ENCYCLOPEDIA
on Early Childhood
Development



School success

Last update: September 2014

Topic Editor:
Frank Vitaro, PhD, Université de Montréal, Canada

©2014-2026 ABILIO | SCHOOL SUCCESS

Table of content

Synthesis 5

Linkages Between Early Childhood, School Success, and High School Completion 8
FRANK VITARO, PHD, MAY 2014

School Completion/Academic Achievement-Outcomes of Early Childhood Education 16
ANNE B. SMITH, PHD, MAY 2014

School Completion and Academic Success: The Impact of Early Social-Emotional Competence 22
SHELLEY HYMEL, PHD, LAURIE FORD, PHD, MAY 2014

Links between Early Childhood Development and School Completion: Comments on Vitaro, Smith, and Hymel and Ford 29
MICHEL JANOSZ, PHD, MAY 2014

School Completion/School Achievement as Outcomes of Early Childhood Development: Comments on Vitaro and Hymel and Ford 34
RUSSELL W. RUMBERGER, PHD, MAY 2014

Preschool Education and School Completion 39
SUH-RUU OU, PHD, ARTHUR J. REYNOLDS, PHD, SEPTEMBER 2020

Services or Programs that Influence Young Children (0-5) and Their School Completion/Academic Achievement 49
PENNY HAUSER-CRAM, EDD, MAY 2014

Services or Programs that Influence Young Children’s Academic Success and School Completion 55

©2014-2026 ABILIO | SCHOOL SUCCESS

CAROL MCDONALD CONNOR, PHD, FREDERICK J. MORRISON, PHD, MAY 2014

Relationship Between Preschool Programs and School Completion: Commentary on Hauser-Cram, McDonald Connor and Morrison, and Ou and Reynolds 67
FRANCES A. CAMPBELL, PHD, MAY 2014

The Links between Preschool Programs and School Completion Comments on Hauser-Cram, McDonald Connor and Morrison, and Ou and Reynolds 71
KATHRYN R. WENTZEL, PHD, MAY 2014

Promoting Young Children’s School Readiness: What Parents Can Do 76
JANET AGNES WELSH, PHD, MAY 2014

Kindergarten for four-year-olds: a measure to promote school and social success in children from disadvantaged backgrounds 82
FRANCE CAPUANO, PHD, MARC BIGRAS, PHD, CHRISTA JAPEL, PHD, MAY 2014

©2014-2026 ABILIO | SCHOOL SUCCESS

Synthesis

How important is it?

School completion has lifelong implications, and is especially crucial in industrialized societies that are highly dependent on an educated workforce. In Canada, roughly one in five students has still not received his/her high school diploma by early adulthood. In OECD countries, about 16% of students don't complete their secondary education.[1] In Latin America and the Caribbean, one out of six children no longer attends school by the age of 14 at the latest. The dropout rate is even higher amongst older pupils.[2] These alarming statistics have important consequences for both the individuals and society as a whole. In contrast to high school graduates, non graduates (i.e., dropouts) are more likely a) to experience increased difficulty finding a job, b) to be recipients of welfare and unemployment insurance, c) to experience more physical and mental health problems, d) to be less involved in their communities, and e) to become parents of children who are at increased risk of experiencing problems at school and dropping out as well; in turn reinforcing a negative cycle. At the societal level, it is estimated that a single high school dropout can cost between $243,000 and $388,000 (US$). Given the association between early school dropout and these negative personal and financial consequences, it is thus imperative to understand pathways toward academic success and school completion and to identify both child and environmental risks and protective factors.

What do we know?

Early childhood represents a critical developmental period during which children develop an array of pre-academic skills (e.g., reading, letter recognition) and social-emotional abilities (e.g., ability to follow instructions, inhibit impulses, regulate emotions and focus attention), which prepare them to adjust well in school and to profit from their learning experiences. However, depending on a variety of factors, some children experience deficits in school readiness and begin school already behind their same-age peers in terms of basic cognitive and social-emotional skills. It is estimated that 26% of children in Quebec have significant cognitive and social-emotional deficits at school entry. In turn, these children who also manifest poor language and literacy skills (e.g., difficulties recognizing and using the sounds of spoken words) are at increased risk of experiencing academic difficulties. Likewise, children who have difficulty socially (e.g., getting along with peers and teachers), emotionally (e.g., controlling negative

©2014-2026 ABILIO | SCHOOL SUCCESS

emotions), and behaviourally (e.g., inattention, aggression, opposition) demonstrate poorer school adjustment and performance. Unfortunately, this “achievement gap” does not disappear with schooling but rather widens over time, and may ultimately decrease students’ motivation while increasing their likelihood of early school departure.

Children’s learning difficulties and behavioural problems at school entry are not merely influenced by their personal characteristics, but also by the family dynamic during the preschool years. Parents of dropouts are typically less involved and demanding with their children, provide less educational support, and are less likely to model education attainment. Depending on their own educational and/or cultural background, they may also have limited abilities to help their children develop early skills that are conducive to learning. Finally, harsh, inconsistent or coercive parenting can impair children’s development of emotion-regulation and impulse control.

In spite of these risk factors, there are several protective factors to early school dropout. For instance, participation in early childhood education (ECE) programs may improve children’s school readiness and school achievement. In addition, positive relationships with peers and teachers can protect children against school dropout as it is associated with school engagement and motivation, two important predictors of high school completion that are independent of academic performance. Finally, children’s school adjustment can also be facilitated when a positive home-school partnership exists, and when parents complement classroom learning with positive home learning experiences.

