Washington State Institute for Public Policy

Benefit-Cost Results

Incredible Years Parent Training

Children's Mental Health: Disruptive Behavior

Benefit-cost estimates updated December 2023. Literature review updated July 2018.

Current estimates replace old estimates. Numbers will change over time as a result of model inputs and monetization methods.

The WSIPP benefit-cost analysis examines, on an apples-to-apples basis, the monetary value of programs or policies to determine whether the benefits from the program exceed its costs. WSIPP's research approach to identifying evidence-based programs and policies has three main steps. First, we determine "what works" (and what does not work) to improve outcomes using a statistical technique called meta-analysis. Second, we calculate whether the benefits of a program exceed its costs. Third, we estimate the risk of investing in a program by testing the sensitivity of our results. For more detail on our methods, see our Technical Documentation.

Program Description: Incredible Years Parent Training is a group, skills-based behavioral intervention for parents of children with disruptive behavior. The curriculum focuses on strengthening parenting skills (monitoring, positive discipline, confidence) and fostering parents' involvement in children's school experiences in order to promote children's academic, social, and emotional competencies and reduce conduct problems. The program consists of 12 to 16 weekly two-hour sessions provided by trained therapists. Sessions include videotape modeling of parenting skills and then focused discussion of the skills portrayed in the vignettes. Training classes include child care, a family meal, and transportation.

Benefit-Cost Summary Statistics Per Participant

Benefits to:

Taxpayers	$2,705
Participants	$5,209
Others	$2,573
Indirect	($517)
Total benefits	$9,970
Net program cost	($1,585)
Benefits minus cost	$8,385

Benefit to cost ratio	$6.29
Benefits minus costs	$8,385
Chance the program will produce benefits greater than the costs	60%

The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2022). The chance the benefits exceed the costs are derived from a Monte Carlo risk analysis. The details on this, as well as the economic discount rates and other relevant parameters are described in our Technical Documentation.

Meta-Analysis of Program Effects

Outcomes measured	Treatment age	Primary or secondary participant	No. of effect sizes	Treatment N	Adjusted effect sizes and standard errors used in the benefit-cost analysis						Unadjusted effect size (random effects model)	
					First time ES is estimated			Second time ES is estimated				
					ES	SE	Age	ES	SE	Age	ES	p-value
Test scores	5	Primary	2	144	0.084	0.123	7	0.039	0.135	17	0.227	0.257
Attention-deficit/hyperactivity disorder symptoms	5	Primary	4	354	-0.112	0.094	5	0.000	0.141	6	-0.461	0.001
Disruptive behavior disorder symptoms	5	Primary	21	1507	-0.079	0.045	5	-0.043	0.033	8	-0.380	0.001
Internalizing symptoms	5	Primary	4	287	-0.099	0.098	5	-0.099	0.098	7	-0.294	0.003
Major depressive disorder	28	Secondary	4	210	-0.068	0.118	28	-0.035	0.145	30	-0.115	0.462
Parental stress^	28	Secondary	5	236	-0.184	0.109	28	n/a	n/a	n/a	-0.497	0.001

^WSIPP's benefit-cost model does not monetize this outcome.

Meta-analysis is a statistical method to combine the results from separate studies on a program, policy, or topic in order to estimate its effect on an outcome. WSIPP systematically evaluates all credible evaluations we can locate on each topic. The outcomes measured are the types of program impacts that were measured in the research literature (for example, crime or educational attainment). Treatment N represents the total number of individuals or units in the treatment group across the included studies.

An effect size (ES) is a standard metric that summarizes the degree to which a program or policy affects a measured outcome. If the effect size is positive, the outcome increases. If the effect size is negative, the outcome decreases.

Adjusted effect sizes are used to calculate the benefits from our benefit cost model. WSIPP may adjust effect sizes based on methodological characteristics of the study. For example, we may adjust effect sizes when a study has a weak research design or when the program developer is involved in the research. The magnitude of these adjustments varies depending on the topic area.

WSIPP may also adjust the second ES measurement. Research shows the magnitude of some effect sizes decrease over time. For those effect sizes, we estimate outcome-based adjustments which we apply between the first time ES is estimated and the second time ES is estimated. We also report the unadjusted effect size to show the effect sizes before any adjustments have been made. More details about these adjustments can be found in our Technical Documentation.

