



Parent-Child Interaction Therapy (PCIT) for Disruptive Behavior in Children with and without ASD

Michelle Angela Prawira ¹✉, Ananta Yudianto ²

^{1,2} Faculty of Psychology, University of Surabaya

Michpraw12@gmail.com

Abstract

Children with ASD generally have behavioral problems significant. Without appropriate intervention, these behavioral problems can persist into adulthood and impact various aspects of life. Parent-Child Interaction Therapy (PCIT) is an effective behavior-based intervention for addressing disruptive behavior in children. However, meta-analytic research on its effectiveness, especially in children with Autism Spectrum Disorder (ASD), is still limited. This study aimed to evaluate the effectiveness of PCIT in reducing disruptive behavior and compare its effects between children with and without ASD using meta-analysis techniques. Articles from the past 10 years were collected through various databases using the PRISMA protocol. After the screening process, 10 studies with a *pre-post control group design* from various continents were obtained, involving a total of 418 child-parent pairs. Analysis of mean differences showed that PCIT was highly effective in reducing disruptive behavior in children with and without ASD ($g = -0.938$ [95% CI: -1.14, -0.73]). Although ASD and non-ASD status as moderators increased the effect size, the difference was not significant. Further investigation revealed that factors such as the child's intellectual level and receptive language skills significantly influence the effectiveness of PCIT, as this intervention requires parents to understand instructions. Results also suggest that PCIT implemented in a standardized clinical setting, with clear phases of therapy and independent practice for parents, tends to be more effective. Conversely, substantial modifications to PCIT implementation require further research to confirm its effectiveness. These findings confirm that PCIT is an effective intervention for reducing disruptive behavior and provide *insights* for future clinical practice.

Keywords: *parent-child interaction therapy*, disruptive behavior, meta-analysis, children, *autism spectrum disorder*

Psyche 165 Journal is licensed under a Creative Commons 4.0 International License.



1. Introduction

Parents play a crucial role in a child's development. There are three typologies of parental roles: interaction, accessibility, and responsibility. Interaction includes feeding, playing, and reading books [1]. Accessibility relates to the child's ease of contact with their parents, and responsibility relates to their concern for their child's development and well-being. However, not all parents understand the importance of their role and its impact on their child's development, so they sometimes lack understanding of how to interact effectively with their children. This is especially true in special cases when their children have behavioral problems. Therefore, many parents are now seeking professional help to address their children's problems, particularly disruptive behavior. Some examples of disruptive behavior include large tantrums, aggressive behavior, or disobedience [2].

Children with ASD generally exhibit significant *behavioral difficulties* compared to other children, so it is not uncommon for parents with children with ASD to have higher levels of *parenting stress compared to*

parents with children without ASD [3]. Not only that, the psychological well-being of parents is also threatened [4]. *Parenting stress* and low psychological well-being will ultimately also affect the severity of behavioral problems experienced by children. A study stated that there is a longitudinal effect of the reciprocal relationship between *parenting stress* and *externalizing behavior* in children [5]. In line with this research, other studies also stated that in families with children with ASD, increasing behavioral problems in children have an impact on the level of *parental distress* experienced [6]. As a result, *parental distress* experienced affects *parenting practices* and interactions with children, which ultimately will further increase the behavioral problems that occur.

Without appropriate behavioral intervention, these behavioral problems can persist into adolescence and adulthood [5], [6]. Not only that, if disruptive behavior in children with ASD is allowed to continue, the child's psychological and physical development will be increasingly hampered [7], [8]. Psychologically, the child's learning process will be disrupted because disruptive behavior will make it difficult for the child to

pay attention and follow instructions [8]. Physically, disruptive behavior (especially aggression) causes children with ASD to be hospitalized 5 times more often. In addition, efforts to control severe disruptive behavior in children with ASD often involve administering medication. Although the medication consumed can make the child calmer, on the other hand, these drugs can cause *functional impairment*. [7].

To date, quite a number of interventions have been developed to address disruptive behavior in children with and without ASD, both interventions that directly target the child (therapists or psychologists as agents) and interventions that directly target the parents themselves as agents of change in the child. Interventions that involve parents as changemakers are generally called *parent-mediated interventions*. [2], [9]. Some examples of PMI that are often used are *parent training* (PT), *parent-child-interaction therapy* (PCIT), *predictive parenting*, *primary care stepping stones* (Triple P), *functional communication training* (FCT), *functional behavior skill training* (FBST), and so on [10-16]. Several studies have found that PMI has better effectiveness. In addition to the relationship between disruptive behavior and the psychological condition of parents, PMI allows for increased knowledge and skills for parents [17]. This knowledge and skills can be applied at home (where children spend most of their time) and other public spaces so that children receive consistent treatment. The progress made in children due to this intervention is also easier to maintain and generalize to various situations [18].

