ENCYCLOPEDIA
on Early Childhood
Development

AGGRESSION

Effective Daycare-Kindergarten Interventions to Prevent Chronic Aggression

John E. Lochman, PhD, ABPP, Caroline Boxmeyer, PhD, Nicole Powell, PhD, Alberto Jimenez-Camargo, PhD

Center for Youth Development and Intervention, The University of Alabama, USA

July 2022, Éd. rév.

Introduction

Societal concern about antisocial behaviours of children and adolescents has increased over the years, in part due to the enormous financial costs of youth crime,[1,2] as well as the devastating consequences of violence in schools.[3] Conduct problems (especially among boys) are the most frequent childhood behavioural problems to be referred to mental health professionals.[4] Aggressive and disruptive behaviour is one of the most enduring dysfunctions in children and, if left untreated, frequently results in high personal and emotional costs to children, their families and to society in general. A great deal of research has therefore been conducted to investigate the causes, treatment and prevention of conduct problems,[4] often using models emphasizing risk and protective factors addressing children's social competence and contextual family variables as research and intervention frameworks.[5]

Subject

©2022-2026 ABILIO | AGGRESSION

Longitudinal research indicates that young children who develop disruptive behaviour problems are at an elevated risk for a host of negative adolescent and adult outcomes including chronic aggression and conduct problems, substance abuse, poor emotion regulation, school failure, peer problems and crime.[6,7,8] Early-appearing externalizing behaviours can disrupt relationships with parents and peers, initiating processes that can maintain or exacerbate children's behavioural problems.[9] Therefore, very early intervention (e.g., in day care, preschool, or kindergarten) can be important in interrupting the potential path to chronic aggression in children who display aggressive behaviour or who are at risk for developing aggressive behaviour.

Risk factors for aggression in young children include a complex array of child, family and environmental factors that can often operate in additive and interactive ways. At the child level, temperamental features evident in infancy and toddlerhood such as irritability and negative affect, low agreeableness, weak effortful control, high surgency and approach, lack of persistence and low adaptability increase the risk of behaviour problems[10,11,12,13,14] as do certain neuropsychological, genetic and neurobiological traits.[15,16,17,18,19] At the family level, parenting practices including punitive discipline, inconsistency, low warmth and involvement, and physical aggression have been found to contribute to the development of young children's aggressive behaviour.[20,21] Children who are exposed to high levels of discord within the home and whose parents have associated harsh parenting and mental health and/or substance abuse issues are also at heightened risk.[22,23,24] Other important correlates of aggression in children that can contribute to chronic aggression include children's faulty social-cognitive processes affecting their perceptions, goals and decision-making in difficult social interactions, often acquired from their relationships with parents and peers[25,26,27] and rejection from their young peers.[28]

Problem

Early-emerging disruptive behaviour problems tend to be highly stable, can disrupt important developmental processes, and are predictive of negative outcomes in adolescence. Therefore, effective interventions targeting very young children are needed that target malleable risk factors for aggression.

Research Context

Effective day care-kindergarten interventions designed to prevent chronic aggression are essential to the long-term psychological well-being of children between 2 and 5 years of age.

©2022-2026 ABILIO | AGGRESSION

Although some of the current literatures state that children tend to grow out of or see decreases in externalizing behaviours by early childhood,[29,30] other research indicates that some children, especially boys, who exhibit sharp increases in aggressive behaviour between 2 and 3 years of age, tend to exhibit stable levels of aggression as they mature.[31,32] Most of the research which has demonstrated effective school-based aggression prevention interventions has been conducted with children in the elementary and high school years.[33] However, there have been fewer intervention programs designed for children in the 0-5 age period that have been rigorously researched and shown efficacious for aggression prevention.

Key Research Questions

A key research question is whether psychosocial school-based interventions demonstrated to be efficacious in older children can be translated for use in younger children. In addition, research must demonstrate whether psychosocial interventions can be powerful enough to protect against the numerous risk factors shown to influence early childhood aggression such as low socioeconomic status, poor parental attachment, negative parenting practices, and child temperament and genetic factors,[34,35] and whether intervention effects are mediated through changes in parenting practices and in children's emerging self-regulatory abilities. Children as young as 36 months can use metacognitive strategies to alleviate their negative arousal states. As they continue to develop in preschool, and are influenced by the emotion regulation strategies of parents and other adults, their use of regulation strategies becomes more sophisticated.[36,37,38] Thus, the use of psychosocial interventions in this age range appears promising.