What can be done?

Considering that nearly 64% of mothers of young children are in the workforce, both in Canada and the United States, and that the majority of children under the age of five spend time in some form of child care, there is a need to develop high-quality and effective early childhood education programs. Typically, the most effective programs share the following characteristics:

1. They focus on young children (i.e., they are initiated in infancy).
2. They are well organized and carefully planned (i.e., they have a good staff-child ratio and qualified teachers).
3. They are intensive and individualized.
4. They combine child- and parent-centered components.

©2014-2026 ABILIO | SCHOOL SUCCESS

5. They target both academic and social-emotional skills (language, literacy and self-regulation).
6. They are adapted to communities' cultural and socioeconomic characteristics.
7. They target children's global development.
8. They adopt a balanced approach by including periods of both structured learning and free play.

Finally, in order to ensure accessibility and affordability of these programs, policies need to be developed to encourage widespread participation in ECE by children from diverse backgrounds. Likewise, policy-makers need to review existing school policies and practices to examine to which extend they may be contributing to early school difficulties that eventually lead to high school withdrawal (e.g., grade retention policies).

References

1. OECD. Education at a Glance 2012: Highlights, OECD Publishing. http://www.oecd-ilibrary.org/education/education-at-a-glance-2012_eag_highlights-2012-en. Published September 11, 2012. Accessed February 22, 2017.
2. UIS, UNICEF. Finishing school: A right for children's development: A joint effort. http://www.uis.unesco.org/Education/Documents/oosci-lac-executive-summary-2012-en.pdf. Published 2012. Accessed February 22, 2017.

©2014-2026 ABILIO | SCHOOL SUCCESS

Linkages Between Early Childhood, School Success, and High School Completion

Frank Vitaro, PhD

Université de Montréal, Canada

May 2014, 2e éd. rév.

Introduction and Problem

In industrialized societies, dropping out of school before receiving a high school diploma has serious consequences for both individuals and society as a whole. Compared to national averages, dropouts are more likely to be recipients of welfare and unemployment insurance,[1] experience more physical and mental health problems, engage in illegal activities, and are more prone to psychoactive substance abuse. Dropouts are also less involved in their communities and grow up to become parents whose children are at increased risk of experiencing problems at school and dropping out as well.[2] Although it has not been clearly established that all of these problems result from leaving school early, it is plausible that dropping out would compound many of them. In Canada, roughly one child out of five has still not received his/her high school diploma by age 20. Males in this category outnumber females by two to one.

Research Context

In many cases, school difficulties in childhood are precursors to dropping out of school.[3] For example, personal factors such as language disorders, attention deficits, and difficulties with recognizing and using the sounds of spoken words at school entry (i.e., at ages 5 or 6) are predictors of academic difficulties and, ultimately, of premature departure from school.[4-6] It is not clear, however, whether other types of behavioural problems, such as anxiety and depressed mood or aggression and opposition, play a role in predicting premature departure from school independently from language problems and attention deficits.[5,7,8] Even if these other behaviour problems do not impact school achievement directly, they may nevertheless be indirectly connected to school difficulties, and ultimately to school dropout, through two possible pathways: According to one pathway, behaviour problems may trigger social exclusion and victimization from fellow students or teachers throughout elementary school and high school. These negative social experiences may, in turn, reduce learning opportunities and school

©2014-2026 ABILIO | SCHOOL SUCCESS

motivation, in addition to increasing behavioural difficulties.[9-13] According to another pathway, behaviour problems, particularly those of the externalized type, may foster affiliations with deviant peers who, in turn, might reduce conformity to social norms, school engagement, and academic performance,[14] as well as encourage antisocial behaviours. The two pathways are not mutually exclusive. In addition, both pathways acknowledge the importance of school engagement/motivation/commitment, as these factors have been shown to be important predictors of high school completion independently of academic performance.[14] Both pathways also include the possibility for transactional (i.e., bi-directional) links between behaviour problems and academic difficulties. These transactional links might involve either direct or indirect pathways.[15] These pathways, however, remain mostly speculative.

Notably, behaviour problems and learning difficulties at school entry can themselves be predicted by children's and their parents' personal characteristics and by the family dynamic during the preschool years.[16] Behaviour problems and learning difficulties during elementary school can therefore be considered intermediary elements in the developmental chain of events that lead to dropping out. However, several contextual variables may amplify or mitigate the effect of these very early predictors. For example, special teaching methods used by teachers or attendance at a good school may weaken the relationship between the children's personal and socio-familial risk factors that are present in early childhood and later drop-out.[17] Conversely, negative interactions between the teachers and students or the absence of a clear school disciplinary code may further exacerbate the negative effects of early risk factors, thus hastening the premature cessation of studies.[11,18-21]

Key Research Questions and Recent Research Results

Higher levels of academic failure among disadvantaged families and in some cultural communities is partly due to the parents' comparatively lenient attitudes towards school and partly due to the parents' limited ability to help their children develop behaviours that are conducive to learning.[22] Fortunately, various failure and dropout prevention programs exist, with the goal that any risk factors present during the preschool years do not give rise to new risk factors that will make the situation increasingly difficult to change. Some of these programs for preschoolers have been rigorously evaluated and produced positive results. Space constraints prevent us from providing anything but a very brief overview of these programs in this article (see Table 1).[23]

