version of the scale was administered to a sample of 383 parents as part of the adaptation study. Analyses revealed that the scale preserved its original structure and consisted of two subdimensions. The Cronbach's alpha internal consistency coefficient for the Turkish version was calculated as .75 for the entire scale. To assess test-retest reliability, the scale was administered to 46 parents at a three-week interval. Pearson correlation analysis indicated a reliability coefficient of $r = .55$ for the total score ($p < .01$).

An increase in the score obtained from the scale indicates an increase in parenting competence. In this study, the total score of the PSCS was used.

2.4.2. *Academic Self-Control Scale*

The Academic Self-Control Scale (ASCS) was developed to evaluate the academic self-control behaviors of middle school students between the ages of 11 and 14 (Büyük *et al.*, 2020). The ASCS consists of 12 items across two subscales, using a 5-point Likert-type response format ranging from "never" to "always." The two subscales are labeled "academic perseverance" and "academic attention." These factors together explained 47.11% of the variance in participants' academic self-control scores.

Structural validity of the scale was supported by Principal Component Analysis (PCA). In the initial analysis, the Kaiser–Meyer–Olkin (KMO) measure confirmed sampling adequacy (.86), and Bartlett's test of sphericity was significant, $\chi^2(210) = 1258.74$, $p < .001$. Factor loadings ranged from .566 to .806 for academic perseverance and from .620 to .743 for academic attention.

Confirmatory Factor Analysis (CFA) confirmed the suitability of the factor structure. The CFA was conducted on a separate sample ($n = 297$; $M = 12.92$, $SD = 0.97$), and model fit indices indicated an acceptable fit: $\chi^2/df = 2.56$, RMSEA = .065, CFI = .93, TLI = .91, and SRMR = .05. All standardized factor loadings were statistically significant (t-values ranging from 7.94 to 11.65). Average Variance Extracted (AVE) values supported convergent validity: .83 for academic perseverance and .80 for academic attention.

The Academic Perseverance Scale (Bozgün & Başgül, 2018) was used to assess criterion validity. A strong positive correlation was found between the total scores of the ASCS and the Academic Perseverance Scale ($r = .74$, $p < .001$). Subscale correlations also revealed a strong association between academic perseverance scores from both scales ($r = .71$, $p < .001$) and a moderate correlation with academic attention ($r = .46$, $p < .001$).

The internal consistency reliability, measured using the Cronbach alpha coefficient, was found to be .81 for the entire scale, .81 for the academic perseverance factor, and .64 for the academic attention factor. Test–retest reliability was evaluated using a four-week interval with 54

students (n = 54; M = 12.52, SD = 0.90). The resulting coefficients were .93 for the total scale, .89 for academic perseverance, and .91 for academic attention. Composite reliability values were also acceptable: .80 for perseverance and .70 for attention.

The scale includes reverse-coded items, and the total score ranges from 12 to 60. Higher scores reflect greater levels of academic self-control. An example item is: "*My friends say I act out in a disturbing way during class.*"

2.4.3. *Family support on academic self-control program*

Within the study, a psychoeducational program titled "Family Support on Academic Self-Control" (FSASC) was developed by the researchers to improve children's academic self-control through parental support. The development process of the FSASC lasted longer than usual and was challenging due to the COVID-19 pandemic. Initially it was developed as a face-to-face group program. However, due to difficulties in finding participants, it was first adapted into an online group program, and eventually implemented in that format.

Before the development of FSASC literature reviews, observations, interviews, focus group studies and expert opinions were evaluated. The researcher's own observations, along with individual and group interviews with middle school students and parents, helped determine the objectives of the program. Expert consultations were obtained to ensure content validity. Both national and international programs on education and self-control were reviewed, with a specific focus on interventions designed for adolescents.

Based on expert feedback, some group activities originally intended for face-to-face settings were adapted for online individual sessions. PowerPoint presentations were prepared and shared with participants via the Zoom platform. Daily communication between the trainer and participants was maintained through WhatsApp and e-mail.

The theoretical foundation of the program is based on Cognitive Behavioral Therapy (CBT), with strong influences from social learning theories and behaviorist principles. Sessions on active listening and emotional acceptance also incorporate mindfulness techniques, as proposed by Jon Kabat-Zinn (2003), aiming to enhance self-awareness for both parents and children.

