

Review Paper

Level 4 Triple-P Positive Parenting Program and the Interaction of Parent-child With Special Needs: A Meta-analytic Study in Iran

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Background: Since positive parenting program (Triple-P) is one of the ways to improve parent-child interaction, conducting a meta-analysis will help determine its effect size. This study aimed to use meta-analysis to examine the effect of level 4 Triple-P on parent-child interaction with special needs in Iran.

Methods: The current study is a meta-analysis review study. Before analyzing the effect size of the mean differences, the PRISMA (preferred reporting items for systematic reviews and meta-analyses) method was used to investigate the decision tree model. Then, the effect size of Triple-P was investigated using the meta-analysis method. Twelve studies (out of the 37) were collected with the keywords “Triple-P” and “parent-child interaction” from Google Scholar, IranDoc, IranMedex, Magiran, and SID according to the inclusion and exclusion criteria. They were conducted in Iran during 2012-2021 and were analyzed through meta-analysis. The inclusion criteria of the articles included written in Persian, having a control group, being interventional, and using original data. The exclusion criteria included duplicate articles and non-compliance with the title with Triple-P level 4. The study instrument was a meta-analysis checklist. Funnel plot, fail-safe number, and Cochran Q test were used to assess the publication bias, expected confidence, and effect size heterogeneity, respectively. The obtained data were analyzed by comprehensive meta-analysis (CMA) software.

Results: Findings showed that the effect size of the mean difference rate of level 4 Triple-P on parent-child interaction was 0.59 ($P < 0.0001$), which is medium according to the Cohen table. Fisher's z indicated a low standard error and no publication bias. The value of the Q test is significant, and the effect sizes are heterogeneous ($P < 0.0001$).

Conclusion: Given the moderate impact of level 4 Triple-P, this method of parenting program can play an important role in improving the interaction of parent-child with special needs.

Keywords: Meta-analysis, Triple-P, Parent-child interaction

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1. Introduction

Raising a child with special needs requires acquiring skills such as support and care. Being a parent to a child with special needs is not easy; these parents need help [1]. Parental training is a practical and useful method to promote parents' parenting styles and prevent and treat various behavioral and psychosocial problems in children [2]. Challenges related to parenting are seen as a fundamental general health problem, and public policy reflects on it [3]. Positive parenting behaviors include consistent discipline, positive reinforcement, supervision, and parental involvement [4, 5]. Parenting improvement is a conventional method for enhancing parent-child interaction [6]. Parent-child interaction significantly impacts children's social, physical, emotional, and cognitive development [7]. The factors such as dependency on family, poor parenting, and family conflicts adversely affect children's development [8].

With regard to the interaction between the parent and the child with special needs, more conflicts and dependency can be seen compared with the parents of other children [9, 10]. Insecure attachment, inconsistent discipline, inflexible or rigid practices, inadequate supervision, and conflict in the family increase emotional and behavioral problems in children [11]. These factors play an important role in the attachment style of children with special needs [12]. The present study investigates a model of parenting program called Positive Parenting Program or Triple-P that aims to better equip parents in the role of parenting.

The Triple-P aims to improve parents' skills and interaction with their children. Indeed, this program increases and improves self-control, self-efficacy, well-being, and parent-child interaction [6]. The Triple-P is a behavioral family program whose underlying principles were drawn from Bandura's social learning theory. In other words, This comprehensive program is a parenting intervention developed by Sanders [6]. It is an Australian intervention that contains behavioral and cognitive principles and concepts [13]. Triple-P is a multilevel system that supports child rearing and parenting [12, 14]. Triple-P consists of 5 levels, and the intervention intensity gradually increases from one level to the next [15]. The first level is global screening and parenting through media. This level suits families with few challenges in raising their children. The second and third levels suit families with more problems raising their children and include brief interventions. The fourth and fifth levels require more

intensive parental training and family therapy. These levels are suitable for families with many problems raising children or children with special needs [16]. Triple-P can improve behavioral and emotional problems in children and interaction between parent-child through interactions by informing about the different needs of the parent and their children, parent-child interaction, family function, and parenting styles [17]. One of the Triple-P goals is to provide adequate support for each family [15]. Triple-P is recommended for the parents of children and adolescents with special needs [18], and it emphasizes the relationship with children, controlling and managing behavior. This program also improves children's development through parent training, contributes to the parents' general health, and helps them acquire social competency and self-control parenting skills [6]. Triple-P follows these goals: improving self-efficacy, self-confidence, and parent-child relationships [19].