©2014-2026 ABILIO | SCHOOL SUCCESS

It should be noted that the programs described in Table 1 were all instituted before the children reached the age of six.[24] Preschool programs which did not gather information on high school completion are not mentioned in this Table. Aside from their specific content, the most effective programs were those that were the most intensive and lasted the longest. Most of these programs focused on the cognitive stimulation of the children and on literacy or academic prerequisites. Few have included a component to equip parents to deal with their children's behavioural problems or to improve their own knowledge of and attitudes towards school. Similarly, few have examined the personal needs of the parents or attempted to improve the family's socio-economic status. Programs like the Child-Parent Centers set up under the Chicago Longitudinal Study[21,25] are a noteworthy exception because of the variety of activities made available to the children and the parents. Nevertheless, even this model program places much less emphasis on social behaviours conducive to group learning (i.e., task-focusing, emotional self-regulation and social skills) than on academic prerequisites and language skills.

Conclusion and Implications for Policy and Services

Despite effective programs for preschoolers that can be carried out in various childcare settings and involve the family,[21,25,26] it is important not to rely on these preschool programs alone to encourage high school completion. Even if over half of all preschoolers are exposed to educational environments other than the family, many others are not. However, the children living in a socioeconomically and educationally deprived environment[27] are typically those most in need of compensatory education. Hence, we must not overlook kindergarten (attended by more than 95% of children) and the first years of elementary school as an additional prevention/promotion platform. A number of promising prevention programs have been or are being conducted with children in kindergarten and early elementary school: the Conduct Problems Prevention Research Group's FAST TRACK program;[28] the Early Risers program;[29] the Montreal program;[30,31] Check and Connect.[32] These programs are noteworthy for several reasons: they focus on young children (i.e., starting in kindergarten, but often continuing throughout elementary school and beyond), they are comprehensive (i.e., they combine child- and parent-centered components and they target both academic and behavioural objectives), they have been evaluated using a strong evaluation design, and they reported some success with respect to high school completion. Action is urgently needed in the highest-risk communities, where one youngster out of three fails to complete high school within the prescribed time period, and one out of five never finishes at all. Future initiatives must neither underestimate the importance of

©2014-2026 ABILIO | SCHOOL SUCCESS

the preschool years nor ignore strategies that have been proven effective in increasing completion rates and in reducing a whole range of adjustment problems in childhood, adolescence and even adulthood.[33,34] We should also not expect that corrective action during the preschool period alone, no matter how intensive and appropriate, will succeed in creating the right conditions for the academic success and personal development of all at-risk children. As it stands, no single program proved effective for all children. Indeed, one program may be more effective than another in one context or for some participants, whereas another program may be effective in a different context or for different participants. Sustained approaches that follow the children and their families through different developmental periods (like the one used in the Fast Track program) and that use a strategic combination of universal and targeted activities with dosage partially adjusted to individual needs (such as the one used in Early Risers and Check and Connect), deserve serious consideration and should be tested. These approaches would result in a sustained intervention that begins during pregnancy and occurs continuously or as required when the child is going through life changes (birth, commencement of daycare, transition to kindergarten and elementary school, transition to high school). This would have the advantage of addressing various risk and protective factors whose relevance becomes apparent at each developmental phase, thereby supporting any previous early intervention efforts.

Table 1

Title of program (Authors)	**Overview**
1- Project Abecedarian[35]	**Duration**: 5 years (0 to 5 years) **Description**: Focussed on the development of language, cognitive skills and appropriate behaviours at daycare centre; parental involvement. **Results**: Positive effects on intellectual skills and academic achievement (fewer repeats) up to age 15.
2- Project Perry Preschool[36]	**Duration**: 30 to 60 weeks (3 or 4 years) **Description**: Centred on cognitive skills and spoken language at the day care centre; home visits. **Results**: Higher completion rates, less criminality, fewer pregnancies and fewer cases of economic dependence.

©2014-2026 ABILIO | SCHOOL SUCCESS

3- Even Start[37]	**Duration**: 9 months (3–4 or 4–5 years) **Description**: Centred on cognitive learning and language; home visits, education of the parents. **Results**: Mixed short-term results.
4- Untitled Project[38]	**Duration**: One year (kindergarten) **Description**: Interactive reading in class and at home; meetings with the parents. **Results**: Improved performance in reading.
5- Chicago Child-Parent Centers[25,39]	**Duration**: One year (kindergarten) **Description**: Centred on reading, writing and phonological awareness; workshops for the teachers and for parents. **Results**: Improved performance in reading.
6- Untitled Project[40]	**Duration**: 3 to 9 years **Description**: Cognitive and academic skills; involvement of parents and teachers. **Results**: Decrease in dropout rate.
7- Early Head Start[41]	**Duration**: 3 years (0–3 years) **Description**: Cognitive and emotional development of the children, help for parents. **Results**: Positive but modest effects on the children's emotional self-regulation and behaviour problems. Positive effects on the parents' educational practices.
8- The Incredible Years[42]	**Duration**: 12 weeks (3–5 years) **Description**: Centred on the educational strategies of the parents and teachers. **Results**: Moderate positive effects on the children's disruptive behaviours and self-regulation; Reduction in rates of school dropout.