The overall goal of the program is to strengthen children's academic self-control through their parents, focusing on the development of positive parenting strategies. Participants are supported in becoming parents who are aware of their child's developmental needs, understand the consequences of their behavior toward their child, and recognize their responsibility in fostering skills essential for academic success. To achieve these goals, the program includes practical recommendations that can be applied in daily life. Great care was taken to ensure the program's feasibility and its relevance to everyday parenting contexts.

FSASC consists of eight sessions, including an introductory and a concluding session. Each session, except the introduction, lasts 120 minutes. Sessions are held once a week at times suitable for the trainer and participants—typically evenings after 9 p.m. or weekends for working mothers, and daytime on weekdays for non-working mothers.

The program begins with an introductory session in which the purpose, structure, content, participant responsibilities, and participation rules are discussed. The session concludes with participants sharing their expectations for the program and identifying the parenting behaviors they would like to change or maintain in relation to their children.

Following the introduction, the *first session* focuses on *growing up and self-control*. It begins with the "Good Teacher – Bad Teacher" activity, in which participants describe behaviors of both good and bad teachers. This exercise helps them draw parallels between parenting and teaching, distinguish between effective and ineffective approaches, and reflect on their own parenting behaviors. The session also introduces key developmental changes during adolescence and includes the activity "My Child is Changing" to raise awareness. The concept of self-control is defined with everyday examples, and participants share personal experiences

involving self-control. The session concludes with an action plan: participants are asked to observe and record their own "good teacher" and "bad teacher" behaviors toward their child over the following week.

The *second session* starts with a discussion of the first action plan. The theme is *positive parenting*, defined through warmth and sensitivity. Participants are encouraged to evaluate their own parenting behavior and analyze their child's behavior using behavioral analysis. They practice identifying preconditions that lead to negative behavior using example scenarios, and they discuss real-life cases involving their children. Together, they explore faulty parenting strategies and appropriate consequences from both child and parent perspectives. The session includes the "Emotional Tide" activity to deepen understanding. It ends with participants completing a behavior analysis as a second action plan.

The *third session* addresses *setting boundaries*. Participants learn the importance of boundaries in academic life and practice appropriate methods for establishing them. Through the "3D Form" (Emotion–Behavior–Thought), they analyze the links between emotional states and actions. They also role-play emotional validation and content validation using structured examples. The trainer facilitates a three-stage boundary-setting exercise, followed by role-playing scenarios specific to school-related situations. The action plan focuses on setting academic self-control boundaries with their children during the week.

The *fourth and fifth sessions* emphasize *strengthening behavioral self-regulation*. In the fourth session, participants reflect on how they and their children manage self-control in four life areas: diet, exercise, media use, and sleep. They identify weaker areas and learn how to reinforce them. Topics such as modeling healthy behaviors and managing internet use, nutrition, and sleep habits are discussed. Participants are given specific action plans for setting limits in each of the four domains.

The *fifth session* focuses on *organization and consistency*. Participants explore how routines and rules support self-control. They are encouraged to involve children in household tasks to build responsibility, and they are provided with a sample task list. A self-control agreement is drafted, reinforcing rule-following and duty completion through role play. As an action plan, participants create family rules and agreements to be implemented at home.

The *sixth session* centers on *academic self-control*. Topics include goal setting, planning, self-monitoring, self-reinforcement, and self-evaluation. The “Whose Responsibility Is It?” chart helps clarify parent and child roles in education. Participants explore how to regulate the home environment to promote study routines and complete the "My Goals" activity. They review examples of a self-control diary and lesson plan. The action plan includes working with their child to develop academic goals, create a study schedule, and maintain a self-monitoring diary.

The *final session* includes a group reflection on the previous week’s activities and a full evaluation of the program. Participants discuss the sessions and activities they found most helpful or challenging. They are encouraged to continue practicing what they learned. At the conclusion, they receive a certificate of participation prepared by the researcher.

