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Application of stepping stones triple-p on parents with moderate intellectual disability adolescent who has emotional and behavioral problems

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Abstract

This study was conducted to determine the effectiveness of the Stepping Stones Triple-P (SSTP) intervention in a family of teenagers with moderate intellectual disability with emotional and behavioral problems. This intervention program aims to help prevent emotional and behavioral problems in children with *moderate intellectual disability* through positive parenting training. This intervention program is carried out in 9 sessions; each session lasts ± 60 – 120 minutes at each meeting and lasts ± three weeks, carried out online through the *Zoom meeting*. The intervention method in this study was implemented through lectures, discussions, worksheets, and roleplay methods. This study used a single-case design with a pretest-posttest design technique to determine the effect of the intervention on the subject. Children's behavior problems were measured using the Child Behavior Checklist (CBCL) and a diary of children's behavior filled in by parents during pre-post intervention and follow-up. The *Parenting Sense of Competence Scale (PSOC) measures parents' perceptions of competence in parenting practices*. Participants were the parents (mother, 41 yo, Civil Servant) of a boy aged 16 years 4 months (N) diagnosed with *moderate intellectual disability* with emotional and behavioral problems. The results of this study indicate that the SSTP intervention program effectively reduces the emotional and behavioral problems shown by N by increasing the knowledge and skills of parents in implementing positive parenting strategies. In this study, there were positive changes in parenting practices applied by mothers to children, such as forming a harmonious and warm relationship between mothers and children.

Keywords: *emotional problems; moderate intellectual disability; positive parenting; stepping stones triple-p*

Suggested citation

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Introduction

Intellectual Developmental Disorder (IDD) is a disorder that occurs during the developmental period and includes deficits in intellectual and adaptive behavior in the conceptual, social, and practical domains. This disability begins before the age of 22 (American Association on Intellectual and Development Disabilities (AAIDD), 2022; American Psychiatric Association, 2013). Children with IDD have varying levels of disability severity, with DSM-5 classifying severity levels as mild, moderate, severe, and profound, based on the child's abilities and support needs, as well as IQ scores indicating limitations in the child's intellectual functioning (American Psychiatric Association, 2013; Mash & Wolfe, 2016).

Research shows that children with IDD are at a three to five times greater risk for emotional and behavioral problems than typically developing children (Einfeld et al., 2011; Mash & Wolfe, 2016). Common problems found in children with IDD include impulse control disorders, anxiety disorders, and mood disorders. These are considered part of the spectrum of problems that occur along with IDD, especially during adolescence, which is a period of increased risk for mood disorders and other internalizing problems (Hodapp & Dykens, 2009; Mash & Wolfe, 2016).

The participant in this study is N, a 16-year-old boy who attends class 7 at SMPLB Bina Insani. N's parents brought him to a psychologist with complaints that N often shows angry emotional reactions by repeatedly asking the same questions to his parents, shows angry emotional reactions when teased by friends/siblings, and is sometimes impatient when he wants something. N's problems were handled by a Clinical Child Psychology Professional student and accompanied by a Senior Psychologist. Psychological examination of N was conducted through interviews (with the mother, father, and child), observations (of the child), intelligence tests (Standford Binet - LM), projection tests (BAUM, DAP, HTP), and informal tests (developmental checklist).

N has experienced several problems in his developmental history. N was born with a physical condition that resulted in narrowing of the penis opening. From the age of 5 months to 10 years, N frequently experienced high fever and seizures and was intermittently taking Depakene (Valproic Acid) medication. In addition to his medical history, N also experienced delays in some phases of his development. At the age of 6, N underwent an MRI examination at RSCM which showed irreversible brain atrophy. At the age of 7, N was diagnosed with mild mental retardation from a psychological examination at UI. Based on the latest examination results, N meets the diagnostic criteria for Intellectual Developmental Disorder (IDD) with a moderate level of severity classification. N's behavior meets all of the symptom criteria for IDD - moderate in DSM-5 (American Psychiatric Association, 2013).

N has deficits in intellectual and adaptive functions, both in the conceptual, social, and practical domains. N has very weak cognitive abilities, followed by language skills, reasoning abilities, conceptual thinking, numerical abilities, and N's memory function is very low. N is also not able to read, write, and N's social communication skills are very limited. N's social judgment and decision-making abilities are also limited, and N often feels frustrated when unable to understand responses given by parents and has difficulty expressing their needs. N has an intelligence capacity that functions in the classification of moderate mental retardation (IQ = 36, Stanford Binet scale), with N's chronological age during IQ testing being 16 years and 4 months, and N's mental age being at 5 years and 6 months.

In addition, the parents have felt significant changes in daily family activities during the Covid-19 pandemic and online learning. The mother, in particular, complains of N's problematic behavior, such as inappropriate angry emotional reactions, repeatedly asking questions with a high-pitched tone of voice, arguing with her when told not to do something or asked to do schoolwork, and getting angry when disturbed by siblings or when fighting over toys and showing a desire to hit them.

Research shows that children with intellectual disabilities have a three to five times higher risk of emotional and behavioral problems than typically developing children (Einfeld et al., 2011; Mash & Wolfe, 2016). This is especially true during adolescence, where those with intellectual

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disabilities are at increased risk for mood disorders and other internalizing problems (Hodapp & Dykens, 2009; Mash & Wolfe, 2016).

Emotional and behavioral problems shown by children with intellectual disabilities are due to limitations in communication skills, additional stressors, and deficits in their neurological functions (Adams & Oliver, 2011). Various emotional and behavioral problems shown by children with intellectual disabilities are interpreted as ineffective coping strategies, related to their efforts to control what is happening around them (Ogundele, 2018). The socio-emotional regulation ability of children with intellectual disabilities towards social adjustment is highly dependent on their mental age development, not their chronological age (Baurain et al., 2013). Especially during the Covid-19 pandemic, children with intellectual disabilities are vulnerable to increased psychological stress and emotional and behavioral problems, caused by limited understanding, limited self-protection ability, activity restrictions, and changes in daily routines (Courtenay & Perera, 2020).