©2014-2026 ABILIO | SCHOOL SUCCESS

N.B.: Only experimental, randomized case-control studies are reported herein.

References

1. Ressources humaines et travail. Après l'école: résultats d'une enquête nationale comparant les sortants de l'école aux diplômés d'études secondaires âgés de 18 à 20 ans. Ottawa, ON: Ressources humaines et travail Canada. Cat. no. LM2940793F; 1993.
2. McCaul EJ, Donaldson GA, Coladarci T, Davis WE. Consequences of dropping out of school: Findings from high school and beyond. *Journal of Educational Research*. 1992;85(4):198-207.
3. Janosz M, LeBlanc M, Boulerice B, Tremblay RE. Predicting different types of school dropouts: A typological approach with two longitudinal samples. *Journal of Educational Psychology*. 2000;92(1):171-190.
4. Aram DM, Hall NE. Longitudinal follow-up of children with preschool communication disorders: Treatment implications. *School Psychology Review*. 1989;18(4):487-501.
5. Vitaro F, Brendgen M, Larose S, Tremblay RE. Kindergarten disruptive behaviors, protective factors, and educational achievement by early adulthood. *Journal of Educational Psychology*. 2005;97(4):617-629.
6. Jimerson S, Egeland B, Sroufe LA, Carlson B. A prospective longitudinal study of high school dropouts: Examining multiple predictors across development. *Journal of School Psychology*. 2000;38(6):525-549.
7. Breslau J, Miller E, Breslau N, Bohnert K, Lucia V, Schweitzer J. The Impact of Early Behavior Disturbances on Academic Achievement in High School. *Pediatrics*. Jun 2009;123(6):1472-1476.
8. Fergusson DM, Horwood LJ, Lynskey MT. The effects of conduct disorder and attention deficit in middle childhood on offending and scholastic ability at age 13. *J Child Psychol Psychiatry*. 1993;34(6):899-916.
9. Ladd GW, Kochenderfer BJ, Coleman CC. Classroom peer acceptance, friendship, and victimization: Distinct relational systems that contribute uniquely to children's school adjustment? *Child Dev*. Dec 1997;68(6):1181-1197.
10. Buhs ES, Ladd GW, Herald SL. Peer exclusion and victimization: Processes that mediate the relation between peer group rejection and children's classroom engagement and achievement? *Journal of Educational Psychology*. 2006;98:1-13.
11. Brendgen M, Wanner B, Vitaro F, Bukowski WM, Tremblay RE. Verbal abuse by the teacher during childhood and academic, behavioral, and emotional adjustment in young adulthood. *Journal of Educational Psychology*. 2007;99:26-38.
12. Vitaro F, Larocque D, Janosz M, Tremblay RE. Negative social experiences and dropping out of school. *Educational Psychology*. 2001;21(4):401-415.
13. Woodward LJ, Fergusson DM. Childhood peer relationship problems and later risks of educational under-achievement and unemployment. *J Child Psychol Psychiatry*. 2000;41(2):191-201.
14. Véronneau M-H, Vitaro F, Pedersen S, Tremblay RE. Do peers contribute to the likelihood of secondary school graduation among disadvantaged boys? *Journal of Educational Psychology*. 2008;100(2):429-442.
15. Vitaro F, Brendgen M, Tremblay RE. Early predictors of high school completion: The developmental interplay between behavior, motivation, and academic performance. In: Boivin M, Bierman K, eds. *Promoting school readiness and early learning: The implications of developmental research for practice*. New York, NY: Guilford Press; sous presse.
16. Boivin M, Bierman K. *Promoting school readiness and early learning: The implications of developmental research for practice*. New York, NY: Guilford Press; in press.
17. Rutter M, Maughan B, Mortimore P, Ouston J, Smith A. *Fifteen thousand hours: secondary schools and their effects on children*. Cambridge, MA: Harvard University Press; 1979.

©2014-2026 ABILIO | SCHOOL SUCCESS

18. Brendgen M, Wanner B, Vitaro F. Victimization by the teacher during middle childhood: Effects on developmental adjustment in young adulthood. Paper presented at: Annual Congress of the Society for Research in Child Development; 2005, April; Atlanta, GA.

19. Rumberger RW. Dropping out of high school: The influence of race, sex, and family background. *American Educational Research Journal*. 1983;20:199-220.

20. Bryk AS, Thum YM. The effects of high school organization on dropping out: An exploratory investigation. American Educational Research Journal. 1989;26(3):353-383.

21. Reynolds AJ. Early schooling of children at risk. *American Educational Research Journal*. Sum 1991;28(2):392-422.

22. Neuman SB, Gallagher P. Joining together in literacy learning: Teenage mothers and children. *Reading Research Quarterly*. 1994;29(4):382-401.

23. Saint-Laurent L. Les programmes de prévention de l'échec scolaire des développements prometteurs. In: Vitaro F, Gagnon C, eds. Prévention des problèmes d'adaptation chez les enfants et les adolescents. Vol 2. Sainte-Foy, QC: Presses de l'Université du Québec; 2000:5-68.

24. Janosz M, Fallu J-S, Deniger M-A. La prévention du décrochage scolaire, facteurs de risque et efficacité des programmes d'intervention. In: Vitaro F, Gagnon C, eds. *Prévention des problèmes d'adaptation chez les enfants et les adolescents. Vol 2*. Sainte-Foy, QC: Presses de l'Université du Québec; 2000:115-164.