Recent Research Results

During the prenatal-to-infancy period interventions such as nurse home visitation programs have been shown to reduce children's early emotional vulnerability,[39] and decrease later criminal and substance use behaviour among high-risk groups through age 12 to15,[40] although the nature of the specific maternal at-risk factors has varied across studies. When the youth reached age 18, the intervention had improved some aspects of youths' academic performance, but did not have overall effects on youth behaviour problems or substance use.[41]

In the post-infancy years, early childhood education settings (e.g., day care, preschool, kindergarten) offer an important opportunity to identify at-risk youth and provide prevention and early intervention programming. In the past several decades, a number of preventive

©2022-2026 ABILIO | AGGRESSION

interventions have been developed and tested for use in early childhood settings to prevent chronic aggression.[42,43]

Universal prevention programs seek to prevent child behaviour problems by teaching all classroom students core social and emotional competencies. The Promoting Alternative Thinking Strategies (PATHS) curriculum provides weekly classroom lessons and extension activities to improve preschool children's social-emotional awareness and behaviour. In a randomized trial with 246 children in 20 Head Start classrooms, children exposed to the PATHS program had higher emotion knowledge skills and were rated as more socially competent and less socially withdrawn at the end of the school year.[44] Another study of preschool PATHS in 113 preschool centers found that PATHS had effects on children's emotion understanding but limited effects on other socioemotional skills and no effects on academic skills.[45] When PATHS was implemented in a more comprehensive way, along with a language and literacy curriculum, as part of the Head Start REDI (Research-based Developmentally Informed) program in a separate study in [44] Head Start classrooms, significant reductions in children's aggressive behaviour were also observed[46] and intervention effects on children's social-emotional functioning continued to be seen through third grade.[47] At a six-year follow-up when children were in 5th grade, children who had received the REDI intervention had better long-term social adjustment and academic engagement than control children but the intervention effects on behaviour problems were no longer significant.[48]

Coping Power Universal (CPU) is a recent adaptation of a targeted prevention program, Coping Power,[5] and has been developed for use as a universal prevention program for preschool classrooms. CPU for preschoolers has 24 weekly sessions delivered by the classroom teacher, and the lessons, following the Coping Power model, focus on self-control, awareness of feelings, awareness of physiological arousal, and problem-solving. The lessons use storytelling, singing, role-play and puppetry. In three randomized control studies, children who received CPU for preschoolers had reduced rates of behavioural difficulties at post-intervention according to both parent and teacher ratings,[49,50,51] and improvements on teacher-rated academic abilities[50] and on standardized[51] academic tests of mathematical and language skills.

Targeted or indicated prevention programs seek to identify children with elevated risk for aggressive behaviour and to alter their developmental trajectories by addressing malleable risk factors. The Incredible Years (IY) Training Program[52] was originally developed as a parent training intervention for parents of children with clinical diagnoses of Oppositional Defiant Disorder and Conduct Disorder. Similar intervention programs that have combined parent

workshops with simultaneous training program for high-risk 2- to 5-year-olds and their siblings, and with a joint activity time for parents and children, have resulted in decreases in oppositional child behaviours, decreases in harsh punishments from parents, and improvements in the effectiveness of parental discipline.[53] IY has subsequently been expanded to include child and teacher components and has been evaluated for use as a prevention tool. Several randomized trials of IY delivered to Head Start teachers and parents[54] have produced favorable effects on reducing child noncompliance and negative behaviours and improving parent competence and child prosocial behaviours,[52] especially for preschool children with more behaviour problems[55] and for boys and children with depressed mothers.[56]