In terms of academic aspect, N has a very weak learning ability. When working on tasks, N needs 2-5 repetitions of instructions, and has difficulty understanding formal and lengthy task instructions. N can only understand the meaning of the instructions when they are modified into simple, short, familiar language, and involve concrete examples. N's language ability is also very low, communicating and describing things using simple 2-5 syllable words and not using many conjunctions. N's numerical and memory abilities are also very low. N is able to recognize and name numbers 1-20 very slowly and still needs help to remember the next numbers after counting to 10. On the other hand, N has the advantage of being able to maintain focus on tasks given to him until completed, without being distracted by things around him. Although in the process, N takes a long time to complete tasks and needs assistance from others to maximize his abilities.

In terms of physical aspect, N has very rigid visual motor skills, especially in fine motor skills when writing or drawing. On the other hand, N has adequate gross motor skills, enjoying heavy work such as sweeping the garage or digging in the field near his house.

In terms of social and emotional aspect, N is a child who needs time to adjust to his environment and to people he meets for the first time. N prefers to interact with younger friends and siblings. N's ability to understand social situations is also limited, only able to understand simple and familiar social situations in his daily life. In more complex social situations, both at home and at school, N still needs adult guidance to develop good moral understanding and what is right and wrong that he can do and imitate. The same goes for N's adaptive and independent abilities, N still needs guidance from adults to develop his adaptive and independent abilities to the fullest. N also shows a need for help from adults around him in communicating more complexly and in the decision-making process in his life. N often feels frustrated when unable to understand the response or answer given by his parents and has difficulty expressing his needs. In addition, N shows behavioral and emotional problems in the form of inappropriate emotional reactions such as repeatedly asking questions with a rising tone of voice, debating with his mother with repeated sentences when prohibited or asked to do school work, and getting angry when disturbed by siblings or fighting over toys and showing movements indicating wanting to hit his sibling. On the other hand, N has the advantage of having a high fighting spirit and showing persistence in doing things he enjoys.

Regarding parenting and the roles of parents at home, both parents have different parenting roles. The mother plays a bigger role in parenting and tends to demand more compared to the father. Both parents complain that they do not understand the limitations of N's development with moderate intellectual disability, and they often feel confused and give inappropriate responses to N's emotional and behavioral problems. Parents are also unsure about the parenting skills they provide to N, and they have inappropriate expectations for N's development. This causes N to have emotional and behavioral problems during their adolescent development. Therefore, parents need and expect knowledge and skills gained during interventions to help them apply effective and appropriate parenting to N.

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Children with moderate intellectual disability can improve their socio-emotional skills through training activities in their daily interactions with their parents/caregivers, repeated continuously (Adibsereshki et al., 2016). Therefore, parents of children with intellectual disability accompanied by behavioral and emotional problems are crucial to receive The Stepping Stones Triple P Positive Parenting Program (SSTP) intervention, which is considered to effectively improve parenting practices and reduce children's behavioral and emotional problems (Y. Lee et al., 2022).

SSTP is an adaptation of the Triple P-Positive Parenting Program developed for families with children with developmental disabilities showing behavioral problems (Roberts et al., 2006). SSTP aims to prevent the development of more severe behavioral and emotional problems and maximize the child's potential by increasing parents' knowledge, skills, and confidence (Mazzucchelli & Sanders, 2012). Specifically, SSTP targets the social context that affects everyday parent-child interactions, including primary health care services, disability services, childcare and school systems, and broader political systems, to promote competent parenting among parents of children with developmental disabilities (Mazzucchelli & Sanders, 2012). The results of a meta-analysis of the SSTP intervention program have successfully reduced children's problems and were followed by significant overall effects on parenting styles, parenting satisfaction and efficacy, parental adjustment, parental relationships, and children's behavior (Tellegen & Sanders, 2013).

This study aims to help prevent the development of emotional and behavioral problems in children with moderate intellectual disability through positive parenting training that can increase parents' knowledge, competence, and confidence in adapting parenting methods to children with moderate intellectual disability. The intervention was given online due to the ongoing Covid-19 pandemic situation. The researchers formulated a hypothesis to be tested in this study that participants experienced a decrease in emotional and behavioral problems when facing their family and daily activities after parents and participants participated in the online SSTP intervention approach. The results of this study are expected to be a reference for the implementation of SSTP-based online technology interventions to reduce emotional and behavioral problems in adolescents with moderate intellectual disability or other neurodevelopmental disorders.

Method

Participants

The research participant is the mother of a 16-year 4-month-old boy diagnosed with moderate intellectual disability, who has emotional and behavioral problems. The mother, who is a participant in this study, does not yet fully understand the limitations in N's development due to his moderate intellectual disability. The mother often feels confused and responds inappropriately to N's emotional and behavioral problems. She is also unsure about the parenting skills she provides to N, and has unrealistic expectations, demanding that N behave according to her expectations without considering his developmental limitations.

The mother was chosen as the only participant in this intervention program because she plays a greater role in parenting N than the father. Additionally, the father does not have time to participate actively in the intervention program due to his demanding job, but he is willing to

Research Objective

The purpose of this study is to examine the effectiveness of implementing the SSTP intervention program in reducing emotional and behavioral problems in children with moderate intellectual disability and improving parenting competence.

Research Design

The aim of this research is to investigate the effectiveness of the SSTP intervention program in reducing emotional and behavioral problems in children with moderate intellectual disability and improving parental caregiving competencies. The research design utilizes a single case design by comparing the pre-post test results to assess the impact of the SSTP approach intervention. The data analysis method for the single case design research involves the visual analysis of data from the initial and final assessments, which can be presented in graphical form (Gravetter & Forzano, 2018). There are four characteristics that need to be considered to determine the changes that occur in the variables under study: (1) changes in the average level of behavior, (2) direct changes in the level of behavior, (3) trends in changes in one direction (trend line), and (4) latency in behavior changes. In this study, the variables measured are emotional and behavioral problems in children and parental caregiving skills. Data collection using pre-post tests is done using CBCL and PSOC measurement tools, as well as daily behavioral records of the child.