Among the many types of PMI provided, parent-child interaction therapy (PCIT) is one of the most common interventions and is said to have good effectiveness. The effectiveness of PCIT has been supported by many experimental and clinical studies in the last 40 years [19]. *Parent-child interaction therapy* (PCIT) is one type of *parent-mediated intervention*, which was created to address disruptive behavior in children aged 2-7 years [20]. PCIT is an application of play therapy that uses a behavioristic and structured approach. The focus of PCIT is to improve the quality of interactions between parents and children, which is done by providing direct coaching when parents interact with children [8]. PCIT has not only been proven effective for typical children. Many studies have found that PCIT is also effective for special needs children, such as children with Autism Spectrum Disorder (ASD) and Attention-Deficit/Hyperactivity Disorder (ADHD) [8], [17], [20], [21]. In general, the treatment goals of PCIT include 4 things, namely improving the quality of the parent-child relationship, reducing child behavioral problems and increasing prosocial behavior, developing parenting skills, and reducing parenting stress [19]. The standardized PCIT protocol allows parents and therapists to independently determine areas of the child's behavior that need to be prioritized for treatment (each child can be made a different priority target).

During therapy, parents will learn *behavioral skills* that aim to create a warm and secure parent-child relationship. Parents also learn strategies to increase prosocial behavior and reduce disruptive behavior by using their attention as differential reinforcement [8]. Similar to *applied behavior analysis* (ABA) interventions, PCIT basically uses basic behavioral principles in teaching parents to control their environment. For example, minimizing antecedents of behavioral problems, providing unambiguous expectations, and consistently providing consequences that are appropriate to the child's behavior. PCIT also has components similar to *pivotal response training* (PRT), namely the use of play objects that are everyday objects for children, as well as practice in natural settings. This will help facilitate the generalization process [19].

Amidst the growing application and research on PCIT worldwide, there are still not many meta-analytic studies to see how far the influence of PCIT on disruptive behavior in children specifically, especially in children with special needs such as ASD [19]. In fact, meta-analytic research is a good study to see *the effect size*, and is also able to see whether there is publication bias. So far, research comparing the effectiveness of PCIT on children with ASD and without ASD is also still varied. Several studies show that PCIT has good effectiveness for both groups, and there is no significant difference in effects [3], [10], [22]. Meanwhile, a study says that PCIT is not always effective for all ASD groups, especially for ASD groups who have low receptive abilities [23]. This study aims to see the effectiveness of PCIT and compare this effectiveness in the population of children with ASD and without ASD. Furthermore, this study addresses the weaknesses of previous research by comparing experimental studies on PCIT with the same measurement tool, resulting in more standardization and more accurate calculation results. Furthermore, 80% of the studies used in this meta-analysis were randomized controlled trials (RCTs), resulting in higher-quality data. All articles from the studies used also come from the past 10 years, contributing to the freshness of this research.

2. Research Methodology

This study used a meta-analysis method. Meta-analysis studies aim to summarize and estimate *the effect size* of a group of empirical studies that address the same research question, by comparing the mean and variance of their population effects [24]. In a meta-analysis study, *the effect size* can indicate how large the effect of *treatment* (independent variable) is to improve *psychological functioning* (dependent variable), by comparing it to the control group or those who did not receive treatment. Data processing in this

study was carried out using the Jamovi 1.6.23.0 application.