Parent-Child Interaction Therapy (PCIT) is another form of early intervention for preschool-age children with aggressive behaviour. PCIT and related interventions[57] intervene directly with the parent-child dyad.[58] PCIT has been shown to produce lasting improvements in child and sibling behaviours at home and school, as well as improvements in parenting and parent well-being in a number of university-based treatment studies, and has been adapted for use with parents and infants.[59] PCIT has been adapted for use in preschool classrooms and other community settings.[58]

Research Gaps

Despite the emergence of several preventive interventions for aggressive behaviour in early childhood settings, a number of key research gaps remain. First, longer-term follow-up studies are needed to better determine whether prevention programs provided in early childhood settings produce lasting reductions in children's aggressive behaviour. Boisjoli and colleagues[60] found that aggressive boys who participated in a multimodal preventive intervention in kindergarten had better high school graduation rates and generally fewer had criminal records compared to control boys at a 15-year follow-up. These findings are highly promising and suggest that additional studies are needed to further document the range of long-term effects of early preventive intervention, and to identify the mediating child and parent processes underlying long-term reductions in aggressive behaviour. Second, parent training is a critical feature of most preventive interventions for child aggression. However, engaging parents of high-risk youth in such interventions can present a significant challenge. Additional research on strategies for engaging high-risk families and tailoring interventions to fit families' needs, such as the work being conducted on the Family Check-Up,[61] is warranted. Finally, future studies are needed to examine aspects of the training process and host systems that affect the ability of early childhood programs to provide sustained and effective use of preventive interventions for child aggression.

©2022-2026 ABILIO | AGGRESSION

[62]

Conclusions

Effective daycare-kindergarten interventions must target the known active risk mechanisms that contribute to the maintenance of aggressive behaviour, especially addressing children's self-regulatory behaviours and parents' behaviours. In the past several decades, classroom-based research has continued to develop on universal and targeted prevention programs for young children. Universal prevention programs for preschool and kindergarten settings have demonstrated that teachers can be trained to assist children's social competence. During the preschool years, psychosocial interventions with parents targeting their parenting practices have immediate effects both on parenting behaviours and on aggressive and noncompliant behaviours among children. Several different models of effective parenting programs have been found for the parents of children in this age group, including parent training workshops, group meetings, and coaching during interactions with children. The latter type of parent–child program that involves coaching has been used more in clinical settings or interventions targeting high-risk families than in large-scale prevention services. Such parenting programs have been combined with classroom-based programs focusing on social-emotional development.

Implications

Several key implications are evident for parents, services and policy. First, schools can indeed offer effective social-emotional learning to children in the preschool settings, but there can be long-term advantages for including tightly linked components that offer psycho-education and collaborative problem-solving to parents. Second, following emerging, innovative trends in intervention research with older aggressive children, intervention with preschool aggressive children should become adaptively flexible, while still retaining implementation with fidelity.[63] Research-based interventions in the years ahead are more likely to be based in the identification of assessed risk factors for each family, which will in turn lead to tailored versions of the intervention in which only relevant portions of the intervention will be delivered to address the identified specific risk factors for a particular child and family.[64,65] Planned capacities to tailor interventions in this way will permit clinicians and preschool and school staff to readily adapt interventions, and this will likely be evident for targeted-child interventions and parent-based interventions. Third, programs offered to parents should not only offer behavioural parent training designed to enhance parents' rewards and antecedent and consequential control of

children’s behaviour, but should more broadly and collaboratively address parents’ developmental expectations for their children, reinforce children’s emerging self-regulation, emotion knowledge and problem-solving skills that are being shaped by the child-focused components of interventions. Parents (and teachers) play a key role in modeling and reinforcing self-regulation strategies. Fourth, preschools should recognize that engaging parents in preventive interventions requires proactive planning, and specialized parent engagement strategies are often necessary. Fifth, the introduction of research-based interventions in typical preschool and agency settings requires careful attention to the intensity of training required for school staff, and to characteristics of the school settings and of the school staff that stimulate implementation of programs with high quality.[61] Finally, in terms of social policy, there is now sufficient evidence to encourage the development of widespread behavioural training programs for parents of preschool-aged children and for preschool classroom-based interventions.

References

1. Foster EM, Jones D. Conduct problems prevention research group. The high costs of aggression: Public expenditures resulting from conduct disorder. *American Journal of Public Health* 2005;95(10):1767-1772.