2.5. Data Analysis

In the current study, the quantitative analysis method was used. In this context, the difference between the pre-test and post-test mean scores of the experimental and control groups was analyzed. In addition, it was analyzed whether there was a significant difference between the experimental group pre-test, post-test, and three-month follow-up mean scores. Prior to analysis, the dataset was examined for missing values and assumptions of normality. No missing data were identified. Normality was assessed using skewness and kurtosis coefficients (acceptable range: –1 to +1) and the Shapiro–Wilk test**.** The results indicated that while some variables met the assumption of normality, others did not.

Given the small sample size (n = 22), non-parametric tests were preferred in line with Büyüköztürk (2009), who recommends parametric analysis when each group includes at least 15 participants. The Mann–Whitney U test was used to compare the pre- to post-test change scores between the experimental and control groups. The Wilcoxon Signed Ranks test was used to test the results of the pre-test, and post-test scores of the experimental and control groups separately. The relationships between two independent numerical variables were analyzed using Spearman's Rho correlation coefficient. The average scores of the experimental group pre-test, post-test and follow-up were analyzed using the Friedman Test. In the case of a significant difference in the Friedman Test, post-hoc analyses were performed to determine which measurement caused the difference, and Bonferroni-corrected results were used. If the difference between the means was found to be significant after each analysis, an effect size calculation was also performed. The effect size calculation proposed by Field (2017) for the Mann Whitney U Test and the Wilcoxon Signed Ranks Test was performed using the formula $r = z/\sqrt{N}$. The following formula was used to calculate the effect size according to the Friedman analysis: $W = \chi^2/n\ (K\text{-}1)$. As stated by Cohen (1988) for the r and W values obtained as a result of the calculation: .1 = small effect, .3 = medium effect, .5 = large effect. The SPSS 22.00 software was used to analyze the data, and statistical significance was assumed to be $p < .05$.

3. RESULTS

3.1. Findings Related to the Academic Self-Control Skills of Children.

This section presents the findings related to the research question "*Do the academic self-control skills of the children whose parents participated in the training improve significantly after the training?"*. The findings from the analysis conducted on the total scores, academic perseverance and academic attention sub-scales obtained from the ASCS applied to children before and after the training, as well as the scores related to the total and sub-scales of the ASCS for the children in the experimental group during a three-month follow-up are given. Descriptive statistics for the data collected regarding academic self-control and its sub-scales are provided in Table 2.

Table 2. *ASCS descriptive statistics.*

	Experimental group (n = 11)						Control group (n = 11)			
	Pre-test		Post-test		Follow up		Pre-test		Post-test	
	$\bar{X}$	*SD*	$\bar{X}$	*SD*	$\bar{X}$	*SD*	$\bar{X}$	*SD*	$\bar{X}$	*SD*
Academic perseverance	29.45	7.11	35.09	4.15	33.54	5.08	28.81	4.97	28.63	4.78
Academic attention	13.90	5.30	17.45	3.67	17.90	2.38	15.81	2.35	16.09	2.11
Academic self-control total	43.36	10.35	52.54	6.80	51.45	7.03	44.72	6.54	44.90	6.17

Table 2 shows that the average pre-test total score of the students in the ASCS for the experimental and control groups was 43.36 (*SD* = 10.35) and 44.72 (*SD* = 6.17), respectively. Post-test scores were 52.54 (*SD* = 6.80) for the experimental group and 44.90 (*SD* = 6.17) for the control group. The average ASCS score for the experimental group after a three-month follow-up was 51.45 (*SD* = 7.03). Regarding the sub-dimension scores, the average scores for academic perseverance in the experimental group were 29.45 (*SD* = 7.11) for the pre-test, 35.09 (*SD* = 4.15) for the post-test, and 33.54 (*SD* = 5.08) for the follow-up. In the control group, the average score for academic perseverance scores were 28.81 (*SD* = 4.97) for the pre-test and 28.63 (*SD* = 4.78) for the post-test. The average academic attention scores for the experimental group was 13.90 (*SD* = 5.30) in the pre-test, 17.45 (*SD* = 3.67) in the post-test and 17.90 (*SD* = 2.38) in the follow-up. In the control group, the result of the pre-test was 15.81 (*SD* = 2.35) and the result of the post-test was 16.09 (*SD* = 2.11). The results show that the average score of the experimental group increased from the pre-test to the post-test and the score at the three-

month follow-up remained higher compared to the pre-test. In the control group, there was a limited increase in the average scores for academic attention and total scores from the pre-test to post-test, except for academic perseverance. To determine whether these increases were statistically significant, the differences in ASCS pre-test total and sub-dimension scores between the groups were analyzed using the Mann-Whitney U test. The results are presented in Table 3.