Although Triple-P significantly affects parent-child interaction with special needs [15], conducting a meta-analytic study would help clarify the interventions' true effect size. Meta-analysis is a formal and quantitative research design used to systematically assess previous studies to derive conclusions about that body of research [20]. Indeed, many studies were conducted to identify and solve the problems of children with special needs; however, it does not mean all their problems and challenges can be addressed [16]. Some studies aimed to examine the impact of Triple-P on parent-child relationships in different ages and groups. For example, the findings of Ruane and Carr demonstrated that Triple-P was an effective intervention for reducing behavioral challenges in children and improving parental relationships, parenting style, and parenting self-efficacy [15]. Lohan et al. suggested that Triple-P was a beneficial intervention for reducing parenting stress and enhancing parent-child interaction [19]. Wolfenden et al. reported that Triple-P significantly affected participants' family functioning and mental health [21]. Hajkhodadadi et al. suggested that Triple-P positively and significantly would affect the parent-child relationship quality [22]. Hatamifar et al. concluded that the Triple-P significantly and positively impacted the parent-child relationship [23]. Saberi-Rad et al. reported that the Triple-P intervention greatly influenced mother-child interactions with behavioral disorders [24]. Ashori and Ghaforian [25] and Ashori and Jalil-Abkenar [26] reported that the Triple-P positively affected the relationship profile of mothers and hearing loss children. Rashidi Asl et al. [27] and Taheri et al. [28] showed that the Triple-P intervention significantly positively affected mother and slow-paced child interaction. Pourhaydari et al. [29], Momeni and Taziki

[30], and Abedi-Shapourabadi et al. [31] concluded that the Triple-P intervention improved the interaction of mothers and their children with attention-deficit/hyperactivity disorder. Nazemian and Shams [32] and Aslani [33] showed that the Triple-P significantly affected the mother-child relationship. Pourmohamadreza-Tajrishi et al. [34] and Ashori et al. [35] reported that Triple-P positively affected the interaction of the mother-child with an intellectual disability. Nori and Hoseinian [36] concluded that the Triple-P intervention significantly affected social adjustment in inadapted children.

The present research is the first meta-analytical research examining the effect of level 4 Triple-P on parent-child interaction with special needs in Iran. Focusing on one article can lead to a limited representation of the impact of Triple-P. In contrast, the present research combines the results of many articles into more homogeneous results to show a comprehensive picture of the effects of Triple-P on parent-child interaction. If the effectiveness of Triple-P interventions in Iran is determined, this program can be used more confidently to educate parents of children with special needs. This issue indicates the necessity and importance of the present research. In recent years, more attention has been paid to the effect of level 4 Triple-P on parent-child interaction in Iran. In addition, 15 studies have been conducted on this intervention over the past 10 years, but no meta-analytical research has been undertaken. This issue shows the gap in research in this field. Consequently, this study aimed to meta-analyze the effect of level 4 Triple-P on the interaction of parent-child with special needs in Iran.

2. Methods

The present study is a meta-analysis. All studies conducted in Iran with the keywords of “Triple-P” and “parent-child interaction” were collected. Therefore, studies on level 4 Triple-P were reviewed for meta-analysis. Google Scholar, Irandoc, IranMedex, Magiran, and SID during 2012-2021 were used for database searching. We examined suitable and published studies (articles and dissertations) about the effect of level 4 Triple-P on the interaction of parent-child with special needs in Iran. Studies in languages other than Persian and unpublished studies were not included. The study selection diagram based on PRISMA (preferred reporting items for systematic reviews and meta-analyses) method is shown in Figure 1.

The inclusion criteria included reporting statistics, effect size, being Persian, having a control group, using intervention and original data. The exclusion criteria included duplicate articles, review articles, methodologi-

cal problems, and non-compliance with the title with Triple-P level 4. According to Figure 1, 37 studies were found in databases and other sources in the first stage. In this next stage, 10 studies were excluded due to being duplicates or having invalid sources. In the second stage, 6 studies were removed due to title mismatch with level 4 Triple-P. In the next step, 4 studies were excluded based on their abstract content (without a control group, not in Persian, and review article only). Therefore, 17 studies remained. In the fourth stage, two full-text studies were excluded due to the lack of a control group, not the original data, and not an intervention study. Thus, 15 articles remained. In the final stage, 12 eligible studies were tabulated based on the quantitative and qualitative synthesis and entered into the meta-analysis.

Before analyzing the effect size of the mean differences, the PRISMA method was used to investigate the decision tree model. The PRISMA 2020 statement comprises a 27-item checklist addressing a systematic review report's introduction, methods, results, and discussion sections. Then, the effect size of level 4 Triple-P was investigated and analyzed through a meta-analysis method. The study instrument was a meta-analysis checklist, which included the researcher's name, research title, year of execution, source, research method, tool, sample size, statistics, its value, significance level, and effect size. Funnel plot, fail-safe number, and Cochran Q test were used to assess the publication bias, expected confidence, and effect size heterogeneity, respectively. The descriptive data and study effect size were analyzed by comprehensive meta-analysis (CMA).