25. Reynolds AJ, Temple JA, Robertson DL, Mann EA. Long-term effects of an early childhood intervention on educational achievement and juvenile arrest - A 15-year follow-up of low-income children in public schools. *Jama-Journal of the American Medical Association*. 2001;285(18):2339-2346.

26. Arnold DH, Ortiz C, Curry JC, et al. Promoting academic success and preventing disruptive behavior disorders through community partnership. *Journal of Community Psychology*. Sep 1999;27(5):589-598.

27. Geoffroy MC, Cote SM, Giguere CE, et al. Closing the gap in academic readiness and achievement: the role of early childcare. *J Child Psychol Psychiatry*. Dec 2010;51(12):1359-1367.

28. Conduct Problems Prevention Research Group. Initial impact of the fast track prevention trial for conduct problems: II. Classroom effects. *J Consult Clin Psychol*. 1999;67(5):648-657.

29. August GJ, Realmuto GM, Hektner JM, Bloomquist ML. An integrated components preventive intervention for aggressive elementary school children: The Early Risers Program. *J Consult Clin Psychol*. 2001;69(4):614-626.

30. Tremblay RE, Pagani-Kurtz L, Mâsse LC, Vitaro F, Pihl RO. A bimodal preventive intervention for disruptive kindergarten boys: Its impact through mid-adolescence. *J Consult Clin Psychol*. 1995;63(4):560-568.

31. Boisjoli R, Vitaro F, Lacourse E, 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.

32. Christenson SL, Reschly AL. Check & Connect: Enhancing school completion through student engagement. In: Doll B, Pfohl W, Yoon J, eds. *Handbook of youth prevention science*. New York, NY: Routledge; 2010:327-348.

33. Campbell FA, Ramey CT, Pungello EP, Sparling J, Miller-Johnson S. Early childhood education: Young adult outcomes from the Abecedarian Project. *Applied Developmental Science*. 2002;6(1):42-57.

34. Reynolds AJ, Ou S-R, Topitzes JW. Paths of effects of early childhood intervention on educational attainment and delinquency: A confirmatory analysis of the Chicago Child-Parent Centers. *Child Dev*. 2004;75(5):1299-1328.

35. Campbell FA, Ramey CT. Cognitive and school outcomes for high-risk African-American students at middle adolescence: Positive effects of early intervention. *American Educational Research Journal*. 1995;32(4):743-772.

36. Schweinhart LJ, Weikart DP. Success by Empowerment: The High/Scope Perry Preschool Study Through Age 27. *Young Children*. 1993;49(1):54-58.

©2014-2026 ABILIO | SCHOOL SUCCESS

37. St. Pierre R, Swartz J, Murray S, Deck D, Nickel P. *National evaluation of the Even Start family literacy program: Report on effectiveness*. Cambridge, MA: Abt Associates Inc.; 1993.

38. Phillips LM, Norris SP, Mason JM. Longitudinal effects of early literacy concepts on reading achievement: A kindergarten intervention and five-year follow-up. *Journal of Literacy Research*. Mar 1996;28(1):173-195.

39. Saint-Laurent L, Giasson J. Effects of a multicomponent literacy program and of supplemental phonological sessions on at-risk kindergartners. *Educational Research and Evaluation*. 2001;7(1):1-33.

40. Temple JA, Reynolds AJ, Miedel WT. Can early intervention prevent high school dropout? Evidence from the Chicago child-parent centers. *Urban Education*. 2000;35(1):31-56.

41. Love JM, Kisker EE, Ross CM, et al. Making a difference in the lives of infants and toddlers and their families: The impacts of Early Head Start. Washington, DC: US Department of Health and Human Services. Available at: http://www.mathematica-mpr.com/earlycare/ehstoc.asp. Accessed September 23, 2004; 2002.

42. Webster-Stratton C. Preventing conduct problems in Head Start children: Strengthening parenting competencies.*J Consult Clin Psychol*. 1998;66(5):715-730.

©2014-2026 ABILIO | SCHOOL SUCCESS

School Completion/Academic Achievement-Outcomes of Early Childhood Education

Anne B. Smith, PhD

Children's Issues Centre, New Zealand

May 2014, Éd. rév.

Introduction

How does early childhood education influence school success? Early childhood education (ECE) consists of *organized supervised programs with social and educational goals for children (of up to school entry age) in the temporary absence of their parents*, andencompasses a diversity of programs, varying in hours of operation, ages of children and socio-economic status (SES) of families. Examples include part-day preschools, child-care centres, early intervention and family day-care programs.

Subject

If ECE contributes to the achievement of children's educational potential, then all children should have the opportunity to participate, parents encouraged to access ECE programs for their children and governments should invest in high-quality ECE programs.

Problems

Families and schools vary greatly in the type of experiences they provide for children, and so do ECE services. The simpler question of whether ECE influences development leads to the more complex question of the optimal qualities of ECE for development. *Assessing and defining quality ECE* is as important an issue as determining its effects.

Research Context

The "War on Poverty" in the 1960s in the U.S., using ECE programs designed to break the cycle of disadvantage for children growing up in poverty, was accompanied by research. These early intervention programs generally involved random assignment of poor children to control and experimental groups, and periodic measurement of IQ, achievement and social outcomes. A few studies followed children into adulthood, allowing assessment of long-term effects. The effects of

©2014-2026 ABILIO | SCHOOL SUCCESS

varying ECE experience on outcomes for ordinary children have also been researched. Such studies are usually quasi-experimental or correlational, and involve the relationship of quality variations to outcomes for children.