Table 3. *Mann-Whitney U Test results for pre-test and post-test ASCS scores by groups.*

Process	Dimension	Group	*n*	Mean Rank	Total Rank	*U*	*p*	*r*
Pre-test	Academic perseverance	Experimental	11	15.27	168.00	55.00	.748	-
		Control	11	7.73	85.00			
	Academic attention	Experimental	11	11.00	121.00	51.00	.562	-
		Control	11	12.00	132.00			
	Academic self-control total	Experimental	11	11.45	126.00	60.00	.100	-
		Control	11	11.55	127.00			
Post-test	Academic perseverance	Experimental	11	15.27	168.00	19.00	.005	.58
		Control	11	7.73	85.00			
	Academic attention	Experimental	11	13.82	152.00	35.00	.101	-
		Control	11	9.18	101.00			
	Academic self-control total	Experimental	11	14.64	161.00	26.00	.023	.48
		Control	11	8.36	92.00			

When examining the findings of the Mann-Whitney U-test presented in Table 3, it is observed that there is no significant difference between the groups on the pre-test measures for either the total scores of academic self-control ($U = 60$; $p > .05$) or the sub-dimensions of academic perseverance ($U = 55$; $p > .05$) and academic attention ($U = 51$; $p > .05$). This indicates that the level of academic self-control was similar among the students before the program. However, the findings from the analysis of whether the post-test total and sub-dimension scores of the ASCS differentiated between the groups after the program indicate a difference between the groups. A significant difference was found between the groups in terms of the total score of the ASCS ($U = 26$; $p < .05$; $r = .58$) and the academic perseverance dimension ($U = 19$; $p < .05$; $r = .48$), whereas no significant difference was observed in the academic attention dimension ($U = 35$; $p > .05$). Considering the fact that the reliability of the academic attention sub-dimension was lower compared to other dimensions during the development of ASCS, the weakness of the items in measuring this variable may have led to this result. It is therefore assumed that there was no significant difference between the groups in this dimension. The results of the Wilcoxon Signed Ranks test, which shows the differentiation of the children's academic self-control scores before and after the training, are shown in Table 4.

Table 4 shows that there was a significant difference in the experimental group between the total academic self-control score ($Z = -2.81$; $p < .05$; $r = .85$), the academic perseverance dimension ($Z = -2.81$; $p < .05$; $r = .85$), and the academic attention dimension ($Z = -2.81$; $p < .05$; $r = .85$) before and after training. The effect size for the difference in each of the three score types was calculated as .85 ($r = z / \sqrt{N}$), and this effect was interpreted as large according to Cohen's (1988) suggestion. When looking at the median values, there was an increase in the experimental group in both the ASCS total score (median [*Mdn*] = 47 pre-test, *Mdn* = 55 post-test), the academic perseverance sub-dimension score (*Mdn* = 16 pre-test, *Mdn* = 19 post-test) and the academic attention sub-dimension score (*Mdn* = 32 pre-test, *Mdn* = 36 post-test). The difference observed in the experimental group favors the results of the post-test. It can be

concluded that the academic self-control skills of the children whose mothers participated in the training improved significantly after the training.

Table 4. *Wilcoxon Signed Ranks test results for pre-test and post-test the ASCS scores by groups.*

Subscale	Group	Ranks	*n*	Mean Rank	Total Rank	*Z*	*p*	*r*
Academic perseverance	Experimental	Negative rank	1	1.50	1.50	-2.81	.005	.85
		Positive rank	10	6.45	64.50			
		Equal	0					
	Control	Negative rank	6	5.58	33.50	-0.05	.964	-
		Positive rank	5	6.50	32.50			
		Equal	0					
Academic attention	Experimental	Negative rank	1	0.00	0.00	-2.81	.005	.85
		Positive rank	10	5.50	55.00			
		Equal	0					
	Control	Negative rank	2	3.00	6.00	-0.10	.317	-
		Positive rank	4	3.75	15.00			
		Equal	5					
Academic self-control total	Experimental	Negative rank	0	0.00	0.00	-2.81	.005	.85
		Positive rank	10	5.50	55.00			
		Equal	1					
	Control	Negative rank	4	3.75	15.00	-0.42	.672	-
		Positive rank	4	5.25	21.00			
		Equal	3					