3. Results

The descriptive indexes and research results on the effect of level 4 Triple-P on parent-child interaction with special needs in Iran are reported in Table 1.

According to Table 1, the intervention was effective in all studies, but their effect size is different. The results of the meta-analysis of the effect of level 4 Triple-P on the interaction of parent-child with special needs are shown in Table 2.

According to Table 2, the largest Cohen effect size belonged to research No. 7 and the lowest to research No. 10. According to Cohen (1998), for the r index, the effect sizes of 0.1, 0.3, and 0.5 are small, medium, and large, respectively. Also, Cohen effect sizes from 0.2 to 0.3, 0.5, and 0.8 and above are small, medium, and large, respectively [37]. Indeed, the mean effect size of the independent variable (level 4 Triple-P) on the dependent

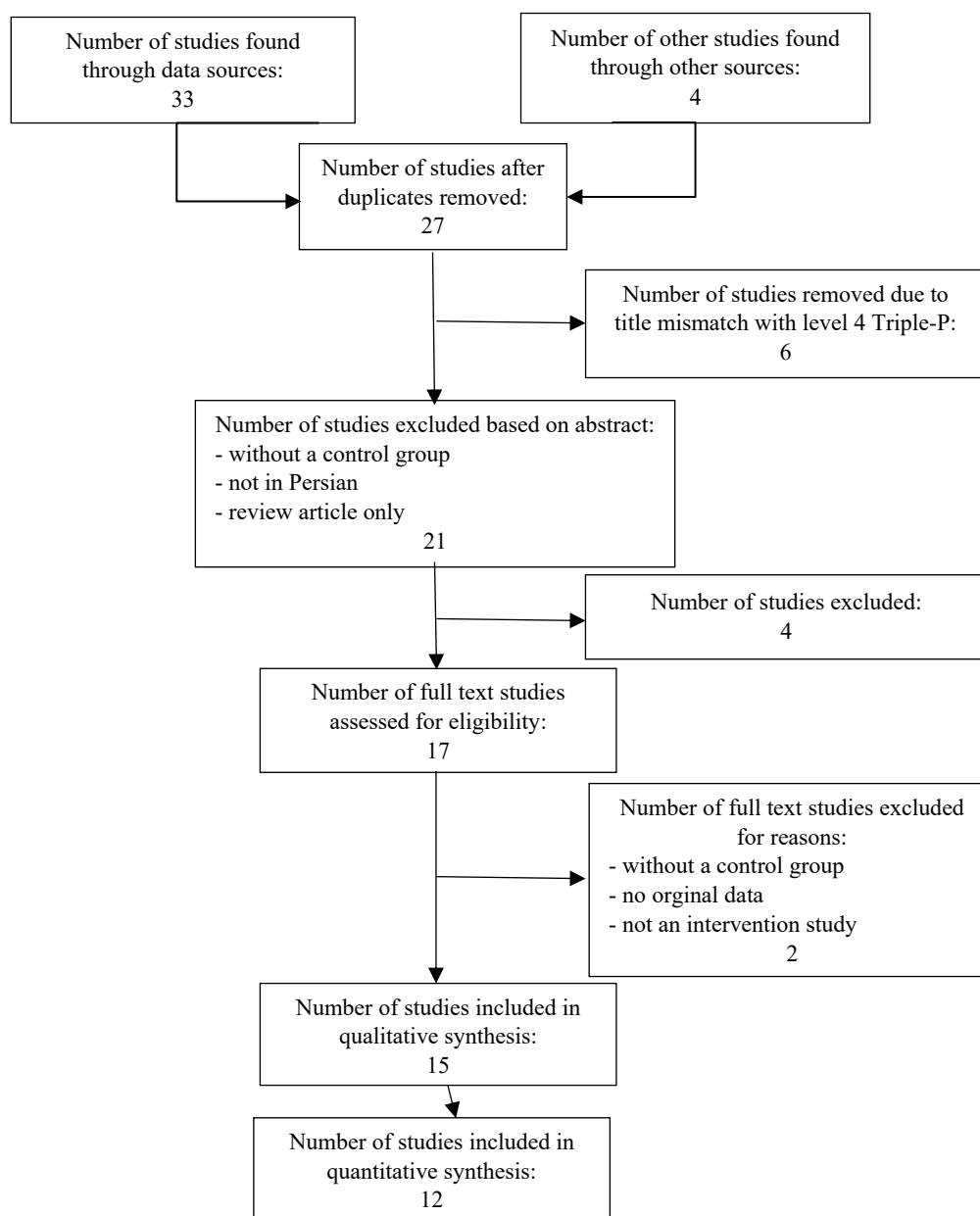


Figure 1. Study selection diagram



variable (interaction of parent-child with special needs) was 0.59. According to the Cohen effect size, it is considered medium, and its significance level is 0.0001. Therefore, level 4 Triple-P moderately affected parent-child interaction with special needs.