Key Research Questions

1. What are the outcomes of participation in ECE for children's school achievement and completion?
2. What qualities of ECE programs are associated with favourable educational outcomes?

Recent Research Results

Long-term educational outcomes: Evidence of the long-term outcomes of participation in ECE has been examined in recent review studies.[1-4] Barnett reviewed 38 U.S. studies focusing on the outcomes of ECE for children in poverty, while Gorey[3] integrated results across 35 preschool experiments and quasi-experiments. The outcome measures of such studies include IQ scores, standardized achievement tests, grade retention, special education placement and high-school graduation. Model ECE programs varied in amount, intensity and duration, but they typically involved participation for one or more years between the ages of birth and five years in high-quality programs. The Abecedarian project is an example of an intensive and long-term (five-year) intervention program.[5,6]

Barnett's reviewshowed statistically significant program effects on achievement beyond Grade Three in five of 11 model programs.[1] The Abecedarian and Perry Preschool projects had effects on achievement persisting through to adulthood. The most successful programs were those that started earlier and provided longer and more intense programs.[3,7] The Abecedarian project showed higher cognitive test scores in adulthood for the ECE participants, who gained higher scores on tests of reading and mathematics, had more years of education and were more likely to attend university than the control group.

Most programs reviewed by Barnett reported that grade retention and special education rates were lower for ECE intervention groups. Only nine (out of 24) quasi-experimental studies, however, reported long-term effects on achievement at follow-up. Data on school graduation were collected in five studies, showing that children who participated in these ECE programs were more likely to graduate from high school.

©2014-2026 ABILIO | SCHOOL SUCCESS

Gorey found that the average intervention effects on standardized measures of intelligence and academic achievement were large.[3] At follow-up, three-quarters of the children who participated in ECE programs scored higher on IQ and achievement tests than comparison children. Even five years after the programs had ended, most participants (74%) were achieving on average better at school than non-participants. Less than a quarter (22%) of ECE participants were held back a grade compared to almost half (43%) of controls. Most ECE participants (74%) graduated from high school, while only 57% of controls did.

There are few studies following the effects of intervention until adulthood, but many follow-up studies in different countries support the positive impact of ECE participation on school achievement.[8] Such studies have been carried out in Ireland,[9] New Zealand,[10] Canada,[11] the United Kingdom,[12] South Korea[13] and Sweden.[14,15]

The nature of quality: Participation in *any* early childhood setting is not sufficient to achieve good school outcomes. Research has demonstrated that quality makes a difference to cognitive development.[10,16-22] There are two main dimensions of quality. *Structural quality* is the observable organizational characteristic of quality (often reflected in regulations). This is a necessary but not sufficient condition for quality.[17] There are three key aspects of structural quality, described as "the iron triangle" (to describe their importance and inter-relationship).[23] The iron triangle includes group size,staff-child ratios and teacher qualifications. Other structural factors are staff wages and low teacher turnover.[8,22,24,25]

Process quality involves the social relationships and interactions within early childhood settings.[20] Sensitive teachers, who are quick to comfort children, respond to their initiations, know them well enough to interpret their actions, challenge them and mediate peer relationships, support learning. They do not employ punitive or controlling methods or remain detached from children.[26,27]Structured and teacher-directed curriculum models have been associated with poorer long-term outcomes compared to more child-centred approaches.[28,29]

Conclusions

High-quality, intensive ECE programs have positive effects on cognitive development, school achievement and completion, especially for low-income children in model programs designed to ameliorate poverty. Other evidence comes from a wider group of children participating in publicly funded programs. Young children learn best through engaging in spontaneous and

reciprocal interactions, meaningful activities and caring relationships. ECE should be carefully planned, staffed by skilled and trained people and involve small groups with favourable staff-child ratios if it is to have positive effects. Program intensity is related to the amount and quality of teacher interaction and class size. Participating in stimulating, warm and responsive ECE programs supports children's excitement and pleasure in learning and encourages ongoing engagement in learning activities.

More resources should be invested in ECE centres. ECE is not usually compulsory and receives less government funding than education for older children. Policies should be developed to encourage widespread participation in ECE by children from diverse backgrounds, to ensure accessibility and affordability. High priority should be given to the improvement of ECE quality, for example through ensuring a supply of qualified teachers and providing good remuneration to retain them. Parents should be provided with guidance so that they recognize and choose good ECE centres for their children. If high-quality care is not available parents cannot choose it, so it is essential for ECE provision to be planned in accordance with the needs of local communities and high standards of quality.