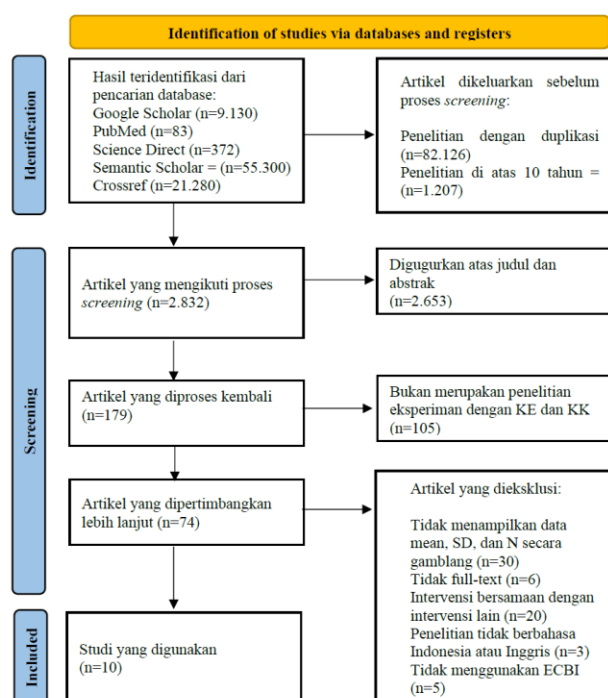


Figure 1. PRISMA Flow Chart

The data search process in this study used a *scoping review*, which was based on the PRISMA (*Preferred Reporting Items for Systematic Reviews and Meta-Analysis*) protocol. Conducted from June to July 2023, data searches were conducted on *Google Scholar*, *Science Direct*, *PubMed*, *Semantic Scholar*, and *Crossref*. The keywords used to search for articles were "PCIT AND Disruptive Behavior". After the data was found, *screening* was carried out on the abstract and title of the study based on the following inclusion characteristics: (a) Participants were children aged 2 to 10 years, (b) The intervention provided was PCIT or CDIT, (c) Using a *pre-test post-test experimental research design* that had a *treatment group* and a *control group* (preferably a *randomized controlled trial*) (d) Targeting *disruptive behavior* as an *outcome*. After being collected, the filtered data was further selected based on the inclusion criteria: (a) *full-text articles*, (b) using English or Indonesian, and (c) using the Eyberg Child Behavior Inventory (ECBI) measuring tool to measure children's disruptive behavior. Some exclusions from this study were: (a) articles that were meta-analytical studies or *systematic reviews* , (b) *single case study* articles or those that do not have KE and KK, (c) did not mention the standard deviation, mean, and number of members of the KE and KK groups clearly, (d) the intervention was given simultaneously with other psychological interventions or pharmacotherapy, and (e) the study was conducted before 2013.

Researchers also removed similar articles and separated between studies specifically conducted on populations with ASD and those that were not. Figure 1. will show the article search process carried out.

3. Results and Discussion

a) Results

Table 1 (see the last page) details the journal literature used in this study. Overall, 418 participants were involved in the 10 studies reviewed, consisting of 114 children with and 304 children without *autism spectrum disorder*.

Table 2. Results of Mean Differences Analysis without Moderator

Fixed-Effects Model (k=10)

	Estimate	se	Z	p	CI Lower Bound	CI Upper Bound
Intercept	-0.938	0.105	-8.93	<0.001	-1.144	-0.732

Table 3. Results of Heterogeneity Analysis

Heterogeneity Statistics

You know w	Know ²	I ²	H ²	df	Q	P
0.00	0 (SE=NA)	60.14 %	2,509	9.00	22,578	0.007

Based on the analysis of the I^2 value, the data in this study are considered homogeneous because they are below 75%. Therefore, the analysis to determine the *effect size* was conducted using a *fixed-effects model*. Table 2 shows the results of the *Hedges g analysis* from the analysis of mean differences in the ten studies (-0.938), which means the effect of PCIT on disruptive behavior as a whole is a large effect size (<0.7). The *confidence interval* (CI) ranged from -1.14 to -0.73, and the resulting effect was significant ($Z = -8.93$, $p < 0.001$). Therefore, in all studies, the intensity of disruptive behavior in children who received PCIT treatment was always lower than those who did not. Among the ten studies, the largest *effect size* was found in the study by Allen et al. (2022), with a *g value* of -1.75, which is PCIT treatment in a clinical setting and applied to children with ASD who do not have intellectual problems (parents received individual intervention). Meanwhile, the smallest *effect size* belonged to a study which was the only PCIT experimental study with a group format [25] .

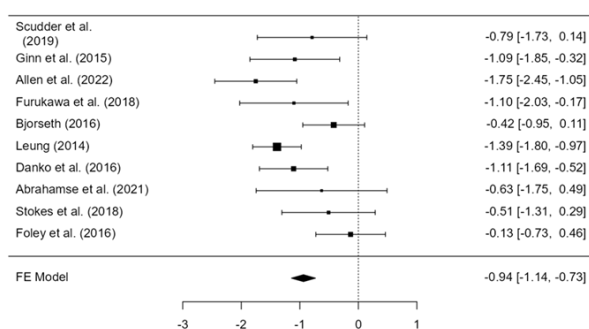


Figure 2. Forest Plot

Based on the results of the publication bias test (Table 4), the *Egger's Regression* value was 1.283 ($p=0.199$). Therefore, it can be concluded that there was no indication of publication bias in this meta-analysis. Overall, of the 10 studies analyzed, *parent-child interaction therapy* (PCIT) was significantly effective against disruptive behavior in children.