2. Wickramasekera N, Wright J, Elsey H, Murray J, Tubeuf S. Cost of crime: A systematic review. *Journal of Criminal Justice* 2015;43(3):218-228.

3. Cabral M, Kim B, Rossin-Slater M, Schnell M, Schwandt H. Trauma at School: The Impacts of Shootings on Students' Human Capital and Economic Outcomes (No. w28311). National Bureau of Economic Research; 2021.

4. Matthys W, Lochman JE. *Oppositional defiant disorder and conduct disorder in childhood*, 2nd ed. Oxford, England: Wiley-Blackwell; 2017.

5. Lochman JE, Wells KC. Contextual social-cognitive mediators and child outcome: A test of the theoretical model in the Coping Power Program. *Development and Psychopathology* 2002;14(4):971-993.

©2022-2026 ABILIO | AGGRESSION

6. Campbell SB, Spieker S, Vandergrift N, Belsky J, Burchinal M. Predictors and sequelae of trajectories of physical aggression in school-age boys and girls. *Development and Psychopathology* 2010;22(1):133-150.

7. Shaw D, Gilliom M, Ingoldsby E, Nagin D. Trajectories leading to school-age conduct problems. *Developmental Psychology*. 2003;39(2):189-200.

8. Kassing F, Godwin J, Lochman JE, Coie JD. Conduct Problems Prevention Research Group. Using early childhood behavior problems to predict adult convictions. *Journal of Abnormal Child Psychology* 2019;47(5):765-778.

9. Patterson GR, Reid JB, Dishion TJ. *A social learning approach. IV. Antisocial boys*. Eugene, OR: Castalia; 1992.

10. Bates JE, Pettit GS, Dodge KA, Ridge B. Interaction of temperamental resistance to control and restrictive parenting in the development of externalizing behavior. *Developmental Psychology* 1998;34(5):982-995.

11. Rubin KH, Burgess KB, Hastings PD, Dwyer KM. Predicting preschoolers' externalizing behaviors from toddler temperament, conflict, and maternal negativity. *Developmental Psychology* 2003;39(1):164-176.

12. Shaw DS, Owens EB, Giovannelli J, Winslow EB. Infant and toddler pathways leading to early externalizing disorders. *Journal of the American Academy of Child and Adolescent Psychiatry* 2001;40(1):36-43.

13. Lavigne JV, Gouze KR, Hopkins J, Bryant FB, LeBailly SA. A multi-domain model of risk factors for ODD symptoms in a community sample of 4-year-olds. *Journal of Abnormal Child Psychology* 2012;40(5):741-757.

14. Zastrow BL, Martel MM, Widiger TA. Preschool oppositional defiant disorder: A disorder of negative affect, surgency, and disagreeableness. *Journal of Clinical Chid and Adolescent Psychology* 2018;47(6):967-977.

©2022-2026 ABILIO | AGGRESSION

15. Arseneault L, Moffitt TE, Caspi A, Taylor A, Rijsdijk FV, Jaffee SR, Ablow JC, Measelle JR. Strong genetic effects on cross-situational antisocial behaviour among 5-year-old children according to mothers, teachers, examiner-observers, and twins' self-reports. *Journal of Child Psychology and Psychiatry* 2003;44(6):832-848.

16. Kim-Cohen J, Caspi A, Taylor A, Williams B, Newcombe R, Craig IW, Moffitt TE. MAOA, maltreatment, and gene-environment interaction predicting children's mental health: New evidence and a meta-analysis. *Molecular Psychiatry* 2006;11(10):903-913.

17. Ficks CA, Waldman ID. Candidate genes for aggression and antisocial behavior: A meta-analysis of association studies of the 5HTTLRP and MAOA-uVNTR. *Behavior Genetics* 20014;44(5):427-444.

18. Barker ED, Cecil CAM, Walton E, Meehan AJ. Genetic and gene-environment influences on Disruptive Behavior Disorders. In: Lochman JE, Matthys W, eds. *The Wiley Handbook of Disruptive and Impulse-Control Disorders*. Chichester, England: Wiley-Blackwell; 2018:127-141.