References

1. Barnett WS. Long-term effects on cognitive development and school success. In: Barnett WS, Boocock SS. *Early care and education for children in poverty: Promises, programs, and long-term results*. Albany, NY: State University of New York Press; 1998:11-44.
2. Barnett WS. Long-term cognitive and academic effects of early childhood education of children in poverty. *Preventive Medicin* 1998:27(2);204-207.
3. Gorey KM. Early childhood education: A meta-analytic affirmation of the short- and long-term benefits of educational opportunity. *School Psychology Quarterly* 2001:16(1);9-30.
4. Smith AB, Grima G, Gaffney M, Powell K, Masse L, Barnett S. *Early childhood education: Strategic research initiative literature review*. *Report to Ministry of Education*. Dunedin, New Zealand: Children's Issues Centre; 2000.
5. Ramey CT, Campbell FA. Poverty, early childhood education and academic competence: The Abecedarian experiment. In: Huston AC, ed. *Children in poverty: Child development and public policy*. New York: Cambridge University Press; 1994:190-221.
6. Campbell FA, Ramey CT, Pungello E, Sparling J, Miller-Johnson S. Early childhood education: Young adult outcomes from the Abecedarian project. *Applied Developmental Science* 2002:6(1);42-57.
7. Frede EC. Preschool program quality in programs for children in poverty. In: Barnett WS, Boocock SS, eds. *Early care and education for children in poverty: Promises, programs, and long-term results*. Albany, NY: State University of New York Press; 1998:77-98.
8. Boocock SS, Larner MB. Long-term outcomes in other nations. In: Barnett SW, Boocock SS, eds. *Early care and education for children in poverty: Promises, programs and long-term results*. Albany, NY: State University of New York Press; 1998:45-76.

©2014-2026 ABILIO | SCHOOL SUCCESS

9. Hayes N. Early childhood education and cognitive development at age 7 years. *Irish Journal of Psychology* 2002:21(3-4);181-193.

10. Wylie C, Thompson J, Lythe C. *Competent children at 10: Families, early education and schools*. Wellington, New Zealand: New Zealand Council for Educational Research; 2001.

11. Goelman H, Pence A. Effects of child care, family and individual characteristics on children's language development. In: Phillips DA, ed. *Quality in child care: What does the research tell us?* Washington, DC: National Association for the Education of Young Children; 1987:89-104.

12. Sylva K, Wiltshire J. The impact of early learning on children's later development: A review prepared for the RSA Inquiry "Start Right". *European Early Childhood Education Research Journal* 1993:1(1);17-40.

13. Rhee U, Lee K. The effectiveness of four early-childhood program models: Follow-up at middle school. *Journal of Educational Research* 1990:28(3);147-162.

14. Andersson BE. Effects of day-care on cognitive and socioemotional competence of thirteen-year-old Swedish schoolchildren. *Child Development* 1992:63(1);20-36.

15. Lamb ME, Hwang CP, Broberg A. Swedish child-care research. In: Melhuish EC, Moss P, eds. *Day care for young children: International perspectives.* London: Routledge; 1991:102-120.

16. Burchinal MR, Roberts JE, Nabors LA, Bryant DM. Quality of center child care and infant cognitive and language development. *Child Development* 1996:67(2);606-620.

17. Cryer D. Defining and assessing early childhood program quality. *Annals of the American Academy of Political and Social Science* 1999:563;39-55.

18. Helburn SW, Culkin ML, Morris JM, Clifford RM. The cost, quality, and outcomes study theoretical structure. In: Helburn SW, ed. *Cost, quality and child outcomes in child care centers. Technical Report*. Denver, Col.: Department of Economics, Center for Research in Economic and Social Policy, University of Colorado at Denver; 1995:5-10.

19. Howes C, Phillips DA, Whitebrook M. Thresholds of quality: Implications for the social development of children in center-based child care. *Annual Progress in Child Psychiatry & Child Development*. 1993;563-580.

20. Lamb ME. Nonparental child care: Contexts, quality, correlates, and consequences. In: Sigel IE, Renninger KA, eds. *Child psychology in practice*. New York: John Wiley & Sons; 1998:73-144. Damon W, Ed.-in-chief. *Handbook of child psychology*; vol. 4, 5th ed.

21. Howes C, Smith EW, Galinsky E. *The Florida Child Care Quality Improvement Study: Interim report*. New York, NY: Families and Work Institute; 1995.

22. Whitebook M, Howes C, Phillips DA. *Who cares? Child care teachers and the quality of care in America. Final report, National Child Care Staffing Study*. Berkeley, CA: Child Care Employee Project; 1989.

23. Ochiltree G. *Effects of Child care on young children: Forty years of research* Melbourne: Australian Institute of Family Studies; 1994.

24. Kagan SL, Neuman MJ. The relationship between staff education and training and quality in child care programs. *Child Care Information Exchange* 1996:107;65-70.

25. Smith AB. *The quality of childcare centres for infants in New Zealand.* State-of-the-Art. Monograph No 4. Wellington, New Zealand: New Zealand Association for Educational Research; 1996.

26. Kontos S, Wilcox-Herzog A. Teachers' interactions with children: Why are they so important? Research in review. *Young Children* 1997:52(2);4-12.

27. Howes C, Galinsky E, Kontos S. Child care caregiver sensitivity and attachment. *Social Development* 1998:7(1);25-36.

©2014-2026 ABILIO | SCHOOL SUCCESS

28. Schweinhart LJ, Weikart DP. The High/Scope Preschool Curriculum Comparison Study through age 23. *Early Childhood Research Quarterly* 1997:12(2);117-143.

29. Sylva, K. The quest for quality in curriculum. In: Schweinhart LJ & Weikart DP, eds. *Lasting differences: The High/Scope Preschool Curriculum Comparison Study through age* 23. Monographs of the High/Scope Educational Research Foundation, Number 12. Ypsilanti, Mich: High/Scope Educational Research Foundation; 1997:89-94.