Table 4. Results of Publication Bias Test

Test Name	Value	p
Fail-Safe N	246,000	< .001
Begg and Mazumdar Rank Correlation	0.244	0.381
Egger's Regression	1,283	0.199

Note. Fail-safe N Calculation Using the Rosenthal Approach

Table 5. Results of Mean Differences Analysis with Moderator

	Estimate	se	Z	p	CI Lower Bound	CI Upper Bound
Intercept	-1.705	0.605	-2.82	0.005	-2.890	-0.520
Moderator	0.483	0.351	1.38	0.169	-0.205	1.171

To compare the effectiveness of PCIT on disruptive behavior in children with ASD and children without ASD, researchers conducted a *mean differences test* again and used ASD or non-ASD status as a moderator according to the population of each study. Based on the test results, a larger *hedges g* value was obtained than before, namely -1.705, which indicates that the presence of this moderator makes the model fit better. However, the effect size of this moderator is also not that large. Only 0.483 (small to medium effect size, <0.5 ; $p = 0.169$). This means that although there is a difference between children with ASD and non-ASD in feeling the effectiveness of PCIT on their disruptive behavior, it is not significant. Based on Figure 2, in general it can be seen that studies whose interventions are aimed at children with ASD tend to have a larger effect size when compared to non-ASD [11], [14], [26], [27], [35].

b) Discussion

The purpose of this meta-analysis study was to examine the effectiveness of PCIT interventions on disruptive behavior in children with and without ASD. Mean difference analysis showed that PCIT's effectiveness in reducing disruptive behavior was large in both groups

(large effect size). This is in line with previous studies which stated that PCIT is very useful in reducing the level of disruptive behavior in children, both typical and with ASD [8], [19], [28]. In previous studies, it was seen that a significant decrease in disruptive behavior occurred already from the child-directed interaction (CDI) phase [11]. This is because the CDI phase facilitates a forum for parents and children to "build" their relationship. Most aggressive behavior displayed by children is related to their frustration due to being unable to express their desires or due to a lack of *social cognitive skills* [11].

The CDI phase has been found to improve children's verbal expression, which has an impact on reducing disruptive behavior [26]. With increased *social cognition skills*, children become better able to distinguish between *differential reinforcement* from parents regarding their behavior. The *differential reinforcement* used in PCIT is *differential social attention*, where parents will provide positive attention when the child displays good behavior and not provide attention to the child's disruptive behavior [11]. The use of *differential social attention* is intended to shape the child's behavior and improve a more positive parent-child relationship. This plays an important role in reducing disruptive behavior in children [26]. Therefore, some researchers only use the CDI phase and have found significant results [26], [27]. However, the reduction in the level of disruptive behavior will be better if it is continued to the *parent-directed interaction* (PDI) phase. The focus in this phase is to improve the child's discipline and obedience [29]. Parents are taught effective and clear ways to give instructions to children according to their developmental level, as well as the importance of consistency in providing appropriate consequences for children's behavior [30]. This makes children more likely to comply with parental instructions and minimizes disruptive behavior.

This study found that although there was a difference in effect size when ASD and non-ASD status were considered as moderators, this was not significant. This means that both ASD and non-ASD children received the same benefits and effectiveness from PCIT on their disruptive behavior. This study supports previous findings [8], [10], [22]. This is because all studies involving ASD in this study always excluded participants who were deemed not to have the intelligence or language skills equivalent to children 2 years or older [11], [14], [26], [27]. Interestingly, studies conducted on non-ASD children, but not pre-selected based on their intellectual abilities, showed relatively smaller effect sizes [31]–[33]. Therefore, what is more influential is not ASD and non-ASD status, but rather the child's intellectual level or receptive language skills. In general, PCIT interventions require children to understand instructions given by parents [11]. In its standard application, instructions are delivered verbally. This may explain the small effect

sizes in studies that use PCIT applications but do not adjust for the specific characteristics of subjects with these disabilities [25], [31], [33].