One important issue in any meta-analysis is the assessment of publication bias. A meta-analysis does not include all the studies that have been done on the research subject. Because some studies have not been published for various reasons. Publication bias reduces the accuracy of the final meta-analysis results. Therefore, it is necessary to identify and correct the publication bias to

increase the validity of the results. If there is no publication bias, the graph is symmetric. Studies with a low standard error are focused at the top of the funnel chart and have no publication bias. The extent of this bias is shown in Figure 2.

Figure 2 presents a funnel chart of standard error by Fisher's z. According to this graph, the studies at the top have a low standard error and no publication bias. The expected confidence level was calculated by estimating the fail-safe number and heterogeneity of the effect size of studies, the results of which are reported in Table 3.

Table 1. Characteristics of research used in meta-analysis

No.	Research-ers	Title	Year	Source	Method	Tools	Sample	F	P	η^2
1	Hatamifar et al. [23]	Comparison of the effect of Triple-P and parental management training on the improvement of the parent-child relationship	2020	J Child Mental Health	A quasi-experimental study with a pre and posttest	Child-Parent Relationship Scale (CPRS)	15 15	19.92	0.001	0.62
2	Saberi-Rad et al. [24]	Parenting program on mothers' emotion regulation and mother-child interactions in children with behavioral disorders	2020	Middle Eastern Journal of Disability Studies	A quasi-experimental study with a pre and posttest	CPRS	15 15	23.16	0.001	0/55
3	Ashori and Ghaforian [25]	The effect of positive parenting program training on the relationship profile of mothers and hearing loss children	2020	Journal of Exceptional Children	A quasi-experimental study with a pre and posttest	CPRS	20 20	22.59	0.001	0.50
4	Ashori & Jalil-Abkenar [26]	The effect of a positive parenting program on the interaction of mother and deaf child	2019	World Journal of Yoga Physical Therapy & Rehabilitation	A quasi-experimental study with a pre and posttest	CPRS	16 16	16.15	0.001	0.55
5	Rashidi Asl et al. [27]	Effectiveness of positive parenting program training on the interaction of mothers with a slow-paced child	2018	Empowering Exceptional Children	Semi-experimental study with a pre and posttest	CPRS	20 20	13410	0.001	0.68
6	Taheri et al. [28]	Effectiveness of positive parenting program training on the relationship between parents and their slow-paced child	2018	Empowering Exceptional Children	A quasi-experimental study with a pre and posttest	CPRS	15 15	F=8.20	0.001	0.71
7	Pourhaydari et al. [29]	Comparing the effectiveness of positive parenting and mindfulness on healthy mother-child and sibling relationships in families with an ADHD child	2017	Journal of Applied Psychology	A quasi-experimental study with a pre and posttest	CPRS	17 17	F=59.40	0.02	0.76
8	Momeni and Taziki [30]	The effectiveness of parent-child communication and parental stress Positive Parenting Program on students with attention deficit	2017	Empowering Exceptional Children	A quasi-experimental study with a pre and posttest	CPRS	17 17	19.37	0.0001	0.48
9	Nori & Hoseinian [36]	Effectiveness of positive parenting program on social adjustment and exam anxiety in inadaptible children	2016	Empowering Exceptional Children	A quasi-experimental study with a pre and posttest	California Personality Inventory	15 15	39.70	0.003	0.52
10	Aslani et al. [33]	Effect of Triple-P on parent-child interaction quality	2016	Counseling Culture and Psychotherapy	A quasi-experimental study with a pre and posttest	CPRS	15 15	4.96	0.03	0.17
11	Pourmo-hamadrez-Tajrishi et al. [34]	The effect of Triple-P training on the interaction of mother-child with intellectual disability	2015	Journal of Rehabilitation	A quasi-experimental study with a pre and posttest	CPRS	20 20	1457.10	0.001	0.67
12	Abedi-Shapourabadi et al. [31]	Effect of group Triple-P on parent-child relationship in children with ADHD	2012	Journal of Clinical Psychology	A quasi-experimental study with a pre and posttest	CPRS	11 11	6.68	0.001	0.20

Table 2. Results of meta-analysis of the effectiveness of level 4 Triple-P

No.	P	Converting P to z	Converting z to r	Cohen Effect Size	Converting r to Z _r	Converting z to Combined P	Mean Effect Size
1	0.001	3.090	0.56	1.27	0.63		
2	0.001	3.090	0.56	1.10	0.63		
3	0.001	3.090	0.49	1.00	0.53		
4	0.001	3.090	0.55	1.10	0.62		
5	0.001	3.090	0.49	1.45	0.53		
6	0.001	3.090	0.56	1.56	0.63		
7	0.02	2.053	0.35	1.77	0.37	0.0001	0.59
8	0.0001	3.719	0.64	0.96	0.76		
9	0.003	3.090	0.39	0.85	0.41		
10	0.03	1.880	0.34	0.45	0.35		
11	0.001	3.090	0.49	1.42	0.53		
12	0.001	3.090	0.66	0.50	0.79		