Instruments

1. Child Behavior Checklist (CBCL)

The Child Behavior Checklist (CBCL; Achenbach, 1991; Guttmannova et al., 2008) is a questionnaire used to identify behavioral and emotional problems in children and adolescents aged 4 to 18 years. The CBCL consists of 113 statements scored on a three-point Likert scale (0=never occurs, 1=sometimes occurs, 2=always occurs). The problem scale includes a range of scores that indicate whether the behavior is within normal limits, borderline, or clinical range. The CBCL questionnaire used in this intervention has been adapted by the Developmental Psychology section, Faculty of Psychology, Universitas Indonesia.

2. Parenting Sense of Competence Scale (PSOC)

The Parenting Sense of Competence Scale (PSOC) is a questionnaire used to measure parents' perceptions of their competence as parents (Gibaud-Wallston & Wandersman 1978; in Bor et al., 2002). The PSOC consists of two dimensions: (a) satisfaction with the parenting role (reflecting the level of frustration, anxiety, and motivation of parents), and (b) sense of efficacy. The PSOC consists of 17 items, and each item is scored on a Likert scale ranging from 1 (strongly agree) to 6 (strongly disagree), with 9 items being reverse-scored. The PSOC questionnaire used in this intervention is the PSOC questionnaire adapted into Indonesian by Nida (2017).

3. Supplementary Data (Behavior Diary)

The other instrument that serves as additional data in this intervention program is a daily record of problematic behavior. Problematic behavior exhibited by the child includes 1) inappropriate angry emotional reactions by repeatedly asking questions and accompanied by a raised tone of voice, 2) arguing with repetitive sentences with the mother when prohibited or asked to do schoolwork, and 3) becoming angry when disturbed by younger siblings or when fighting over toys and exhibiting movements indicating a desire to hit the sibling. These problematic behaviors will be recorded qualitatively and quantitatively. The instrument for recording the child's problematic behavior will be filled out by the parent and used to identify situations that can trigger the appearance of these problematic behaviors, as well as to monitor the frequency of how often these behavior problems occur within a certain period of time.

Procedure

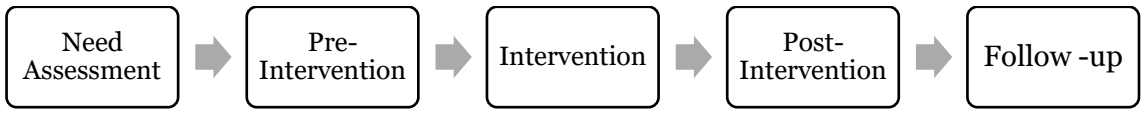

Figure 1. Research Procedure

In Figure 1, the research procedure flow for implementing the SSTP intervention has been described. The training module is adapted from the Practitioner's Manual for Standard Triple P

(Sanders, Markie-Dadds, & Turner, 2001) and tailored to meet the participants' needs. The intervention program's design and implementation process were supervised by two Senior Psychologists who were also co-authors in the study. The intervention program consists of nine stages, with each session lasting approximately 60-120 minutes and spanning three weeks (May 18 - June 1, 2022). The sessions were conducted online via the Zoom meeting application. The program consists of an assessment stage, a pre-intervention stage, five intervention stages, a post-intervention stage, which was conducted two days after completing the intervention stages, and a follow-up stage conducted two months after completing the entire intervention program. A more detailed explanation of the intervention activities can be seen in Table 1, 2, 3, 4.

Table 1. SSTP assistance for N

Skills to be mastered by N	Goals	Method of Implementation on N
Session 1		
Strategies for developing positive relationships with children	Mothers can find out strategies for developing positive relationships with N	– Quality time with children – Communicate with children – Show affection (affection).
Strategies encourage expected behavior in children	Mothers can find strategies to encourage the expected behavior in N	– Using descriptive praise, – Give attention, – Provide fun activities
Strategies teach new skills that want to be formed in children	Mothers can find out strategies for teaching new skills and behaviors that you want to form in N	– Provide examples of behavior – Use behavior charts – Organize family gatherings (if needed)
Session 2		
Strategies for dealing with and managing unwanted behavior from N	Mother knows how to make rules and apply consequences to N	– Establish ground rules – Reprimand children when they break the rules – Give orders to children – Deliver consequences effectively – Teaches children to communicate desires
Session 3		
Skills in practicing strategies that have been learned in sessions 1 – 2 to N through roleplay with children.	Mothers can practice the strategies that have been learned in session – 2 to N	- Roleplay with children by applying strategies that have been learned in sessions 1 -2, through activities with children. (Activity: helping prepare ingredients and helping mother cook noodles)
Session 4		
practice identifying high-risk situations giving rise to problem behaviors and other risky situations	Mothers can identify situations or activities in the home environment that are at risk of causing: (1) inappropriate emotional reactions of anger by asking repeatedly and with high intonation, (2) arguing with parents when banned or	- Make identification of high-risk situations giving rise to problematic behavior and other risky situations - Create planned activities and routines.

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Skills to be mastered by N	Goals	Method of Implementation on N
	asked to do school work, and (3) getting angry when disturbed by younger siblings or fighting over toys, and showing movements of wanting to hit younger siblings	
Session 5 Skills in practicing strategies that have been learned in sessions 1 – 4 to N through roleplay with children.	- Mothers can apply strategies to encourage positive parent-child relationships - Mothers can apply strategies to encourage the expected behavior in children - Mothers can apply strategies to teach new skills/behavior to children - Mothers can apply strategies to deal with and manage problematic behavior in children - Mothers can apply planning as an effort to prevent unwanted behavior from appearing in children in risky situations.	Roleplay with children by applying the strategies that have been learned in sessions 1 -4 through activities with children. (Activity: helping to prepare cooking ingredients and helping mother to cook bakwan and mother explaining plans for the pilgrimage to parents using visual aids)

Table 2. Mother's intervention on N

Skills to be mastered by N	Implementation Method
– N will have a new activity (helping parents as a substitute for children's activities playing cellphones in the morning) – N will have a nap schedule (helping children reduce the schedule of playing outside the home without parental supervision) – N will know and be able to follow the rules that have been agreed upon by himself and his parents, along with the rewards and consequences. – N will know the consequences of every positive behavior he shows – N will be able to form new positive behaviors that can reduce the risk of the emergence of emotional and behavioral problems in children.	– Mothers give descriptive praise to children whenever children show positive behavior that they want to form in children – Mothers play games or activities with children that can stimulate child development – The mother discusses the target behavior that she wants to form in the child through visual and concrete writing of the rules – Mothers identify situations or activities in the home environment that can cause emotional and behavioral problems in children – The mother makes planned activity routines that are agreed upon with the child and considers the child's limited abilities.