Based on the analysis data, it was also found that studies that did not use *mastery skills indicators* to pass from one phase and move to the next phase tended to have a small *effect size* [25], [31]. Based on existing standards, new parents should be allowed to move to the next phase after mastering all the skills in the *mastery skills indicators*. Conversely, higher success rates were shown in studies conducted in clinical settings, but implemented the provision of *homework* to be done at home [11], [26], [30], [34]. This *homework* generally requires parents to practice the skills learned in the clinic again in a home setting and record them, then discuss them at the next meeting. Having direct practice at home allows parents to better master the techniques that have been learned, and makes the progress in the child can be maintained and generalized to everyday situations.

On the other hand, studies that modified and implemented this intervention in full home and community settings did not show a very large effect size (<0.7) [31], [33]. Many modifications from the established standards, such as the absence of a *one-way mirror* and the absence of a special *time-out room*, could potentially be the cause of the small *effect size*. In addition, studies conducted in group settings, requiring each participant to immediately advance to the next phase without following the *mastery skill standards*, and modifying several components such as the absence of a *one-way mirror*, *time-out room*, and hearing aids also showed a very small *effect size* [25]. Essentially, PCIT is a standardized intervention and is designed to be carried out individually, not in groups [3], [8], [21]. Good PCIT interventions require adjustments to each individual, but still without violating the established standards. Unless the modifications made are supported by the results of other previous studies.

4. Conclusion

This meta-analysis supports the use of *Parent-Child Interaction Therapy* (PCIT) interventions to address disruptive behavior in children with and without Autism Spectrum Disorder (ASD). There was no significant difference in *effect size* between the effectiveness of PCIT for children with ASD and those without ASD. However, it should be noted that all ASD studies included in this study involved children with receptive language skills or intelligence above 2 years of age. The application of PCIT for children with receptive language skills or intelligence below that level requires adjustments. PCIT implemented in a standardized clinical *setting* (particularly regarding the completion of each phase of PCIT) and providing parents with *homework* for home practice tends to be more effective. Conversely, significant modifications

to PCIT implementation require further study to demonstrate its effectiveness. Some limitations of this study include the small number of subjects involved, which did not yield heterogeneous data; the focus solely on disruptive behavior (without considering other variables such as *parenting skills* and *parenting stress*); and the limited focus on the time period after the intervention (without considering *follow-up* and the persistence of PCIT's effectiveness). Furthermore, the limited number of studies using high-quality *randomized controlled trials* and providing comprehensive descriptions of test administration and subject characteristics also hindered this research. Therefore, it is recommended that future research on the effects of PCIT utilize high-quality *randomized controlled trial designs* to allow for more comprehensive study assessments. Future research should also examine the effectiveness of PCIT in populations with intellectual ages below 2 years and make appropriate modifications.

Table 1. Research Reference Table

Writer	Country	Intervention	KK	Measuring instrument	Subject
Scudder et al. (2019)	American	PCIT (Clinic-based) 8 CDI sessions, 8 PDI sessions, 15 + 15 hours/week	Waitlist	ECBI	19 ASD 2.5-7 years Minimum mental age: 2.5 years (SB) Parent: Father/Mother
Ginn et al. (2017)	American	CDIT (Clinic-based), 8 sessions only 10 weeks, 60-75 minutes each, practicing at home 70% of the time	Waitlist	ECBI	30 ASD 3-7 years Minimum cognitive functioning equivalent to 2 years Parent: Mother (minimum 2 years of college/meets cognitive screening standards)
Allen et al. (2022)	American	PCIT (Clinic-based) 8 CDI sessions, 8 PDI sessions. Duration unknown, requested to practice at home for 5-10 minutes.	No treatment	ECBI	44 ASD 4-10 years Minimum receptive language skills equivalent to 2 years Parent: Mother
Furukawa et al. (2018)	Japan	CDIT (Clinic-based) 8 60-75 minute CDIT sessions, once a week	Waitlist	ECBI	21 ASD 4-7 years Minimum language ability: speak 3 words Parent: Mother
Bjorseth et al. (2016)	Norway	PCIT (Clinic-based) 1x a week, average 21.14 sessions received	Treatment as usual	ECBI	58 Non-ASD 2-7 years Mental retardation excluded Parents: Father and Mother
Leung et al. (2014)	Hong Kong (China)	PCIT (Clinic-based) Once a week, 1 hour per meeting, homework is given, the beginning of the meeting discusses the homework	Waitlist	ECBI	111 Non-ASD 2-7 years Intellectual disability excluded Parent: Mother
Danko et al. (2016)	American	PCIT (Clinic-based) no limit on the number of sessions, duration of each session is 60-90 minutes, homework is given, at the start of the meeting the homework is discussed	Dropouts	ECBI	52 Non-ASD 2-7 years Developmental delay excluded Parent: Father/Mother
Abrahamse et al. (2021)	Dutch	PCIT (home-based) 4 CDI sessions, 4 PDI sessions, stopped after 8 sessions. Not based on mastery criteria, no one-way mirror (therapist behind the parent), continued use of hearing aids	Waitlist	ECBI	14 Non-ASD 3-7 years There are no exclusions based on intelligence and language development.
Stokes et al. (2018)	American	PCIT (Community-based) There is homework, collected weekly Sessions are conducted at home, + 30 minutes. The number of sessions per phase is unlimited.	Usual Care	ECBI	25 Non-ASD 2-7 years There are no exclusions for intelligence/language development levels.
Foley et al. (2016)	American	PCIT (group format) Modifications: no one-way mirror, hearing aids, time-out room. PCIT graduation is not marked by passing the mastery criteria, only 12 sessions for two phases, each session is 2 hours long. There is homework given.	Treatment as usual	ECBI	44 Non-ASD 1-12 years There are no exclusions for intelligence/language development levels. Parent: unclear