According to Table 3, the fail-safe number for this meta-analysis is 461 unpublished studies. Accordingly, there should be the same number of unpublished studies so that the Triple-P does not affect the parent-child interaction. Because this number is so large, the intervention has significantly impacted parent-child interaction with special needs. The heterogeneity of the effect size of studies was assessed using the Cochran Q test. The lack of significance of homogeneity indicates the homogeneity of the effect size of the studies. That is, no other variables affect the dependent variable, and the scatter between effect sizes is due only to sampling error. When the value of Q is significant, and the effect sizes are heterogeneous, other variables affect the dependent variable. The scatter between the effect size of the studies is not just due to sampling error. In this situation, the intervening variables should be considered, and this is done by classifying the data into at least two subgroups.

Because the statistical samples were not completely separated and transparent, dividing the research into subgroups based on moderator variables was impossible. In other words, the researcher was limited in identifying these variables.

4. Discussion

This study aimed to meta-analyze the effect of level 4 Triple-P on parent-child interaction with special needs in Iran. Meta-analysis of the effectiveness of level 4 Triple-P on the interaction of parent-child with special needs is one of the topics not being studied in Iran. The results of this meta-analysis indicate that the effect size of level 4 Triple-P on the interaction of parent-child with special needs was 0.59, which is medium according to the Cohen table. In the present meta-analysis, an attempt was made to evaluate the success rate of this model by integrating Triple-P interventions.

Table 3. Results of estimating the fail-safe number and heterogeneity of the effect size of studies

Results of Estimating the Fail-safe Number					Heterogeneity of the Effect Size of Studies			
Value of Combined z Without Weight Research	Sig.	Critical z Value for 95%	α	Fail-Safe N	Q	d _f	Sig.	Interpretation
32.37	0.01	1.96	0.05	461	107.24	10	0.001	The significance of the Q test means heterogeneity of effect size.



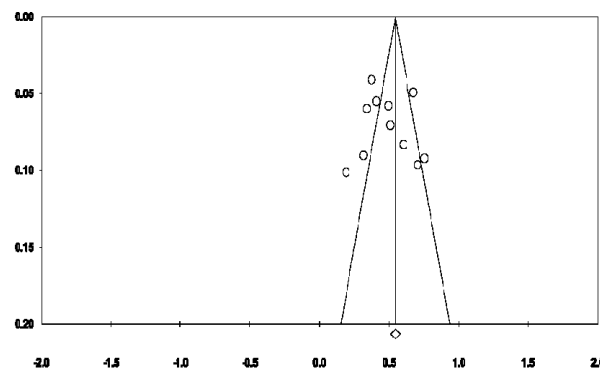


Figure 2. Funnel plot of standard error by Fisher's z

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The main finding of this meta-analysis suggested that the level 4 Triple-P improved the interaction of parent-child with special needs in the experimental group. This finding was consistent with Hatamifar et al. [23], Saberi-Rad et al. [24], and Ashori and Jalil-Abkenar [26], who concluded that the Triple-P had a significant and positive effect on the parent-child interaction. The present study's finding was similar to Wolfenden et al., who reported that Triple-P significantly affected the participants' family functioning and mental health [21]. Ruane and Carr demonstrated that Triple-P intervention was an effective program for improving parental relationships, parenting self-efficacy, and parenting style [15]. Rashidi Asl et al. and Taheri et al. showed that the Triple-P intervention had a significant and positive effect on the interaction of the mother and slow-paced child [27, 28]. The finding of this study was consistent with Hajkhodadadi et al., who concluded that Triple-P had a positive and significant effect on the quality of the parent-child relationship [22]. Furthermore, Lohan et al. also concluded that Triple-P was a beneficial program for enhancing parent-child interaction [19].

It can be concluded that parents of children may have difficulty managing emotions, but effective parenting interventions can help them a lot [38]. On the other hand, one widely used parenting program is the Triple-P [21]. Based on cognitive behavioral principles and social learning theory, Triple-P aims to modify maladaptive parenting behaviors and improve confidence in the parenting role [6]. Triple-P is a vital issue where parents, including mothers of children with special needs, may need support and help [19]. Effective parenting programs seem to contribute significantly to raising awareness among parents of children with special needs. Since these parents may cope with problems in predicting and controlling behaviors and emotions, they need a special intervention such as the Triple-P program that empha-

sizes behavior management, parenting style, and child-rearing [1].