Table 3. Results of Mother's Intervention on N

Skills mastered by N	**Skills that have been mastered by N**	**Conclusion on positive increase in the behavior of Mother and N that occurred during the intervention process**	
		Improvement in child behavior	**Improvement in Mother's behavior**
– N has a new activity (helping parents as a substitute for children playing cellphone activities in the morning) – N has a nap schedule (helps children reduce their schedule for playing outside the home without parental supervision) – N knows and can follow the rules that have been agreed upon by himself and his parents, along with the rewards and consequences. – N knows the consequences of every positive behavior he shows – N can form new positive behaviors that can reduce the risk of emotional and behavioral problems in children.	(all skills can be implemented by N because they have been adapted to the abilities of parents and children in their implementation)	1) The frequency of angry emotional reactions and problematic behavior N decreased 2) Questions that are repeated are starting to rarely appear 3) N is getting used to scheduling related to the rules of the new behavior that N wants to form (washing cleanly, helping Mom in the morning, not playing HP in the morning, and taking a nap after school), even though she still has to be reminded by Mom. 4) N managed to comply with the rules that had been agreed upon regarding the new behavior that N wanted to form (bathing clean, helping mother in the morning, not playing with cellphones in the morning, and taking a nap after school), and every Saturday N started crying reward of the rules that have been implemented	1) Mother is starting to be able to identify the factors that trigger naufal anger and are more able to respond to N 2) Mother began to be consistent and accustomed to the rules that had been agreed upon with N 3) Mother feels that now Mother is more able to build effective communication and carry out certain activities with N. Previously, Mother felt that she was more easily provoked by angry emotions when communicating with N and engaging in debate when Mother forced N to do certain activities. 4) Mother continues to try and remind herself and Father to work together to implement strategies and apply rules effectively and consistently in raising N and N's younger siblings

Table 4. intervention implementation activities and objectives

Session	Activities	Goal
Pre	The PI explained to the mother about the SSTP program, the characteristics of children with moderate ID and emotional and behavioral problems in N, the principles of positive parenting. The PI explored behavioral problems and parenting issues through filling out questionnaires (CBCL and PSOC) by parents, and interviews for additional data, as well as filling out children's daily behavior records. Mothers and PIs describe and formulate behavioral targets to be changed in interventions and things that can influence behavior. The PI observes and discusses the results of the mother-child interaction in a natural (home) setting for 30 minutes. PI explains the material factors that influence child behavior problems and the principles of positive parenting.	The mother understands the intervention program that will be undertaken, behavioral problems in children with moderate intellectual disability, the principles of positive parenting in children with moderate - ID. The mother determines the specific behavior problems to target. PI obtained pre-test results with a questionnaire. Parents and PI determine the goals of the intervention
1	PI delivered material on strategies for developing positive relationships with children, material on strategies for encouraging expected behavior in children, material on strategies for teaching new skills that children want to form. PI and Mother agree to practice at least 2 strategies that have been learned in this session at home with the child. The PI asks the mother to discuss the desired reward for the behavior shaping strategy with the child.	Mother knows the strategy for developing a positive relationship with N, knows the strategy for encouraging the expected behavior in N, knows the strategy for teaching new skills and behaviors to be formed in N
2	Discuss the results of the daily recording sheet of the behavior shown by N and the strategies that have been applied by the parents. PI delivers material on strategies for managing unwanted behavior. PI and Mother discussed several strategies for managing unwanted behavior from N	Mother knows strategies for dealing with and managing unwanted behavior from N, Mother knows how to make rules and apply consequences to N. Mother and N determine rules, consequences, and rewards
3	Discuss the results of the daily recording sheet of the behavior shown by N and the strategies that have been applied by the parents. The PI reviewed the main points in intervention material 1-2 and explained the roleplay – observation activities in this session. PI and Mother discussed the results of observations.	Mother can practice strategies to encourage a positive relationship between Mother – N, teach new skills and behaviors to N, face and manage N's behavior problems.

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Session	Activities	Goal
4	Discuss the results of the daily note-taking sheet from the behavior shown by N and the strategies that have been applied by the parents from the previous learning session. The PI and Mother do exercises in identifying high-risk situations that lead to problematic behavior and other risky situations, and exercises in making planned activity routines.	You can identify situations or activities in the home environment that are at risk, you can make plans to prevent the emergence of problem behavior N and make activity plans to encourage the development of the skills and behaviors expected in N.
5	Mendiskusikan hasil lembar pencatatan daily basis of the behavior shown by N and strategies that have been applied by parents from the previous learning session. The PI reviews the main points in intervention material 1-4 and explains the roleplay – observation activities in this session. The PI and the mother discuss the results of the observations and plan what things the mother can apply in her daily activities with the child.	Mothers can apply strategies to encourage positive parent-child relationships, encourage expected behavior in children, teach new skills/behaviors to N, deal with and manage problematic behavior in N, and mothers can implement planning as an effort to prevent unwanted behavior from occurring from N in a risky situation
Post	The PI reviews and provides feedback regarding changes/improvements that have been achieved by you and N. PI discusses with you ideas regarding maintaining the changes that have been made and how to solve problems in the future. Mother fills out the post-intervention questionnaire namely the CBCL and PSOC, as well as collecting diaries of children's behavior	Mothers get feedback about changes and improvements in parenting and child behavior to be achieved, insights related to maintaining the changes/improvements that have been achieved. The PI obtained the post-test results from the questionnaire and daily behavior records.
Follow Up	The PI interviewed the mother regarding the child's behavior development and returned to fill in the CBCL and PSOC, filling out the debriefing sheet to discuss the results of the intervention related to things that needed to be maintained from increasing parental positive parenting and reducing children's behavioral and emotional problems.	Mothers get feedback from the development of behavior and children and positive parenting from parents after completing the intervention.