In the control group, there was no significant difference between the pre-test and post-test total ASCS scores (*Mdn* = 46 pre-test, *Mdn* = 46 post-test) and the sub-dimension scores (for academic perseverance, *Mdn* = 16 pre-test, *Mdn* = 16 post-test; for academic attention, *Mdn* = 29 pre-test, *Mdn* = 28 post-test) ($p > .05$). When examining the mean rank values of the groups for the overall assessment of academic self-control, academic perseverance and academic attention, it can be seen that the differences in the experimental group are greater than in the control group. The academic self-control scores of the children whose mothers participated in the program increased compared to those whose mothers did not.

The findings of the Friedman test performed to compare the total and subscale scores of three different measures of the ASCS of the experimental group are shown in Table 5. The analysis results show a statistically significant difference in the pre-test, post-test, and three-month follow-up total scores of the children in the experimental group (Fr. $\chi^2_{(2, 11)} = 15.95$, $p = .000$). After Bonferroni correction in the post hoc analysis, this difference between the pre-test and the post-test was found to be significant ($p = .000$). The effect size of this difference was calculated as .73 and interpreted as a large effect size. Accordingly, the post-test ASCS scores of the children in the experimental group are significantly higher than their pre-test scores. No significant difference was found between the pre-test and follow-up ($p = .076$) and between the post-test and follow-up measurements ($p = .329$). These findings indicate that the children's academic self-control levels increased from the pre-test to the post-test following the training, and this increase continued during the follow-up. When examining the findings related to the academic attention variable, the difference between the three different measurements of the children's academic attention scores in the experimental group is significant, and the effect size was calculated as .58 (Fr. $\chi^2_{(2, 11)} = 13.85$, $p = .001$).

In the pairwise comparisons with Bonferroni correction, this difference was found to be significant between the pre-test and the post-test ($p = .003$) and between the pre-test and the

follow-up (p = .017). The lack of a significant difference between the post-test and the three-month follow-up scores (p = 1.00) indicates that the increase continued in the same manner, demonstrating the ongoing effectiveness of the program implemented. Looking at the median scores, it can be seen that the pre-test academic attention scores (Mdn = 16) of the children in the experimental group are lower than the post-test (Mdn = 19) and three-month follow-up scores (Mdn = 19). These findings indicate that the academic attention of the children whose mothers participated in the training increased significantly after the training. The academic perseverance scores of the children in the experimental group showed a statistically significant difference in the three different measurements (Fr. $\chi^2_{(2, 11)} = 12.66$, p = .002). In the pairwise comparisons, this difference was found to be between the pre-test and post-test (p = .003), while no significant difference was found between the pre-test and follow-up (p = .099) and between the post-test and follow-up (p = .723). The calculation of the effect size ($W = \chi^2/n$ (K-1) indicates a large effect size (.63).

Table 5. *Friedman Test findings for the experimental group ASCS pre-test, post-test, and follow-up.*

							Difference b/w groups (p)		
Process	n	Mdn	df	χ^2	p	W	Pre-Post	Pre-Follow	Post-Follow
Academic self-control total									
Pre-test	11	47	2	15.95	.000	.73	.000	.076	.329
Post-test	11	55							
Follow-up	11	54							
Academic attention									
Pre-test	11	16	2	13.85	.001	.63	.033	.017	1.000
Post-test	11	19							
Follow-up	11	19							
Academic perseverance									
Pre-test	11	32	2	12.66	.002	.58	.003	.099	.723
Post-test	11	36							
Follow-up	11	36							