*) CDIT = one phase of PCT, Child-Directed Interaction Therapy

Reference List

- [1] Si Han, Y., & Pei Jun, W. (2013). Parental Involvement in Child's Development: Father vs. Child Mother. *Open Journal of Medical Psychology*, 02(04), 1–6. <https://doi.org/10.4236/ojmp.2013.24b001>
- [2] Agazzi, H., Tan, R., & Tan, SY (2013). A case study of parent-child interaction therapy for the treatment of autism spectrum disorder. *Clinical Case Studies*, 12 (6), 428–442. <https://doi.org/10.1177/1534650113500067>
- [3] Zlomke, K. R., & Jeter, K. (2020). Comparative Effectiveness of Parent–Child Interaction Therapy for Children with and Without Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*, 50(6), 2041–2052. <https://doi.org/10.1007/s10803-019-03960-y>
- [4] Williams, D.L., Siegel, M., & Mazefsky, C.A. (2018). Problem Behaviors in Autism Spectrum Disorder: Association with Verbal Ability and Adapting/Coping Skills HHS Public Access. *J Autism Dev Disord*, 48 (11), 3668–3677. <https://doi.org/10.1007/s10803-017-3179-0>
- [5] Mackler, J.S., Kelleher, R.T., Shanahan, L., Calkins, S.D., Keane, S.P., & O'Brien, M. (2015). Parenting Stress, Parental Reactions, and Externalizing Behavior From Ages 4 to 10. *Journal of Marriage and Family*, 77 (2), 388–406. <https://doi.org/10.1111/jomf.12163>
- [6] Murphy, G. H., Beadle-Brown, J., Wing, L., Gould, J., Shah, A., & Holmes, N. (2005). Chronicity of challenging behaviors in people with severe intellectual disabilities and/or autism: A total population sample. *Journal of Autism and Developmental Disorders*, 35 (4), 405–418. <https://doi.org/10.1007/s10803-005-5030-2>
- [7] Kaat, A. J., & Lecavalier, L. (2013). Disruptive behavior disorders in children and adolescents with autism spectrum disorders: A review of the prevalence, presentation, and treatment. *Research in Autism Spectrum Disorders*, 7 (12), 1579–1594. <https://doi.org/10.1016/j.rasd.2013.08.012>
- [8] Zlomke, K. R., Jeter, K., & Murphy, J. (2017). Open-Trial Pilot of Parent-Child Interaction Therapy for Children With Autism Spectrum Disorder. *Child and Family Behavior Therapy*, 39 (1), 1–18. <https://doi.org/10.1080/07317107.2016.1267999>
- [9] Karlina Utami, S., Agustani, H., & Elsari Novianti, L. (2017). Application of Parent-Child Interaction Therapy Principles to Reduce Sibling Rivalry in Adolescents. *Journal of Psychological Intervention (JIP)*, 9 (2), 219–233. <https://doi.org/10.20885/intervensipsikologi.vol9.iss2.art6>
- [10] Parladé, M.V., Weinstein, A., Garcia, D., Rowley, A.M., Ginn, N.C., & Jent, J.F. (2020). Parent–Child Interaction Therapy for children with autism spectrum disorder and a matched case-control sample. *Autism*, 24 (1), 160–176. <https://doi.org/10.1177/1362361319855851>
- [11] Allen, K., Harrington, J., Quetsch, L.B., Masse, J., Cooke, C., & Paulson, J.F. (2023). Parent–Child Interaction Therapy for Children with Disruptive Behaviors and Autism: A Randomized Clinical Trial. *Journal of Autism and Developmental Disorders*, 53 (1), 390–404. <https://doi.org/10.1007/s10803-022-05428-y>
- [12] Postorino, V., Sharp, W.G., McCracken, C.E., Bearss, K., Burrell, T.L., Evans, A.N., & Scahill, L. (2017). A Systematic Review and Meta-analysis of Parent Training for Disruptive Behavior in Children with Autism Spectrum Disorder. *Clinical Child and Family Psychology Review*, 20 (4), 391–402. <https://doi.org/10.1007/s10567-017-0237-2>
- [13] Hallett, V., Mueller, J., Breese, L., Hollett, M., Beresford, B., Irvine, A., Pickles, A., Slonims, V., Scott, S., Charman, T., & Simonoff, E. (2021). Introducing 'Predictive Parenting': A Feasibility Study of a New Group Parenting Intervention Targeting Emotional and Behavioral Difficulties in Children with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*, 51 (1), 323–333. <https://doi.org/10.1007/s10803-020-04442-2>
- [14] Scudder, A., Wong, C., Ober, N., Hoffman, M., Toscolani, J., & Handen, B.L. (2019). Parent–child interaction therapy (PCIT) in young children with autism spectrum disorder. *Child and Family Behavior Therapy*, 41 (4), 201–220. <https://doi.org/10.1080/07317107.2019.1659542>