Detailed Monetary Benefit Estimates Per Participant

Affected outcome:	Resulting benefits:[1]	Benefits accrue to:				
		Taxpayers	Participants	Others[2]	Indirect[3]	Total
Disruptive behavior disorder symptoms	Criminal justice system	$12	$0	$27	$6	$45
Test scores	Labor market earnings associated with test scores	$1,755	$4,135	$2,180	$0	$8,070
Disruptive behavior disorder symptoms	K-12 grade repetition	$2	$0	$0	$1	$4
Disruptive behavior disorder symptoms	K-12 special education	$167	$0	$0	$83	$250
Disruptive behavior disorder symptoms	Health care associated with disruptive behavior disorder	$245	$69	$253	$122	$689
	Subtotals	*$2,181*	*$4,204*	*$2,459*	*$213*	*$9,058*
From secondary participant						
Major depressive disorder	Labor market earnings associated with major depression	$413	$973	$0	$0	$1,386
Major depressive disorder	Health care associated with major depression	$110	$31	$113	$55	$309
Major depressive disorder	Mortality associated with depression	$0	$1	$0	$7	$8
	Subtotals	*$523*	*$1,005*	*$113*	*$62*	*$1,704*
Program cost	Adjustment for deadweight cost of program	$0	$0	$0	($792)	($792)
Totals		$2,705	$5,209	$2,573	($517)	$9,970

[1]In addition to the outcomes measured in the meta-analysis table, WSIPP measures benefits and costs estimated from other outcomes associated with those reported in the evaluation literature. For example, empirical research demonstrates that high school graduation leads to reduced crime. These associated measures provide a more complete picture of the detailed costs and benefits of the program.

[2]"Others" includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance.

[3]"Indirect benefits" includes estimates of the net changes in the value of a statistical life and net changes in the deadweight costs of taxation.

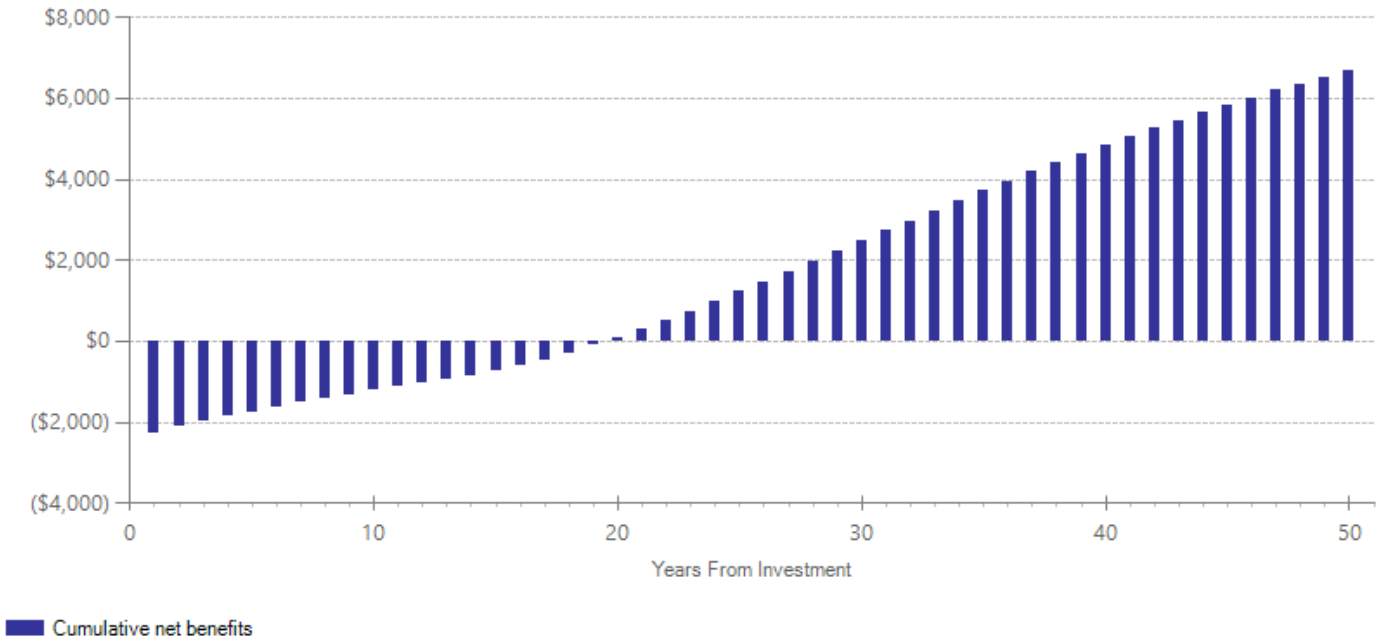
Detailed Annual Cost Estimates Per Participant