To explain the similar results to our research, it can be stated that for many years, it was assumed that children with special needs live isolated in their homes and communities, and they cannot learn. Today, social perspectives have shifted, and it has been revealed that these children can learn if they are taught with an appropriate method [16, 39]. On the other hand, proper family and social support can alleviate some of the problems [40]. Children with a disability, compared with normal children, more negatively influence their interaction with parents [7]. The parent of children with a disability requires more parenting programs and family therapy interventions [11]. In the Triple-P intervention, parents learn about children's specific problems discussed in group meetings and can receive appropriate information and support. Also, parents can understand their children's problems by learning enough information and applying parenting skills and behavior management techniques [41]. Triple-P gives parents practical and simple strategies to help them build healthy and strong interactions [6]. This multilevel program provides prevention and treatment for children at risk of behavioral, emotional, and social problems via parenting methods to enhance parents' parenting skills, knowledge, and confidence [42]. For this reason, level 4 Triple-P reduces conflict between family members and increases positive interaction between parents and children with special needs.

Every research has certain limitations. One of the limitations of this research was the lack of access to resources and research that were conducted and published in a specific field. In this study, only research studies conducted in Iran were used. Another limitation is the lack of a coherent and regular database in the country to conduct such research. It is also rare for studies used in meta-analysis to report all the statistical indicators re-

quired for analysis. This is one of the main limitations of performing a meta-analysis. The methodological limitations of the present study included the small sample size, no control or comparison group, and the effect size was not reported in some studies.

It is suggested that more attention be paid to the repetition of research on various topics to review further studies. In this case, by putting together the results of different studies, a better view of the reality of society will be available. Pay attention to the research done in other countries in the next research is suggested. It is also recommended that all the necessary research information, including research method, sample size, questionnaires, statistical analysis method, Mean \pm SD, significance level, and effect size of each research that is done, be fully and accurately reported so that they can be used in meta-analysis. A final practical suggestion is to conduct separate meta-analyses on the effect sizes of other parenting programs and compare the results.

5. Conclusion

Having a child with special needs significantly affects the life of family members, especially parent-child interactions. In contrast, Triple-P has positive results and improves the interaction between parents and children with special needs. Because level 4 Triple-P is an intervention to improve parent-child interaction, a meta-analysis helps determine the actual effect size of this intervention. Findings revealed that the mean effect size of level 4 Triple-P on parent-child interaction was medium. Since this level of Triple-P had a moderate effect on parent-child interaction with special needs, it can be used as a suitable method in parenting and child-rearing.

Ethical Considerations

Compliance with ethical guidelines

The instructions of the National Ethics Committee and the COPE (The Committee on Publication Ethics) regulations have been considered in the article's writing.

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Conflict of interest

The authors declared no conflict of interest.

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References

- [1] Hallahan DP, Kauffman JM, Pullen PC. Exceptional learners: An introduction to special education. London: Pearson Education Inc; 2022. [Link]
- [2] Cova F, Rincón P, Bustos C, Streiner D, King M, Saldivia S, et al. Randomized cluster trial of a parenting program in Chile: Key mediators in the decrease in behavior problems in preschool children. *Clin Child Psychol Psychiatry*. 2020; 25(2):320-32. [DOI:10.1177/1359104519864124] [PMID]
- [3] Wilson P, Rush R, Hussey S, Puckering C, Sim F, Allely CS, et al. How evidence-based is an 'evidence-based parenting program'? A PRISMA systematic review and meta-analysis of triple P. *BMC Med*. 2012; 10:130. [DOI:10.1186/1741-7015-10-130] [PMID] [PMCID]
- [4] Decker KM, Thurston IB, Howell KH, Hasselle AJ, Kamody RC. Associations between profiles of maternal strengths and positive parenting practices among mothers experiencing adversity. *Parenting*. 2021; 21(1):1-23. [DOI:10.1080/15295192.2020.1729611]
- [5] Park JL, Johnston C, Colalillo S, Williamson D. Parents' attributions for negative and positive child behavior in relation to parenting and child problems. *J Clin Child Adolesc Psychol*. 2018; 47(sup1):S63-75. [DOI:10.1080/15374416.2016.1144191] [PMID]
- [6] Sanders MR, Kirby JN, Tellegen CL, Day JJ. The triple P-Positive Parenting Program: A systematic review and meta-analysis of a multi-level system of parenting support. *Clin Psychol Rev*. 2014; 34(4):337-57. [DOI:10.1016/j.cpr.2014.04.003] [PMID]
- [7] Crettenden A, Lam J, Denson L. Grandparent support of mothers caring for a child with a disability: Impacts for maternal mental health. *Res Dev Disabil*. 2018; 76:35-45 [DOI:10.1016/j.ridd.2018.02.004] [PMID]
- [8] Granqvist P, Sroufe LA, Dozier M, Hesse E, Steele M, van Ijzendoorn M, et al. Disorganized attachment in infancy: A review of the phenomenon and its implications for clinicians and policy-makers. *Attach Hum Dev*. 2017; 19(6):534-58. [DOI:10.1080/14616734.2017.1354040] [PMID] [PMCID]
- [9] Gallagher S, Hannigan A. Depression and chronic health conditions in parents of children with and without developmental disabilities: The growing up in Ireland cohort study. *Res Dev Disabil*. 2014; 35(2):448-54. [DOI:10.1016/j.ridd.2013.11.029] [PMID]
- [10] Kabasakal E, Özcebe H, Arslan U. Are the health needs of children with disabilities being met at primary schools? *J Intellect Disabil*. 2020; 24(4):448-58. [DOI:10.1177/1744629518818657] [PMID]