Like a muscle, self-control can be developed through exercise (Baumeister *et al.*, 2007). Academic self-control is also a trainable skill and can be improved with practice. Therefore, there are numerous trainings, exercises, and programs aim to develop self-control. These can be delivered directly to individuals or indirectly through parents and teachers (Duckworth *et al.*, 2014). Reviews of the literature examining the relationship between self-control and parenting suggest that most studies are predominantly conducted in early childhood and adolescence, are problem-focused (emotional and behavioral problems, depression, addictions, etc.), and include specific groups (e.g., those with attention deficit hyperactivity disorder, eating disorders, anxiety, etc.). For example in a longitudinal study examining the relationship between maternal self-regulation and child self-regulation (Bolger *et al.,* 2022), data were collected on mothers' self-regulation when the children were 6 months old, maternal attachment when the children were 7 years old, parenting practices at age 12, and adolescents' low self-regulation at age 15. Using structural equation modeling, the study found that lower maternal self-regulation was positively associated with lower adolescent self-regulation through its effects on maternal attachment and, subsequently, parenting behaviors. Common findings suggest that inappropriate parenting practices are associated with low parental self-control. Similarly, low parental self-control is associated with low child self-control. Low self-control

is seen as both a cause and a consequence of negative parenting (Bolger *et al.,* 2022; Coyne & Wright, 2014; Cullen *et al.*, 2008; Ng-Knight *et al*., 2016).

3.2. Findings Related to the Parenting Competence Of Mothers

Findings related to the research question *"Do the parenting competence of the parents who participated in the training improve significantly after the training?*" are given in this section. Findings and comments regarding the pre-test and post-test total scores from the PSCS of mothers who participated in the parent training and mothers who did not, as well as the total scores from the three-month follow-up test of mothers from the experimental group, are presented. The descriptive statistics for the pre-test, post-test and three-month follow-up measurements of the PSCS scores of the groups are presented in Table 6.

Table 6. *Descriptive statistics of parenting competence.*

	Experimental group			Control group		
Process	*n*	$\bar{X}$	*SD*	*n*	$\bar{X}$	*SD*
Pre-test	11	65.09	12.05	11	61.36	7.04
Post-test	11	73.00	10.62	11	61.63	7.03
Follow up	11	72.09	11.94	-	-	-

As shown in Table 6, the pre-test PSCS mean scores for mothers in the experimental and control groups are 65.09 (*SD* = 12.05) and 61.36 (*SD* = 7.04), respectively, while the post-test mean scores are 73.00 (*SD* = 10.62) and 61.63 (*SD* = 7.03), respectively. The mean follow-up score for the experimental group was 72.09 (*SD* = 11.94). The post-test mean scores of mothers in the experimental and control groups appear to have increased compared to their pre-test mean scores. However, this increase appears to be higher in the experimental group. Although the mean follow-up scores of the experimental group are slightly lower than the post-test mean scores, they are still higher than the pre-test mean scores. The Mann-Whitney U test was performed to determine whether these differences were statistically significant and its findings are shown in Table 7.

Table 7. *Mann-Whitney U Test Results for pre-test and post-test PSCS scores by groups.*

Process	Group	*n*	Mean Rank	Total Rank	*U*	*p*	*r*
Pre-test	Experimental	11	12.27	135.00	52.00	.606	-
	Control	11	10.73	118.00			
Post-test	Experimental	11	14.95	164.50	22.50	.010	.53
	Control	11	8.05	88.50			

According to the results of the Mann-Whitney U-test on the mothers' pre-test and post-test PSCS total scores, shown in Table 7, there is no significant difference between the groups in the pre-test PSCS total scores ($U = 52.00$; $p > .05$). On the other hand, there is a significant difference between the groups in post-test total scores ($U = 22.50$; $p < .05$). According to the effect size calculation (Cohen, 1988), this difference was calculated as .53.

The Wilcoxon Signed Ranks Test was conducted to determine the difference between the pre-test and post-test PSCS total scores in the experimental and control groups. The results of this analysis are shown in Table 8. As seen in Table 8, there is a significant difference between the pre-test (*Mdn* = 60) and post-test (*Mdn* = 73) total PSCS scores of mothers who received training ($Z = -2.60$, $p < .05$, $r = .78$). In the group that did not receive training, however, there is no significant difference between the pre-test (*Mdn* = 63) and post-test (*Mdn* = 62) total PSCS scores ($Z = -0.72$, $p > .05$). These findings suggest that the PSCS post-test scores of mothers who took the training increased significantly. According to Cohen (1988), an *r* value between .3 and .5 indicates a medium effect, while a value greater than .5 indicates a strong effect. The

difference created by the implemented program on the parenting competence of the mothers can be considered a strong effect. In contrast, no significant change was observed between the pre-test and post-test scores of the mothers in the control group.