	Annual cost	Year dollars	Summary	
Program costs	$2,265	2015	Present value of net program costs (in 2022 dollars)	($1,585)
Comparison costs	$868	2010	Cost range (+ or -)	40%

Incredible Years Parent Training costs include both therapist time and additional program costs. Participants in the treatment studies received a weighted average of 32 hours of therapist time. Hourly therapist cost is based on the actuarial estimates of reimbursement by modality (Mercer. (2016). Mental health and substance use disorder services data book for the state of Washington). Additional program costs include training, materials, and implementation fees (e.g., childcare or transportation) as reported in Foster, Olchowski, & Webster-Stratton (2007). Is stacking intervention components cost-effective? An analysis of the Incredible Years program. Journal of the American Academy of Child and Adolescent Psychiatry, 46, 1414-1424. We apply these costs to the average duration of the programs as reported in the studies (16 two-hour sessions), and assume that treatment groups included six families. For comparison group costs we used 2010 Washington State DSHS data to estimate the average reimbursement rate for treatment of child and adolescent disruptive behavior disorders.

The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The cost range reported above reflects potential variation or uncertainty in the cost estimate; more detail can be found in our Technical Documentation.

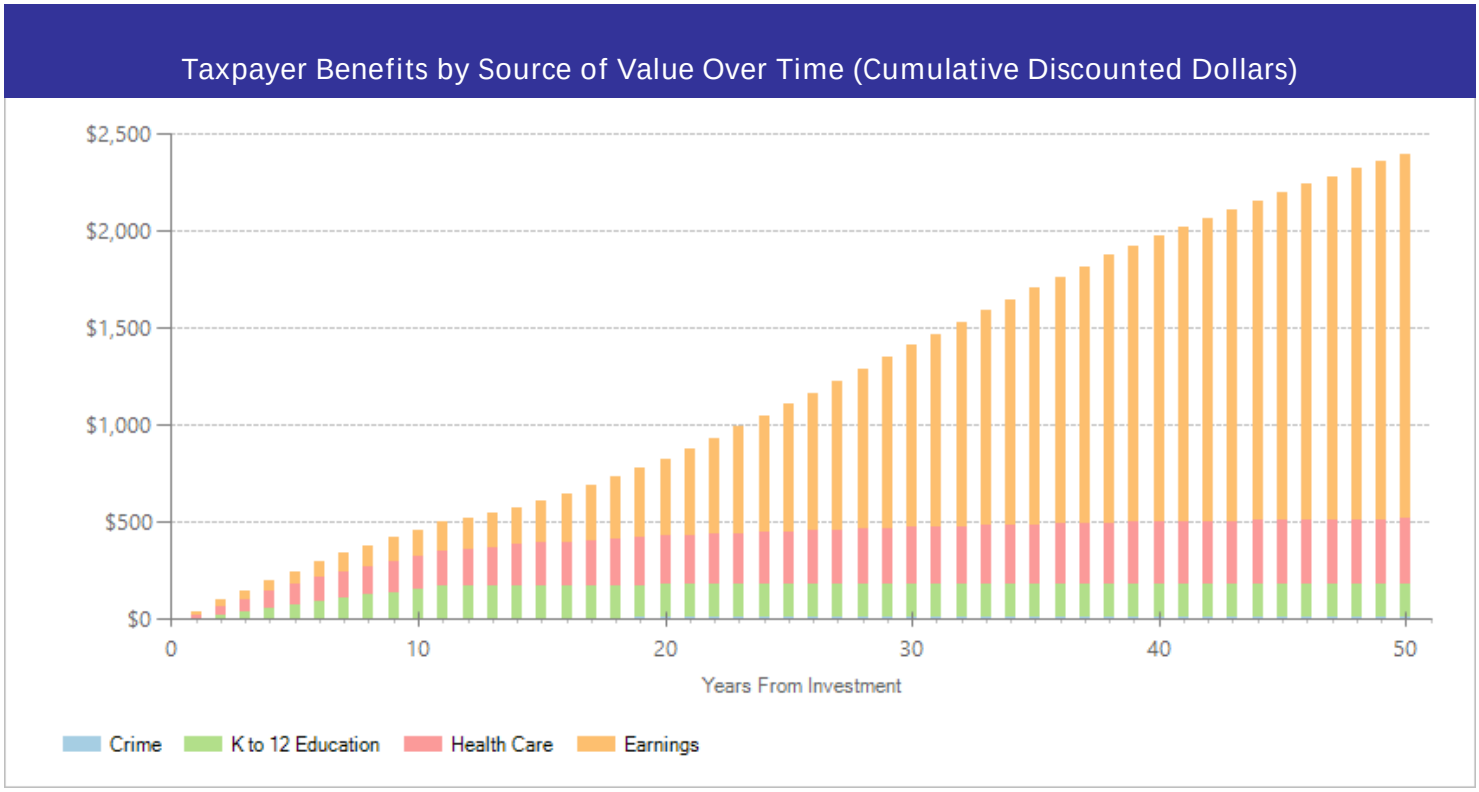
Benefits Minus Costs Over Time (Cumulative Discounted Dollars)