- [11] Feniger-Schaal R, Joels T. Attachment quality of children with ID and its link to maternal sensitivity and structuring. *Res Dev Disabil.* 2018; 76:56-64. [DOI:10.1016/j.ridd.2018.03.004] [PMID]
- [12] Fujiwara T, Kato N, Sanders MR. Effectiveness of group positive parenting program (triple p) in changing child behavior, parenting style, and parental adjustment: An intervention study in Japan. *J Child Fam Stud.* 2011; 20(6):804-13. [DOI:10.1007/s10826-011-9448-1]
- [13] Kleefman M, Jansen DE, Stewart RE, Reijneveld SA. The effectiveness of Stepping Stones Triple P parenting support in parents of children with borderline to mild intellectual disability and psychosocial problems: A randomized controlled trial. *BMC Med.* 2014; 12:191. [DOI:10.1186/s12916-014-0191-5] [PMID] [PMCID]
- [14] Sanders MR, Murphy-Brennan M. Creating conditions for success beyond the professional training environment. *Clin Psychol.* 2010; 17(1):31-5. [DOI:10.1111/j.1468-2850.2009.01189.x]
- [15] Ruane A, Carr A. Systematic review and meta-analysis of stepping stones triple P for parents of children with disabilities. *Fam Process.* 2019; 58(1):232-46. [DOI:10.1111/famp.12352] [PMID]
- [16] Ashori M, Norouzi G, Jalil-Abkenar SS. The effect of positive parenting program on mental health in mothers of children with intellectual disability. *J Intellect Disabil.* 2019; 23(3):385-96. [DOI:10.1177/1744629518824899] [PMID]
- [17] Sanders MR. Development, evaluation, and multinational dissemination of the triple P-positive parenting program. *Annu Rev Clin Psychol.* 2012; 8:345-79. [DOI:10.1146/annurev-clinpsy-032511-143104] [PMID]
- [18] Schappin R, de Graaf IM, Reijneveld SA. Effectiviteit van Triple P in Nederland: Stand van zaken en controverse. *Kind en Adolesc.* 2017; 38(2):75-90. [DOI:10.1007/s12453-017-0140-0]
- [19] Lohan A, Mitchell AE, Filus A, Sofronoff K, Morawska A. Positive parenting for healthy living (Triple P) for parents of children with type 1 diabetes: Protocol of a randomised controlled trial. *BMC Pediatr.* 2016; 16(1):158. [DOI:10.1186/s12887-016-0697-4] [PMID] [PMCID]
- [20] Haidich AB. Meta-analysis in medical research. *Hippokratia.* 2010; 14(Suppl 1):29-37. [PMID] [PMCID]
- [21] Wolfenden L, Calam R, Drake RJ, Gregg L. The triple P positive parenting program for parents with psychosis: A case series with qualitative evaluation. *Front Psychiatr.* 2022; 13:791294. [DOI:10.3389/fpsyt.2022.791294] [PMID] [PMCID]
- [22] Hajkhodadadi D, Etemadi O, Abedi MR, Jazayeri RS. [The effectiveness of triple-P (positive parenting program) on effective parenting and quality of child-parent relationship in mothers with adolescents (Persian)]. *J Psychological Sci.* 2021; 20(98):185-98. [Link]
- [23] Hatamifar K, Zare H, Shahryari Ahmadi M. [Comparison of the effectiveness of positive parenting program and parental management training on the improvement of parent-child relationship (Persian)]. *J Child Ment Health.* 2020; 7(3):25-39. [DOI:10.52547/jcmh.7.3.4]
- [24] Saberi-Rad A, Heidari H, Davoodi H. [Parenting program on mothers' emotion regulation and mother-child interactions in children with behavioral disorders (Persian)]. *Middle East J Disabil Stud.* 2020; 10:102. [Link]
- [25] Ashori M, Ghaforian M. [The effect of positive parenting program training on the relationship profile of mothers and hearing loss children (Persian)]. *J Except Child.* 2020; 20(3):79-88. [Link]
- [26] Ashori M, Jalil-Abkenar SS. The effectiveness of positive parenting program (Triple-P) on general health of mothers of pre-school children with intellectual disability. *Iran J Public Health.* 2019; 48(11):2100-2. [DOI:10.18502/ijph.v48i11.3536]
- [27] Rashidi Asl H, Asgari Naraki T, Farhad Toski L, Yosefzadeh A. [Effectiveness of positive parenting program training on interaction of mother with slow paced child (Persian)]. *Empowering Except Child.* 2018; 9(4):93-102. [DOI:10.22034/CECIRANJ.2018.91195]
- [28] Taheri F, Arjmandnia AA, Afrrooz GA. [Effectiveness of positive parenting program training on relationship between parents and their slow-paced child (Persian)]. *Empowering Except Child.* 2018; 9(3):111-21. [DOI:10.22034/CECIRANJ.2018.82265]
- [29] Pourhaydari S, Bassaknejad S, Davoodi I, Mehrabizade Honarmand M. [Comparing effectiveness of positive parenting and mindfulness on healthy mother-child and sibling relationship in families with an ADHD child (Persian)]. *J Appl Psychol.* 2017; 11(2):7-26. [Link]
- [30] Momeni K, Taziki T. [The effectiveness of parent-child communication and parental stress positive parenting program on students with attention deficit (Persian)]. *Empowering Except Child.* 2017; 8(1):83-93. [Link]
- [31] Abedi-Shapourabadi S, Pourmohammadreza-Tajrishi M, Mohamadkhani P, Farzi M. [Effectiveness of group training positive parenting program (Triple-P) on parent-child relationship in children with attention deficit/ hyperactivity disorders (Persian)]. *J Clin Psychol.* 2012; 4(3):63-73. [DOI:10.22075/JCP.2017.2098]
- [32] Nazemian A, Shams zarmehri Z. [Effectiveness of triple positive parenting program based on Iranian culture on mother-child relationship and children's academic achievement (Persian)]. *Med J Mashhad Univ Med Sci.* 2016; 59(2):124-31. [DOI:10.22038/MJMS.2016.7340]
- [33] Aslani K, Varasteh M, Amanuelahi A. [Effectiveness of positive parenting program training on parent-child interaction quality (Persian)]. *Couns Cult Psychother.* 2016; 7(28): 183-201. [DOI:10.22054/QCCPC.2017.7095]
- [34] Pourmohammadreza-Tajrishi M, A'shouri M, Afrrooz GA, Arjmand-nia AA, Ghobari-Bonab B. The effectiveness of positive parenting program (Triple-P) training on interaction of mother-child with intellectual disability. *Arch Rehabil.* 2015; 16(2):128-37. [Link]
- [35] Ashori M, Afrrooz GHA, Arjmandnia AA, Pourmohammadreza-Tajrishi M, Ghobari-Bonab B. [The effectiveness of positive parenting program(Triple-p) on parental self-efficacy and mother-child interaction in children intellectual disability (Persian)]. *J Shahid Sadoughi Univ Med Sci.* 2015; 23(5):489-500. [Link]
- [36] Nori R, Hoseinian S. [Effectiveness of positive parenting program on social adjustment and exam anxiety in inadapted children (Persian)]. *Empowering Except Child.* 2016; 7(4): 95-106. [Link]