Table 8. *Wilcoxon Signed Ranks test results for pre-test and post-test the PSCS scores by groups.*

Group	Ranks	*n*	Mean Rank	Total Rank	*Z*	*p*	*r*
Experimental	Negative rank	1	3.50	3.50	-2.60	.009	.78
	Positive rank	10	6.25	62.50			
	Equal	0					
Control	Negative rank	3	4.33	13.00	-0.72	.470	-
	Positive rank	5	4.60	23.00			
	Equal	3					

The findings of the Friedman Analysis conducted to test the differences between the three different PSCS measurements of the mothers in the experimental group are presented in Table 9. As seen in Table 9, the results of the Friedman Test conducted to observe the differences between the three different measurements of the experimental group show a statistically significant difference in the total PSCS scores of the mothers across the three time points (Fr. $\chi^2_{(2, 11)} = 7.42$, $p = .024$). Bonferroni correction was applied for post-hoc analyses. The findings indicate that the difference between the measurements is significant between the pre-test and post-test. The effect size of the difference was calculated as .34, which, according to Cohen (1988), is interpreted as a medium effect. Thus, the PSCS post-test scores of mothers in the experimental group are significantly higher than their pre-test scores ($p = .032$). However, the differences between the pre-test and follow-up scores ($p = .165$) and the post-test and follow-up scores ($p = 1.00$) were not found to be significant ($p > .05$). When examining the median values of the measurements, it can be seen that there is an increase in scores from the pre-test ($Mdn = 60$) to the post-test ($Mdn = 73$), and the three-month follow-up scores ($Mdn = 72$) are still higher than the pre-test scores. This suggests that the parenting competence levels of the mothers increased after the training.

Table 9. *Friedman Test findings for the experimental group PSCS pre-test, post-test, and follow-up.*

							Difference b/w groups (p)		
Process	*n*	*Mdn*	*df*	χ^2	*p*	*W*	Pre-Post	Pre-Follow	Post-Follow
Pre-test	11	60							
Post-test	11	73	2	7.42	.024	.34	.032	.165	1.000
Follow-up	11	72							

Feeling competent and confident in one's parenting roles is defined as parenting competence (Coleman & Karraker, 2000). Parenting competence is considered a key determinant of parenting behaviors (Hill & Bush, 2001; Jones & Prinz, 2005). Therefore, enhancing parenting competence is a common objective of family education programs (Haslam *et al.*, 2016). Numerous studies have shown that such programs are effective in strengthening parenting competence (Kaminski *et al.*, 2008; Sanders *et al.*, 2014). Within these programs, the support and skills parents acquire help reinforce their belief in and confidence about their parenting, ultimately contributing to an increase in positive parenting behaviors.

4. DISCUSSION and CONCLUSION

The aim of this study was to contribute to the development of children's academic self-control skills through positive parenting. To achieve this goal, a program called FSASC was developed to provide parents with suggestions and practical strategies to support their children

academically. The program included practices such as emotion validation to enhance communication, establishing family rules, setting boundaries, and creating routines primarily regarding internet use and eating habits. Real-life scenarios were used throughout the six sessions to make the program practical and relatable for parents. During the program development process, the challenges and support needs most commonly experienced by families regarding their children's school life were identified and prioritized.

In this experimental study, mothers participated in the online training weekly for eight weeks. Their parental competence, as well as their children's academic self-control, were compared to those of the control group. The findings showed that both the mothers who participated in the program and their children benefited from the FSASC. Children of mothers who received the training showed a significant increase in academic self-control and academic perseverance scores compared to those whose mothers did not receive the training. This improvement was maintained at the three-month follow-up. However, no significant difference was found between the groups in the academic attention subscale. This result may be due to the relatively low internal consistency of this subscale (α = .636), indicating limited item reliability for capturing the construct accurately.

The program also led to an increase in the mothers's parenting skills, and this improvement was still observed at three-month follow-up. It can be said that the mothers and children who participated in the training benefited from the FSASC compared to the control group. The academic self-control levels of the children and the parenting competencies of the mothers increased significantly. After the program, the mothers expressed that they had benefited from the training and were satisfied with their participation.