The graph above illustrates the estimated cumulative net benefits per-participant for the first fifty years beyond the initial investment in the program. We present these cash flows in discounted dollars. If the dollars are negative (bars below $0 line), the cumulative benefits do not outweigh the cost of the program up to that point in time. The program breaks even when the dollars reach $0. At this point, the total benefits to participants, taxpayers, and others, are equal to the cost of the program. If the dollars are above $0, the benefits of the program exceed the initial investment.

Benefits by Perspective Over Time (Cumulative Discounted Dollars)

The graph above illustrates the breakdown of the estimated cumulative benefits (not including program costs) per-participant for the first fifty years beyond the initial investment in the program. These cash flows provide a breakdown of the classification of dollars over time into four perspectives: taxpayer, participant, others, and indirect. “Taxpayers” includes expected savings to government and expected increases in tax revenue. “Participants” includes expected increases in earnings and expenditures for items such as health care and college tuition. “Others” includes benefits to people other than taxpayers and participants. Depending on the program, it could include reductions in crime victimization, the economic benefits from a more educated workforce, and the benefits from employer-paid health insurance. “Indirect benefits” includes estimates of the changes in the value of a statistical life and changes in the deadweight costs of taxation. If a section of the bar is below the $0 line, the program is creating a negative benefit, meaning a loss of value from that perspective.



The graph above focuses on the subset of estimated cumulative benefits that accrue to taxpayers. The cash flows are divided into the source of the value.

Citations Used in the Meta-Analysis

Gardner, F., Burton, J., & Klimes, I. (2006). Randomised controlled trial of a parenting intervention in the voluntary sector for reducing child conduct problems: Outcomes and mechanisms of change. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 47*(11), 1123-1132.

Gross, D., Fogg, L., Webster-Stratton, C., Garvey, C., Julion, W., & Grady, J. (2003). Parent training of toddlers in day care in low-income urban communities. *Journal of Consulting and Clinical Psychology, 71*(2), 261-278.

Herman, K.C., Borden, L., Reinke, W.M., & Webster-Stratton, C. (n.d.). *The impact of the Incredible Years parent, child, and teacher training programs on children's co-occuring internalizing symptoms.* Manuscripted submitted for publication.

Hutchings, J., Gardner, F., Bywater, T., Daley, D., Whitaker, C., Jones, K., . . . Edwards, R.T. (2007). Parenting intervention in Sure Start services for children at risk of developing conduct disorder: Pragmatic randomised controlled trial. *British Medical Journal, 334*(7595), 678-682.

Kim, E., Cain, K.C., & Webster-Stratton, C. (2008). The preliminary effect of a parenting program for Korean American mothers: A randomized controlled experimental study. *International Journal of Nursing Studies, 45*(9), 1261-1273.

Larsson, B., Fossum, S., Clifford, G., Drugli, M.B., Handegard, B.H., & Morch, W.T. (2009). Treatment of oppositional defiant and conduct problems in young Norwegian children: Results of a randomized controlled trial. *European Child & Adolescent Psychiatry, 18*(1), 42-52.