Result and Discussion

Result

N's Behavior: Behavioral Records

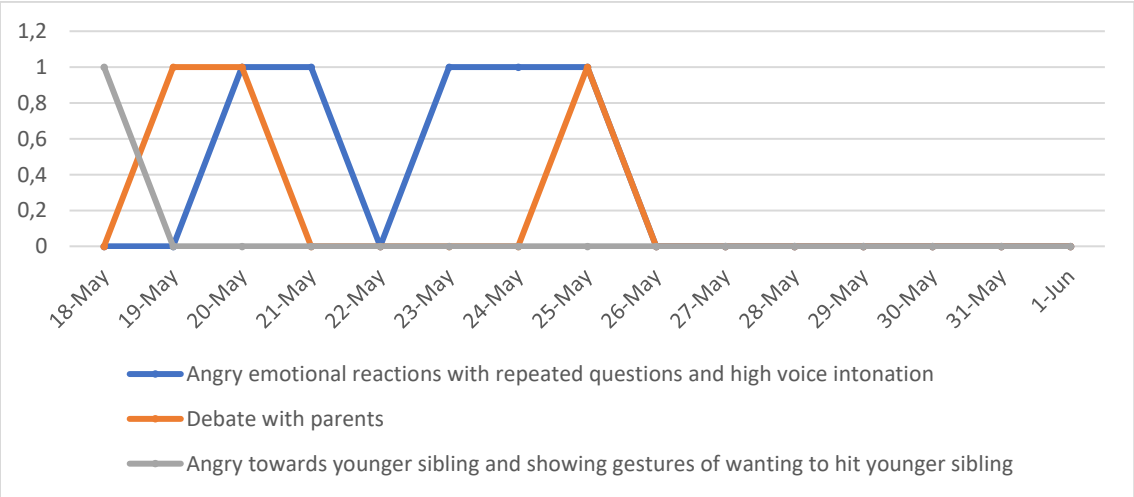

Figure 2. Graph of Problematic Behavior Frequency

The data from the daily recording of N's behavior during the baseline period showed that N exhibited angry emotional reactions several times by repeatedly asking questions, speaking in a high-pitched voice, arguing with younger siblings and parents, and showing anger towards the younger sibling. Furthermore, when the intervention was implemented, N's angry emotional reactions of repeatedly asking questions, speaking in a high-pitched voice, arguing with younger siblings and parents, and showing anger towards the younger sibling began to decrease from the daily recording of N's behavior. The intensity and quality of the debates between N and their parents began to decrease when the parents provided direct responses using simple and concrete language to N's questions and reminded N of the rules agreed upon by N and their parents.

Child behavior measurement using Child Behavior Checklist (CBCL)
Table 2. CBCL Pre-Post Intervention

CBCL		**Pre-Test**	**Post-Test**
Total	Total Score	43	23
	Total T	62	53
		borderline	normal
Internalizing	Int. Score	11	7
	Int. T	60	53
		borderline	normal
Externalizing	Ext. Score	13	2
	Ext. T	59	40
		approaching borderline	normal

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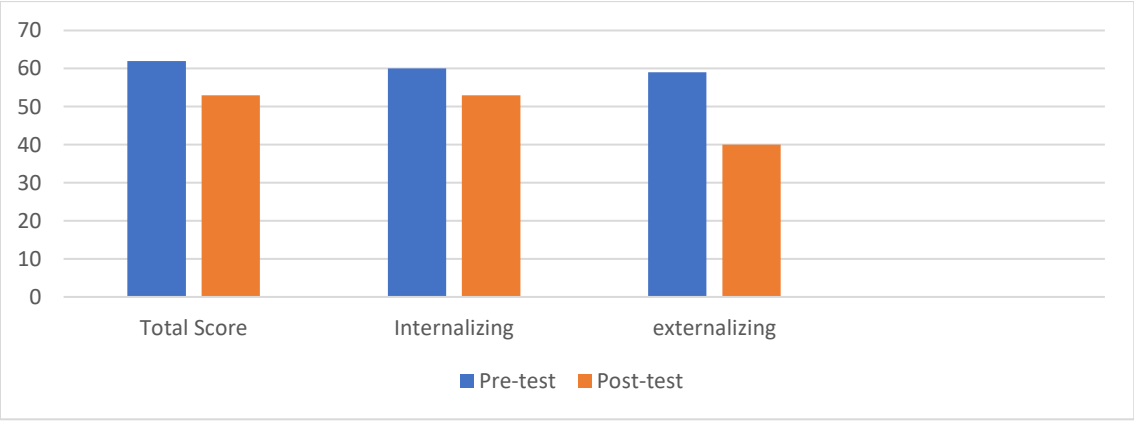

Figure 3. Comparison of Pre-Post Intervention CBCL Scores

Table 3. Internalizing and Externalizing CBCL Problem Aspect Scores, Pre-Post Intervention

Aspect		**Pre-Test**	**Post-Test**	**Clinical Threshold**
Internalizing	I Withdrawn	6	4	6,5 – 8
	II Somatic Complaints	0	0	4 -5
	III Anxious/ Depressed	5	3	10 -12
	IV Social Problems	7	5	5,5 – 7
	V Thought Problems	2	1	3 -4
	VI Attention Problems	8	6	10 – 11
Externalizing	VII Delinquent Behavior	4	1	7 – 10
	VIII Aggressive Behavior	9	1	18 – 21
	IX Other Problems	4	4	