During the pandemic, under remote education conditions, distractions became stronger than ever, and external control decreased. As a result, higher levels of self-control were required to fulfill academic responsibilities. After this relatively less structured period of remote learning, students began to report difficulties in managing academic demands. These students not only fell behind in schoolwork but also in extracurricular activities and social interaction with peers, making it more difficult to demonstrate academic self-control. Meanwhile, both parents and teachers expressed concern about students who avoided studying, missed lessons, and neglected academic responsibilities. Therefore it seems both important and necessary to teach parents a set of practices that they can implement to help their children assume and fulfill their academic responsibilities independently. When children deal with their school-related works on their own, it not only supports academic success but also reduces family-child conflict.

Some practical suggestions can be made for how these findings might be applied in educational settings. According to a comparative study conducted by the OECD (2021), 10-year-old students demonstrated significantly higher levels of social and emotional skills compared to 15-year-olds. In that study, self-control was assessed under the broader domain of task performance, alongside responsibility and perseverance. These findings indicate that the pre-adolescent period is a particularly critical time for developing and reinforcing self-control skills. Therefore, school-based interventions should prioritize this developmental window to cultivate students' capacity for behavioral regulation and academic persistence. Embedding self-control strategies into daily classroom routines, such as goal setting, planning, and self-reflection, can help students internalize effective academic habits. Teachers, just like parents, can play an essential role by providing immediate and constructive feedback and encouraging students to monitor their attention, effort, and emotional responses. All these habits and skills positively affect academic success. Therefore, programs aimed at supporting academic self-control may be developed and implemented by involving both teachers and schools.

Feeling parental supervision and support, and growing up in a well-structured, safe, and orderly environment, contributes to the early development of self-control. Behavioral self-control begins to develop in early childhood and is largely influenced by parenting strategies such as

praise, encouragement, warmth, and guidance (Calkins *et al*., 2002). It is also known that the use of negative parenting strategies predicts lower levels of self-control in children (Beaver *et al.,* 2010; Cullen *et al*., 2008). When discussing parenting, it is more meaningful to consider both mothers and fathers together, if possible. However, in this study, only mothers participated, and fathers were not included. Therefore, this can be considered a limitation of the study. Future studies could involve mixed groups that include both mothers and fathers, or focus specifically on fathers to examine the effectiveness of the training from a broader parental perspective.

In this study, the parent training program was implemented remotely and individually due to the Covid-19 pandemic conditions. The online format had both positive and negative effects on its overall effectiveness. On the positive side, the absence of time and location constraints was a factor in increasing maternal participation. For example, scheduling sessions after 9 p.m. for working mothers, or rescheduling for those who missed a session due to unexpected commitments, proved to be effective. This flexibility -allowing missed sessions to be easily made up- was considered helpful, based on verbal feedback from both facilitators and participants. On the other hand, the lack of dynamism typical of face-to-face training, limited physical interaction in activities such as role-playing, and occasional technical issues (e.g., sound or video problems due to internet connectivity) were seen as disadvantages of online implementation, and as a limitation of the study. It is recommended that the effectiveness of the program also be evaluated in a face-to-face and group setting.

Additionally, this study was conducted in a residential area with families from low- to middle-income backgrounds, all enrolled in public schools. The impact of the program may also be examined among different socioeconomic groups, including private school populations. Future academic self-control studies may involve not only parents but also their children in the intervention process. Similar programs can also be tested in school settings by including classroom guidance counselors in middle schools and classroom teachers in primary schools.

In all areas of child development, parents play a central supportive role. They influence their children positively or negatively not only through genetic inheritance but also through their parenting practices and the environment they create. For this reason, any effort directed toward supporting parents is also an investment in child development. Like other studies focusing on parents, this research can be considered a contribution to children's overall well-being.

Declaration of Conflicting Interests and Ethics

The authors declare no conflict of interest. This research study complies with research publishing ethics. The scientific and legal responsibility for manuscripts published in IJATE belongs to the authors. **Ethics Committee Number**: Ankara University Social Sciences Ethics Committee, 13.03.2020-3/58.

Contribution of Authors

Hanife Büyük: Literature review, Resources, Methodology, Data collection, Data analysis, Writing, and Editing. **Selahiddin Öğülmüş**: Supervision and Validation.

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