- [15] Lindgren, S., Wacker, D., Schieltz, K., Suess, A., Pelzel, K., Kopelman, T., Lee, J., & Romani, P. (nd). *A Randomized Controlled Trial of Functional Communication Training via Telehealth for Young Children with Autism Spectrum Disorder* . <https://doi.org/10.1007/s10803-020-04451-1>
- [16] Reitzel, J., Summers, J., Lorv, B., Szatmari, P., Zwaigenbaum, L., Georgiades, S., & Duku, E. (2013). Pilot randomized controlled trial of a Functional Behavior Skills Training program for young children with Autism Spectrum Disorder who have significant early learning skill impairments and their families. *Research in Autism Spectrum Disorders* , 7 (11), 1418–1432. <https://doi.org/10.1016/j.rasd.2013.07.025>
- [17] Paramita, AD, Hadis, FA, & Hartiani, F. (2019). Application of Parent-Child Interaction Therapy (PCIT) to Handle Disruptive Behavior Problems in Preschool Children. *MIND SET Journal of Psychology* , 10 (01), 45–54. <https://doi.org/10.35814/mindset.v10i01.738>
- [18] Burrell, T. L., & Borrego, J. (2012). Parents' Involvement in ASD Treatment: What Is Their Role? *Cognitive and Behavioral Practice* , 19 (3), 423–432. <https://doi.org/10.1016/j.cbpra.2011.04.003>
- [19] Valero-Aguayo, L., Rodríguez-Bocanegra, M., Ferro-García, R., & Ascanio-Velasco, L. (2021). Meta-analysis of the efficacy and effectiveness of parent child interaction therapy (Pcit) for child behavior problems. *Psychothema* , 33 (4), 544–555. <https://doi.org/10.7334/psychothema2021.70>
- [20] Lieneman, C.C., Brabson, L.A., Highlander, A., Wallace, N.M., & Mcneil, C.B. (2017). *Parent-Child Interaction Therapy: current perspectives* . <https://doi.org/10.2147/PRBM.S91200>
- [21] Hosogane, N., Kodaira, M., Kihara, N., Saito, K., & Kamo, T. (2018). Parent-Child Interaction Therapy (PCIT) for young children with Attention-Deficit Hyperactivity Disorder (ADHD) in Japan. *Annals of General Psychiatry* , 17 (1), 1–7. <https://doi.org/10.1186/s12991-018-0180-8>
- [22] Quetsch, L.B., Bradley, R.S., Theodorou, L., Newton, K., & McNeil, C.B. (2022). Community-based Agency Delivery of Parent-Child Interaction Therapy: Comparing Outcomes for Children with and Without Autism Spectrum Disorder and/or Developmental Delays. *Journal of Autism and Developmental Disorders* . <https://doi.org/10.1007/s10803-022-05755-0>
- [23] Masse, J.J., McNeil, C.B., Wagner, S.M., & Chorney, D.B. (2007). Parent-child interaction therapy and high functioning autism: A conceptual overview. *Journal of Early and Intensive Behavior Intervention* , 4 (4), 714–735. <https://doi.org/10.1037/h0100402>
- [24] H. Retnawati, E. Apino, Kartianom, H. Djidu, and RD Anazifa, *Introduction to Meta Analysis (1st Edition)* , no. July. 2018.
- [25] Foley, K., McNeil, C.B., Norman, M., & Wallace, N.M. (2016). Effectiveness of Group Format Parent-Child Interaction Therapy Compared to Treatment as Usual in a Community Outreach Organization. *Child and Family Behavior Therapy* , 38 (4), 279–298. <https://doi.org/10.1080/07317107.2016.1238688>
- [26] Ginn, N.C., Clionsky, L.N., Eyberg, S.M., Warner-Metzger, C., & Abner, J.P. (2017). Child-Directed Interaction Training for Young Children With Autism Spectrum Disorders: Parent and Child Outcomes. *Journal of Clinical Child and Adolescent Psychology* , 46 (1), 101–109. <https://doi.org/10.1080/15374416.2015.1015135> .
- [27] Furukawa, K., Okuno, H., Mohri, I., Nakanishi, M., Eyberg, S. M., & Sakai, S. (2018). Effectiveness of Child-Directed Interaction Training for Young Japanese Children With Autism Spectrum Disorders. *Child and Family Behavior Therapy* , 40 (2), 166–186. <https://doi.org/10.1080/07317107.2018.1477344>
- [28] Sheperis, C., Sheperis, D., Monceaux, A., Davis, R. J., & Lopez, B. (2015). Parent–Child Interaction Therapy for Children With Special Needs. *The Professional Counselor* , 5 (2), 248–260. <https://doi.org/10.1524/cs.5.2.248>
- [29] Chengappa, K., McNeil, C.B., Norman, M., Quetsch, L.B., & Travers, R.M. (2017). Efficacy of Parent-Child Interaction Therapy with Parents with Intellectual Disability. *Child and Family Behavior Therapy* , 39 (4), 253–