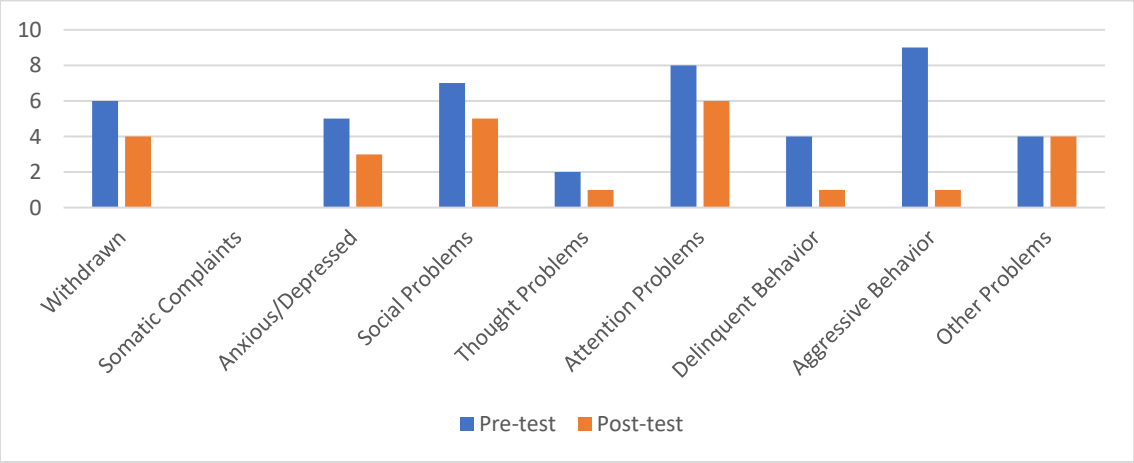

Figure 4. Comparison of Internalizing and Externalizing Problem Scores of CBCL Pre-Post Intervention

In tables 2, 3, 4 and figures 2, 3, 4, it can be seen that in the pre-test intervention phase, N showed a total score for behavioral and emotional problems at the borderline level (Total score = 43, T_{total} = 62). From the total score, it can be seen that N has internalizing behavioral problems at the borderline level (Int = 11, T_{int} = 60) and externalizing behavioral problems at a normal level but approaching the borderline level (Ext = 13, T_{ext} = 59). In more detail, it can be seen that the score for behavioral problems that are at the threshold of clinical range is social problems (score = 8). Meanwhile, behavioral problems in withdrawal, somatic complaints, anxious/depressed, thought problems, attention problems, delinquent behavior, and aggressive behavior, as well as other behavioral problems, are in the normal range.

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After going through a series of Stepping Stones Triple-P intervention programs, N showed a decrease in total score of behavioral problems from 43 to 23 (Post-test; Total score = 23, T_{total} = 53) and is in the normal level. Pre-test to post-test score decreases were also found in externalizing and internalizing behavioral problems, which are currently in the normal level of behavioral problems (Post-test; Ext = 2, T_{ext} = 40, Int = 7, T_{int} = 53). In more detail, the behavioral problem in social problems also decreased to the normal level.

Parenting Behavior of Parents (Mother)

Parenting Sense of Competence Scale (PSOC) Measurement Results
Table 4. Parenting Sense of Competence Scale Pre-Post Intervention

	Pre-Test	Post-Test
Total	77	88
Efficacy	3 (4.25)	43 (5.37)
Satisfaction	43 (4.77)	45 (5)

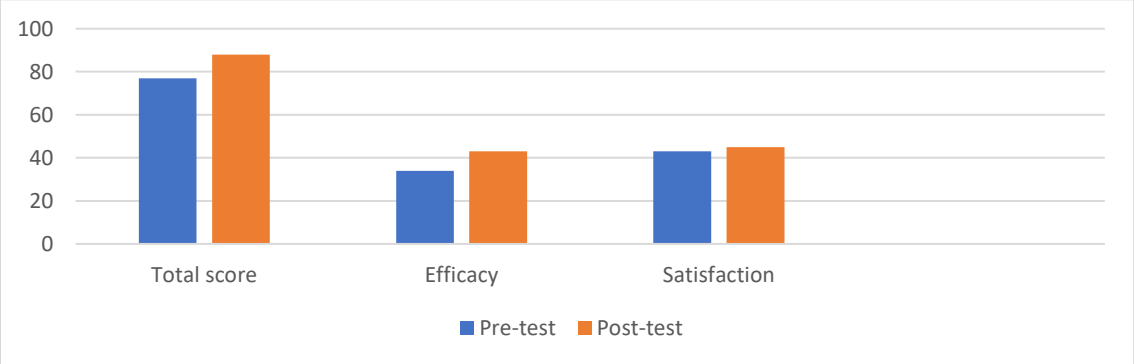

Figure 5. Parenting Sense of Competence Scale Score Comparison of Pre-Post Intervention

In table 4 and figure 5, it was found that there was an increase in the mother's total score regarding parenting competence after participating in a series of Stepping Stones Triple-P (SSTP) intervention programs from 77 (high parental confidence) to 88 (high parental confidence). Furthermore, in more detail, one can also see an increase in the score on the aspect of a sense of accomplishment as a parent from 34 (mean score = 4.25 - moderate) to 43 (mean score = 5.37 - high), and an increase in score on the aspect of satisfaction with parenting roles from 43 (mean score = 4.8 - moderate) to 45 (mean score = 5 - high).

Follow – Up
Table 5. Results of Pre-Post and Follow-up

Measurement		Pre- Intervention		Post- Intervention		Follow up		Conclusion
		Score	Level	Score	Level	Score	Level	
CBCL	Total	62	borderline	53	normal	49	normal	Reduction
	Internalizing	60	borderline	53	normal	48	normal	Reduction
	Externalizing	59	approaching borderline	40	normal	47	normal	a slight increase, from post test score to follow up

Measurement		Pre- Intervention		Post- Intervention		Follow up		Conclusion
		Score	Level	Score	Level	Score	Level	
		Score	Level	Score	Level	Score	Level	
PSOC	Total	77	high	88	high	85	high	a slight decrease from post test score to follow up
	Efficacy	34 (4.25)	moderate	43 (5.37)	high	42 (5.25)	high	
	Satisfaction	43 (4.77)	moderate	45 (5)	high	43 (4.77)	moderate	