- [37] Cohen J. Statistical power analysis for the behavioural sciences. New York: Routledge; 1998. [DOI:10.4324/9780203771587]
- [38] Wake M, Carew P. Science, not philosophy, will help deaf and hard-of-hearing children reach their potential. *Pediatrics*. 2016; 137(1):e20153443. [DOI:10.1542/peds.2015-3443] [PMID]
- [39] Adibsereshki N, Abkenar SJ, Ashoori M, Mirzamani M. The effectiveness of using reinforcements in the classroom on the academic achievement of students with intellectual disabilities. *J Intellect Disabil*. 2015; 19(1):83-93. [DOI:10.1177/1744629514559313] [PMID]
- [40] Zhang L, Pang J, Zhu F. Effect of perceived social support on psychache: Mediating effect of psychological resilience. *Iran J Public Health*. 2022; 51(2):386-94. [DOI:10.18502/ijph.v51i2.8691]
- [41] Sanders MR. Triple p-positive parenting program as a public health approach to strengthening parenting. *J Fam Psychol*. 2008 ; 22(4):506-17. [DOI:10.1037/0893-3200.22.3.506] [PMID]
- [42] Li N, Peng J, Li Y. Effects and moderators of triple P on the social, emotional, and behavioral problems of children: Systematic review and meta-analysis. *Front Psychol*. 2021; 12:709851. [DOI:10.3389/fpsyg.2021.709851] [PMID] [PMCID]