282.

<https://doi.org/10.1080/07317107.2017.1375680>

- [30] Leung, C., Tsang, S., Sin, TCS, & Choi, S. yan. (2015). The Efficacy of Parent–Child Interaction Therapy With Chinese Families: Randomized Controlled Trial. *Research on Social Work Practice* , 25 (1), 117–128. <https://doi.org/10.1177/1049731513519827>
- [31] Abrahamse, M.E., Tsang, VMW, & Lindauer, R.J.L. (2021). Home-based parent–child interaction therapy to prevent child maltreatment: A randomized controlled trial. *International Journal of Environmental Research and Public Health* , 18 (16). <https://doi.org/10.3390/ijerph18168244>
- [32] Foley, K.-R., Jacoby, P., Girdler, S., Bourke, J., Pikora, T., Lennox, N., Einfeld, S., Llewellyn, G., Parmenter, T.R., & Leonard, H. (2013). Functioning and post-school transition outcomes for young people with Down syndrome. *Child: Care, Health and Development* , 39 (6), 789–800. <https://doi.org/10.1111/cch.12019>
- [33] Stokes, J.O., Wallace, N.M., & McNeil, C.B. (2018). Effectiveness of Community-Delivered Parent-Child Interaction Therapy Compared to Usual Care. *Child and Family Behavior Therapy* , 40 (4), 279–305. <https://doi.org/10.1080/07317107.2018.1522232>
- [34] Danko, C. M., Garbacz, L. L., & Budd, K. S. (2016). Outcomes of Parent-Child Interaction Therapy in an urban community clinic: A comparison of treatment completers and dropouts. *Children and Youth Services Review* , 60 , 42–51. <https://doi.org/10.1016/j.childyouth.2015.11.007>
- [35] Bjørseth, Å., & Wichstrøm, L. (2016). Effectiveness of Parent-Child interaction therapy (PCIT) in the treatment of young children's behavior problems. A randomized controlled study. *PLoS ONE* , 11 (9), 1–19. <https://doi.org/10.1371/journal.pone.0159845>