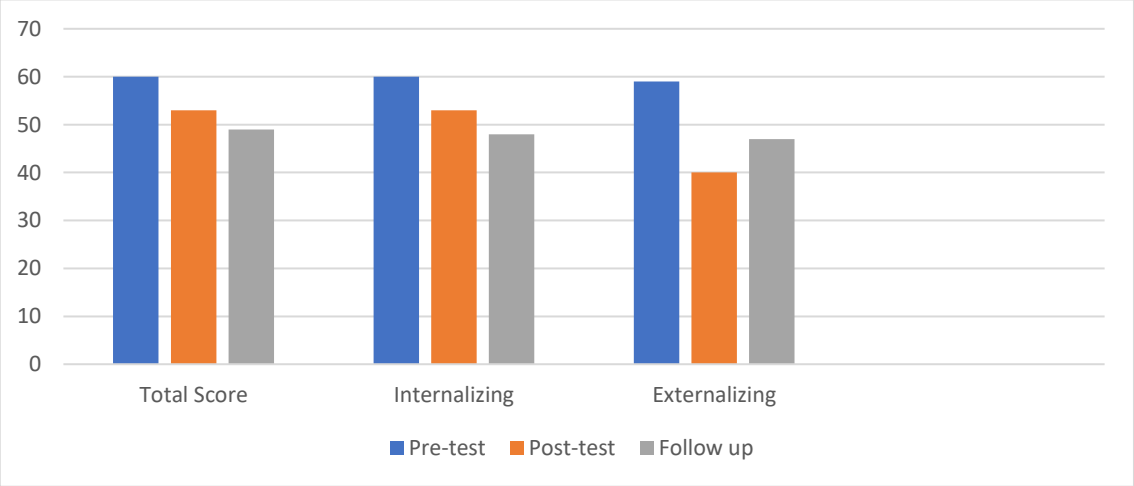

Figure 6. Comparison of Obtained CBCL Scores at Pre-Post and Intervention Follow Up

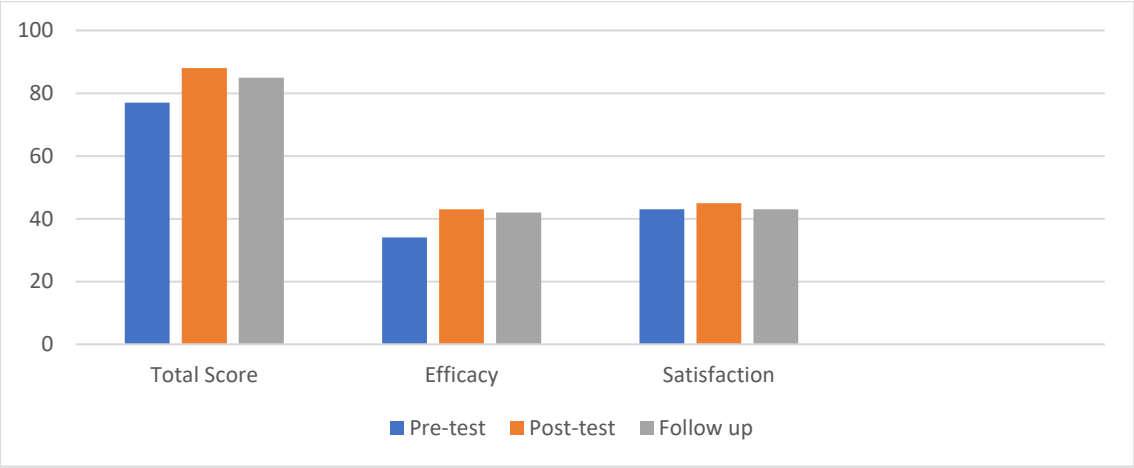

Figure 7. Comparison of PSOC scores at pre-post and follow-up interventions

Based on figures 6 and 7, there was a decrease in scores from post-test to follow-up in overall problem behavior and internalizing problem behavior (T.total posttest = 53 and T.total follow up = 49, T.int posttest = 53 and T.int follow up = 48). On the other hand, there was a slight increase in scores for externalizing problem behavior from post-test to follow-up, although overall it remained at a normal level (T.ext posttest = 40 and T.ext follow up = 47). The slight increase in externalizing problem behavior scores was due to the fact that after the intervention was completed, the parents went on the Hajj pilgrimage and the rules that were made during the intervention process were continued by the nanny. However, during the implementation of the rules with the nanny, there was not always consistency and there were often rule violations, as well as inconsistency in giving rewards. Therefore, when the parents finished their Hajj pilgrimage, they and N needed time to get back to following the agreed-upon rules. There were a few times when the parents and N argued with raised voices when N was not allowed to play and did not want to follow the rules that had been established. Currently, the parents are continuing to rebuild positive parenting with N, reminding N of the rules and rewards every time N does not want to follow the agreed-upon rules.

Furthermore, it can also be seen in the presentation of the PSOC score data that there was a slight decrease in scores from post-test to follow-up (T.PSOC posttest = 88 and T.PSOC follow up = 85), as well as a slight decrease in scores on the efficacy and satisfaction scales (Efficacy posttest = 43 and Efficacy follow up = 42, Satisfaction posttest = 45 and Satisfaction follow up = 43), although overall they were still at a high level. This decrease in scores occurred because the mother felt a sense of dilemma regarding her parenting abilities for her child, which arose because she had a role as a working mother and a mother of a child with special needs who required special care and parenting, but she did not have time to always be with her child. Occasionally, the mother felt guilty for not being able to be a good parent to her child (N). Although the mother had tried her best by providing a tutor for the child (N) and giving understanding about how to care for the child (N) to the nanny, sometimes the mother was faced with results that were different from what she expected, such as the tutor quitting or the nanny not following the parenting techniques that the mother had taught.

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Discussion

The results of the implementation of the Stepping Stones Triple-P (SSTP) intervention in this study are in line with previous research that has successfully shown that the implementation of SSTP interventions can influence a decrease in behavioral problems in children with disabilities, including those with moderate intellectual disability (Farris et al., 2020; Y. Lee et al., 2022; Ai. Ruane & Carr, 2019; Tellegen & Sanders, 2013).

Changes in the child (N) were seen in the reduction of emotional and behavioral problems shown by N through a decrease in emotional outbursts, such as repeatedly asking questions and using a high-pitched voice, arguing with the mother when prohibited from doing something or asked to do schoolwork, and attempting to hit his younger sibling while fighting over toys. Additionally, N also demonstrated more positive behavioral changes, such as developing a new routine in his daily activities (spending more time interacting with parents, assisting with household chores, having regular nap and meal times). Positive changes also occurred in the parents' parenting behavior towards N, such as being more responsive to N's needs, adjusting their communication style to make it more understandable for N by providing explanations or step-by-step instructions, managing their expectations and emotions better during interactions with their child, and increasing parent-child interactions. The approach used in SSTP intervention has been proven to enhance parents' ability to manage their child's behavior, which contributes to improving positive family relationships and reducing behavioral problems in children (Ruane et al., 2019).