Lavigne, J.V., Lebailly, S.A., Gouze, K.R., Cicchetti, C., Pochyly, J., Arend, R., . . . Binns, H.J. (2008). Treating oppositional defiant disorder in primary care: A comparison of three models. *Journal of Pediatric Psychology, 33*(5), 449-461.

Letarte, M.-J., Normandeau, S., & Allard, J. (2010). Effectiveness of a parent training program 'Incredible Years' in a child protection service. *Child Abuse & Neglect, 34*(4), 253-261.

Linares, L.O., Montalto, D., Li, M.M., & Oza, V.S. (2006). A promising parenting intervention in foster care. *Journal of Consulting and Clinical Psychology, 74*(1), 32-41.

Little, M., Berry, V., Morpeth, L., Blower, S., Axford, N., Lehtonen, M., . . . Bywater, T. (2012). The impact of three evidence-based programmes delivered in public systems in Birmingham, UK. *International Journal of Conflict and Violence, 6*(2), 260-72.

McGilloway, S., Ni, M.G., Bywater, T., Furlong, M., Leckey, Y., Kelly, P., Comiskey, C., ... Donnelly, M. (2012). A parenting intervention for childhood behavioral problems: a randomized controlled trial in disadvantaged community-based settings. *Journal of Consulting and Clinical Psychology, 80*(1), 116-27.

Perrin, E.C., Sheldrick, R.C., McMenamy, J.M., Henson, B.S., & Carter, A.S. (2014). Improving parenting skills for families of young children in pediatric settings: A randomized clinical trial. *Jama Pediatrics, 168*(1), 16-24.

Reid, M.J., Webster-Stratton, C., & Beauchaine, T.P. (2001). Parent training in Head Start: A comparison of program response among African American, Asian American, Caucasian, and Hispanic mothers. *Prevention Science, 2*(4), 209-227.

Scott, S., O'Connor, T. G., Futh, A., Matias, C., Price, J., & Doolan, M. (2010). Impact of a parenting program in a high-risk, multi-ethnic community: The PALS trial. *Journal of Child Psychology and Psychiatry, 51*(12), 1331-1341.

Scott, S., Spender, Q., Doolan, M., Jacobs, B., & Aspland, H. (2001). Multicentre controlled trial of parenting groups for childhood antisocial behaviour in clinical practice. *British Medical Journal, 323*(7306), 194-198.

Scott, S., Sylva, K., Doolan, M., Price, J., Jacobs, B., Crook, C., & Landau, S. (2010). Randomised controlled trial of parent groups for child antisocial behaviour targeting multiple risk factors: The SPOKES project. *Journal of Child Psychology and Psychiatry, 51*(1), 48-57.

Seabra-Santos, M.J., Gaspar, M.F., Azevedo, A.F., Homem, T.C., Guerra, J., Martins, V., . . . Moura-Ramos, M. (2016). Incredible Years parent training: What changes, for whom, how, for how long? *Journal of Applied Developmental Psychology, 44,* 93-104.

Stewart-Brown, S., Patterson, J., Mockford, C., Barlow, J., Klimes, I., & Pyper, C. (2004). Impact of a general practice based group parenting programme: Quantitative and qualitative results from a controlled trial at 12 months. *Archives of Disease in Childhood, 89*(6), 519-525.

Taylor, T. K., Schmidt, F., Pepler, D., & Hodgins, C. (1998). A comparison of eclectic treatment with Webster-Stratton's parents and children series in a children's mental health center: A randomized controlled trial. *Behavior Therapy, 29*(2), 221-240.

Webster-Stratton, C., & Hammond, M. (1997). Treating children with early-onset conduct problems: A comparison of child and parent training interventions. *Journal of Consulting and Clinical Psychology, 65*(1), 93-100.

Webster-Stratton, C., & Herman, K. C. (2008). The impact of parent behavior-management training on child depressive symptoms. *Journal of Counseling Psychology, 55*(4), 473-484.

Webster-Stratton, C., Kolpacoff, M., & Hollinsworth, T. (1988). Self-administered videotape therapy for families with conduct-problem children: Comparison with two cost-effective treatments and a control group. *Journal of Consulting and Clinical Psychology, 56*(4), 558-566.

Webster-Stratton, C. (1984). Randomized trial of two parent-training programs for families with conduct-disordered children. *Journal of Consulting and Clinical Psychology, 52*(4), 666-678.

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