19. Levantini V, Powe CE, Lochman JE, Glenn A. Monoamine Oxidase-A and conduct problems in children: The role of affective decision-making. *Journal of Psychopathology and Behavioral Assessment* 2022;44(2):227-234.

20. Stormshak EA, Bierman KL, McMahon RJ, Lengua LJ, the Conduct Problems Prevention Research Group.Parenting practices and child disruptive behavior problems in early elementary school. *Journal of Clinical Child Psychology* 2000;29(1):17-29.

21. Stormshak EA, DeVargas E, Cardenas LE. Parenting practices and the development of problem behavior across the lifespan. In: Lochman JE, Matthys W, eds. *The Wiley Handbook of Disruptive and Impulse-Control Disorders.* Chichester, England: Wiley-Blackwell;2018:307-322.

22. Tiet QQ, Bird HR, Hoven CW, Moore R, Wu P, Wicks J, Jensen PS, Goodman S, Cohen P. Relationship between specific adverse life events and psychiatric disorders. *Journal of Abnormal Child Psychology* 2001;29(2):153-164.

©2022-2026 ABILIO | AGGRESSION

23. Rhoades KA. Children's responses to interparental conflict: A meta-analysis of their associations with child adjustment. *Child Development* 2008;79(6):1942-1956.

24. Sherrill RB, Lochman JE, DeCoster J, Stromeyer S. Spillover between interparental and parent-child conflict within and across days. *Journal of Family Psychology* 2017;31(7):900-909.

25. Zelli A, Dodge KA, Lochman JE, Laird RD, the Conduct Problems Prevention Research Group. The distinction between beliefs legitimizing aggression and deviant processing of social cues: Testing measurement validity and the hypothesis that biased processing mediates the effects of beliefs on aggression. *Journal of Personality and Social Psychology* 1999;77(1):150-166.

26. McDonald, KL, Baden RE, Lochman JE. Parenting influences on the social goals of aggressive children. *Applied Developmental Science* 2013;17(1):29-38.

27. Yaros A, Lochman JE, Wells KC. Parental aggression as a predictor of boys' hostile attribution across the transition to middle school. International Journal of Behavioral Development 2016;40(5):452-458.

28. Powers CJ, Bierman KL, the Conduct Problems Prevention Research Group. The multifaceted impact of peer relations on aggressive-disruptive behavior in early elementary school. *Developmental Psychology* 2013;49(6):1174-1186.

29. Campbell S. *Behavior problems in preschool children: Clinical and developmental issues*. 2nd ed. New York, NY: Guilford Press; 2002.

30. Hill A, Degnan K, Calkins S, Keane S. Profiles of externalizing behavior problems for boys and girls across preschool: The roles of emotion regulation and inattention. *Developmental Psychology* 2006;42(5):913-928.

31. Alink L, Mesman J, van Zeijl J, Stolk MN, Juffer F, Koot HM, Bakermans-Kranenburg MJ, van Ijzendoorn MH. The early childhood aggression curve: Development of physical aggression in 10- to 50-month-old children. *Child Development* 2006;77(4):954-966.

©2022-2026 ABILIO | AGGRESSION

32. Girard LC, Tremblay RE, Nagin D, Cote S. Development of aggression subtypes from childhood to adolescence: A group-based multi-trajectory modelling perspective. Journal of Abnormal Child Psychology 2019;47(5):825-838.

33. Leff S, Power T, Manz P, Costigan T, Nabors L. School-based aggression prevention programs for young children: Current status and implications for violence prevention. *School Psychology Review* 2001;30(3):344-362.

34. Hastings P, De I. Parasympathetic regulation and parental socialization of emotion: Biopsychosocial processes of adjustment in preschoolers. *Social Development* 2008;17(2):211-238.

35. Kidwell S, Barnett D. Adaptive emotion regulation among low-income African American children. *Merrill-Palmer Quarterly: Journal of Developmental Psychology* 2007;53(2):155-183.