In the case of N, specifically, parents previously lacked understanding of the characteristics of a child with moderate intellectual disability and the risk factors for problematic behavior in the child. Parents often engage in arguments with the child when communicating because of their inability to understand N's limitations in intellectual and adaptive functioning. Parents tend to be unresponsive and insensitive to the needs of the child, causing N to feel frustrated in communicating their needs and having difficulty understanding the responses of the parents. In addition, parents do not explain in detail the limitations that N has to people in their environment, leading to additional stressors for N such as being ridiculed by neighbors and siblings. Children with intellectual disability have deficits in intellectual and adaptive functions that affect their ability to express their thoughts, behavior, and emotions, and to understand reality and interactions according to their mental age rather than their chronological age (Baurain et al., 2013; K. Lee et al., 2022). When parents lack knowledge of the characteristics of children with ID, a distant parent-child relationship, and high conflict between parent-child relationships, there is a significant relationship with the increased problematic behavior displayed by the child (Platt et al., 2019; Totsika et al., 2014).

After participating in the SSTP intervention program, positive changes were observed in the parenting practices of the mother towards the child. The mother became more able to understand the intellectual and adaptive limitations of N, adapting to N's abilities, building a more positive relationship and communication with N, implementing rules agreed upon with N, and involving other family members in applying the values of positive parenting practices from the SSTP intervention program. The mother also experienced the very positive impact of the application of positive parenting practices, namely the formation of a harmonious and warm relationship between herself and N and other family members. The positive changes achieved by the mother in applying positive parenting practices also contributed to the reduction of problematic behavior in the child (N) and its improvement into a more positive one. This is in line with the principle of the social learning model in the implementation of the SSTP intervention program, which emphasizes the reciprocal interaction between parent and child (Sanders et al., 2004). Moreover, the increase in the quality of the positive relationship between parents and children with ID is related to the reduction of problem behavior currently exhibited by the child and becomes a protective factor in preventing problematic behavior in the future (Totsika et al., 2014).

The positive parenting intervention program (Triple P - SSTP) helps parents regulate their attention, cognition, emotions, and actions in raising their children in a more positive and

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responsive manner (Sanders et al., 2019). In addition, the implementation of SSTP intervention is designed by considering the needs and abilities of each family by adjusting the materials and practices of the intervention (Tellegen & Sanders, 2013). This becomes one of the supporting factors for the success of the SSTP intervention program for parents who have children with moderate ID in reducing problematic behavior in their children.

The unique finding that was evaluated in the implementation of the SSTP intervention program is that the father feels that N still shows angry emotional reactions by repeatedly asking questions with a high-pitched tone to the father. This happens because the father only passively follows the intervention program by only listening to positive parenting materials, but does not apply positive parenting practices from the SSTP intervention program. In addition, follow-up results on CBCL data acquisition showed a slight increase in the child's externalizing behavior problems. This happened because after the intervention was completed, the child was cared for by the ART while the parents went on a pilgrimage. The ART did not consistently apply the positive parenting strategies that had been taught by the mother to the child, so the child's problematic behavior re-emerged. Therefore, the father's involvement and consistency in applying positive parenting strategies need to be improved and maintained to prevent the child's problematic behavior from increasing again. In line with the study by Aery et al. (2018), it was found that parents who successfully applied positive parenting strategies to their children consistently were able to maintain a decrease in their child's problematic behavior and increase their positive behavior. In addition, monitoring by the facilitator after the parents completed the SSTP intervention program can help parents stay motivated and driven to consistently apply the positive parenting strategies they have learned (Aery et al., 2018; A. Ruane et al., 2019).

Furthermore, the advantage of implementing the SSTP intervention online in this study is that parents can flexibly adjust their work time with the intervention implementation time, so parents can follow the intervention session series optimally and without incurring large costs. This is in line with several research results that have found that online implementation of the SSTP intervention program has advantages in its flexible and cost-effective application and can significantly improve positive parenting practices and parenting competence and reduce child behavioral and emotional problems (Farris et al., 2020; Hinton et al., 2017; Y. Lee et al., 2022; A. Ruane et al., 2019; Ai. Ruane & Carr, 2019).

Conclusion

In general, it can be concluded that the SSTP intervention program aims to help parents develop effective and positive parenting management strategies to reduce behavioral problems in children with developmental disabilities, including children with moderate intellectual disability (Mazzucchelli et al., 2010). The SSTP intervention program is designed to create a "family-friendly" environment that specifically targets the social context that affects parents and children on a daily basis (Mazzucchelli & Sanders, 2012). The method used in the implementation of the SSTP intervention is to provide guidance and training related to effective parenting management strategies and parenting tailored to the level of dysfunction and behavioral problems that the child has, so that parents can adjust the type of assistance needed and encourage parents to understand the child's condition and limitations from a more positive perspective (Mazzucchelli & Sanders, 2012). In this study, the positive changes achieved by mothers in implementing positive parenting patterns also influenced the problematic behavior of the child (N) to decrease and become more positive.

After the follow-up was conducted, parents were able to maintain the positive changes in both their child's behavior and their own parenting towards their child after participating in the SSTP intervention program. Parental consistency in implementing effective and positive parenting management strategies for their children must be continuously improved to maintain and increase positive changes in their child's behavior and parenting skills. In addition, parents, especially

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mothers, need to involve the role of fathers and household assistants, as well as other family members in implementing effective and positive parenting management strategies for their children, so that positive changes in their child's behavior can be sustained and improved in line with the parenting they provide.

Suggestion

Based on the limitations in implementing the intervention in this study, in the future, the Intervention Implementer (II) should involve the Father and Household Assistants/Child Nurses in implementing the SSTP intervention, considering that the cooperation between both parents can align the consistent application of positive parenting to the child. The involvement of Household Assistants can also help parents continue to implement positive parenting strategies to their children while parents are working.

In addition, II should also provide a program facilitator to encourage the consistent implementation of positive parenting strategies for 6 months after completing the intervention program. This will help parents stay motivated to apply positive parenting and maintain the positive development of their children's behavior.

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