36. Cole P, Dennis T, Smith-Simon K, Cohen L. Preschoolers' emotion regulation strategy understanding: Relations with emotion socialization and child self-regulation. *Social Development* 2009;18(2):324-352.

37. Davis E, Levine L, Lench H, Quas J. Metacognitive emotion regulation: Children's awareness that changing thoughts and goals can alleviate negative emotions. *Emotion* 2010;10(4):498-510.

38. Morris AS, Silk JS, Morris MD, Steinberg L, Aucoin KJ, Keyes AW. The influence of mother-child emotion regulation strategies on children’s expression of anger and sadness. Developmental Psychology 2011;47(1):213-225.

39. Olds DL, Robinson J, O’Brien R, Luckey DW, Pettitt LM, Henderson CR Jr, Ng RK, Sheff KL, Korfmacher J, Hiatt S, Talmi A. Home visiting by paraprofessionals and by nurses: A randomized, controlled trial. *Pediatrics* 2002;110(3):486-496.

40. Olds D, Henderson CR Jr, Cole R, Eckenrode J, Kitzman H, Luckey D, Pettitt L, Sidora K, Morris P, Powers J. Long-term effects of nurse home visitation on children’s criminal and

antisocial behavior: 15-year follow-up of a randomized controlled trial. *JAMA* 1998;280(14):1238-1244.

41. Kitzman H, Olds DL, Knudtson MD, Cole R, Anson E, Smith JA, Fishbein D, DiClemente R, Wingood G, Caliendo AM, Hopfer C, Miller T, Conti, G. Prenatal and infancy nurse home visiting and 18-year outcomes of a randomized trial. *Pediatrics* 2019;144(6):e20183876.

42. Ştefan C, Miclea M. Prevention programmes targeting emotional and social development in preschoolers: Current status and future directions. *Early Child Development and Care* 2010;180(8):1103-1128.

43. Cornacchio D, Bry LJ, Sanchez AL, Poznanski B, Comer JS. Psychosocial treatment and prevention of conduct problems in early childhood. In: Lochman JE, Matthys W, eds. *The Wiley Handbook of Disruptive and Impulse-Control Disorders.* Chichester, England: Wiley-Blackwell; 2018:433-449.

44. Domitrovich C, Cortes R, Greenberg M. Improving young children's social and emotional competence: A randomized trial of the preschool 'PATHS' curriculum. *The Journal of Primary Prevention* 2007;28(2):67-91.

45. Lonigan CJ, Phillips BM, Clancy JL, Landry SH, Swank PR, Assel M, Taylor HB, Klein A, Starkey P, Domitrovich CE, Eisenberg N, de Villiers J, de Villers P, Barnes M, the School Readiness Consortium. Impacts of a comprehensive school readiness curriculum for preschool children at risk for educational difficulties. *Child Development* 2015;86(6):1773-1793.

46. Bierman KL, Domitrovich CE, Nix RL, Gest SD, Welsh JA, Greenberg MT, Blair C, Nelson KE, Gill S. romoting academic and social-emotional school readiness: The Head Start REDI program. *Child Development* 2008;79(6):1802-1817.

47. Nix RL, Bierman KL, Heinrichs BS, Gest SD, Welsh JA, Domitrovich CE. The randomized-controlled trial of Head Start REDI: Sustained effects on developmental trajectorties of social-emotional functioning. *Journal of Consulting and Clinical Psychology* 2016;84(4):310-322.

©2022-2026 ABILIO | AGGRESSION

48. Welsh JA, Bierman KL, Nix RL, Heinrichs BN. Sustained effects of a school readiness intervention: 5th grade outcomes of the Head Start REDI program. *Early Childhood Research Quarterly* 2020;53(4):151-160.

49. Muratori P, Giuli C, Bertacchi I, Orsolini L, Ruglioni L, Lochman JE. Coping Power or preschool-aged children: A pilot randomized control trial study. *Early Intervention in Psychiatry* 2017;11(6):532-538.

50. Muratori P, Lochman JE, Bertacchi I, Giuli C, Guarguagli E, Pisano S, Gallami A, Mammarella I. Universal Coping Power for pre-schoolers: Effects on children's behavioral difficulties and pre-academic skills. *School Psychology International* 2019;40(2):128-144.

51. Muratori P, Giofre D, Bertacchi I, Darini A, Giuli C, Lai E, Modena A, Lochman JE, Mammarella I. Testing the efficacy of Coping Power Universal on behavioral problems and pre-academic skills in preschoolers. *Early Childhood Education Journal* 2022;50(4):613-625.

52. Webster-Stratton C, Reid JM. The Incredible Years Parents, Teachers and Child Training Series: A multifaceted treatment approach for young children with conduct problems. In: Weisz JR, Kazdin AE, eds. *Evidence-based psychotherapies for children and adolescents.* 3rd ed. New York: Guilford Press; 2017:122-141.

53. Miller-Heyl J, MacPhee D, Fritz J. DARE to be You: A family-support, early prevention program. *Journal of Primary Prevention* 1998;18:257-285.

54. Webster-Stratton C. Preventing conduct problems in head start children: strengthening parenting competencies. *Journal of Consulting and Clinical Psychology* 1998;66(5):715-730.

55. Reid MJ, Webster-Stratton C, Baydar N. Halting the development of conduct problems in Head Start children: The effect of parent training. *Journal of Clinical Child and Adolescent Psychology* 2004;33(2):279-291.

56. Gardner F, Hutchings J, Bywater T, Whitaker C. Who benefits and how does it work? Moderators and mediators of outcome in an effectiveness Trial of Parenting intervention.

©2022-2026 ABILIO | AGGRESSION

Journal of Clinical Child and Adolescent Psychology 2010;39(4):568-580.

57. Strayhorn JM, Weidman CS. Follow-up one year after parent-child interaction training: effect on behavior of preschool children. *Journal of the American Academy of Child and Adolescent Psychiatry* 1991;30(1):138-143.

58. Zisser-Nathenson A, Herschell AD, Eyberg S. Parent-child interaction therapy and the treatment of disruptive behavior disorders. In: Weisz JR, Kazdin AE, eds. *Evidence-based psychotherapies for children and adolescents*. 2nd ed. New York: Guilford Press; 2017:103-121.

59. Bagner DM, Coxe S, Hungerford, GM, Garcia D, Barroso NE, Hernandez J, Rosa-Olivares J. Behavioral parent training in infancy: A window of opportunity for high-risk families. *Journal of Abnormal Child Psychology* 44(5):901-912.

60. Boisjoli R, Vitaro F, Lacourse É, Barker ED, Tremblay RE. Impact and clinical significance of a preventive intervention for disruptive boys: 15-year follow-up. *British Journal of Psychiatry* 2007;191(5):415-419.

61. Dishion T, Shaw D, Connell A, Gardner F, Weaver C, Wilson M. The Family Check-Up with high-risk indigent families: Preventing problem behavior by increasing parents' positive behavior support in early childhood. *Child Development* 2008;79(5):1395-1414.

62. Lochman JE, Boxmeyer C., Kassing FL, Powell NP, Stromeyer SL. (2019). Cognitive-behavioral intervention for youth at-risk for conduct problems: Future directions. *Journal of Clinical Child and Adolescent Psychology* 2019;48(5):799-810.

63. Lochman JE, Powell NP, Jones S. The Coping Power Program for children with aggressive behavior problems. In: Kendall PC, ed. *Flexibility within Fidelity.* New York: Oxford University Press; 2021:211-230.

64. Glenn AL, Lochman JE, Dishion T, Powell NP, Boxmeyer CL, Kassing F, Qu L, Romero D. (2019). Toward tailored interventions: Sympathetic and parasympathetic functioning predicts responses to an intervention for conduct problems delivered in two formats.

©2022-2026 ABILIO | AGGRESSION

Prevention Science 2019;20(1):30-40.

65. Herman KC, Reinke WM, Bradshaw CP, Lochman JE, Boxmeyer CL, Powell NP, Dunn K, Cox J, Vaughn C, Stephan S, Ialongo N. Integrating the Family Check-Up and the parent Coping Power program. *Advances in School Mental Health Promotion* 2012;5(3):208-219.

©2022-2026 ABILIO | AGGRESSION