©2014-2026 ABILIO | SCHOOL SUCCESS

School Completion and Academic Success: The Impact of Early Social-Emotional Competence

Shelley Hymel, PhD, Laurie Ford, PhD

University of British Columbia, Canada

May 2014, Éd. rév.

Introduction

The vast majority of Canadian youth (aged 18 to 20) graduate from high school (75.8%), and another 12.8% go on to higher education.[1] However, 11.4% of Canadian youth leave school early, with a greater proportion of male than female dropouts (14.7% vs. 9.2%). Although dropout rates have declined over the past decade, from 18% in 1991 (*School Leavers Survey*) to 11.4% in 1999, current figures represent over 137,000 youth who fail to complete a basic education. Early school withdrawal represents a loss for both the individual and community, in terms of reduced potential as contributors to society as well as costs for unemployment, welfare, and other social services.[2,3] In economic terms, Cohen (1998)[4] determined that a single high school drop out can cost $243,000–$388,000 (US$).

Subject and Problems

What distinguishes school graduates from dropouts? Research suggests that the paths toward academic success and school completion begin at birth and are likely attributable to many different factors, both biological and environmental.[5,6] However, research on school completion has focused primarily on the school years, and on risk factors associated with early school withdrawal and academic failure, with particular attention to student academic skills and family characteristics. For example, we know that students who drop out tend to be less intellectually competent, receive lower grades and achievement scores, and are more likely to have been "held back."[1,7] Dropouts are also more likely to come from lower income and single-parent homes.[1,8] Their parents tend to be less involved and demanding with their children, provide less educational support,[9-13] and are less likely to model educational attainment.[1,8] Academic ability and family support are only part of the picture, however. Although dropout rates are higher among lower income and single-parent families, the majority of dropouts come from 2-parent, middle-income homes.[1,8,14] Similarly, although school dissatisfaction tops the list of reasons given

©2014-2026 ABILIO | SCHOOL SUCCESS

for dropping out,[15,16] difficulty with schoolwork is cited by less than one-third of dropouts.[14] Instead, students cite difficulties in teacher and peer relationships, feeling unsafe or that they did not belong at school, and having friends who already left school as their main reasons for dropping out. Thus, in addition to academic difficulties and limited family support, students who drop out fail to develop a sense of connectedness to the school milieu, citing social-emotional factors as being equally important considerations in understanding academic failure and school dropout.[17,18]

Research: Context and Recent Results

A growing body of research has found that socio-emotional competence is critical for both academic performance and life success,[19-23] and that caring relationships and support within the school community are essential for optimal student learning.[24-27] A recent social policy review by Raver[22] shows that children who have difficulty socially (eg, getting along with peers) and/or emotionally (eg, controlling negative emotions) demonstrate poorer school adjustment and performance. In fact, children's early interpersonal behaviour predicts academic performance as well or better than intellectual factors,[28] and even after the potentially confounding effects of academic behaviour and IQ are taken into account.[29,30] These links are evident early on, with children's social behaviour (eg, aggression) as well as low socio-economic status and early academic difficulties being associated with decreased likelihood of graduation.[5,11,13] Moreover, recent longitudinal studies[31] suggest that these associations are likely causal, with performance during the early school years being based on early social and emotional development.

Positive peer relationships can be a protective factor, supporting a child's academic pursuits, with studies showing that peers can serve as effective socialization agents for school engagement and motivation.[31-35] As early as kindergarten and throughout school, having a friend and being well liked are associated with higher academic performance, more positive attitudes towards school, and less school avoidance.[36,37,31] In contrast, being rejected or friendless at school, as well as being aggressive, places children at risk for poor academic performance, grade retention, absenteeism, and truancy, both concurrently and in subsequent years.[7,36,38] However, the impact of early peer relationship difficulties is multifaceted, with poor school adjustment associated with both peer victimization[39-41] and peer aggression/antisocial behaviour.[42-44] It should be noted that this process appears to be a gradual one. For example, being unpopular and rejected during the *elementary* school years predicts subsequent school dropout, with rejected children being marginalized and ostracized, gradually disengaging from the school milieu.[7] Given

their failure to integrate with mainstream peers, it is not surprising that early school leavers are less involved in school extra-curricular activities[1] and more likely to associate with other marginalized peers, who place little value on educational success[8,10,45]

Equally important are relationships with adults. Even after controlling for cognitive ability, later school performance is linked to the early influences of teachers as well as parents.[46] Positive relationships with teachers are associated with better academic performance[29,30] and more positive attitudes toward school,[47] even as early as kindergarten.[36] As Raver[22] points out, children with social-emotional difficulties can be “tough to teach” and problematic relationships with kindergarten teachers are strong predictors of academic difficulties and school adjustment both concurrently[48] and across the elementary years.[49] Thus, failure to establish positive relationships early on may begin a downward cycle of school (dis)engagement. Indeed, fewer dropouts (60%) report that they get along well with teachers than do graduates (88.6%).[1]

Conclusions

Research on the early social-emotional underpinnings of academic performance and school completion is limited. Most studies involve school-aged children, with few studies focusing on the earliest years of school.[36] Moreover, the links between school performance and social-emotional difficulties may well be reciprocal,[22] with early learning problems contributing to negative social behaviour, and vice versa. Children’s transition to full-time schooling as well as their progress over the first years of school (kindergarten to grade 2) are believed to constitute a critical periods for academic and social development,[46] which, in turn, contributes to school success. Given the interface of social-emotional and academic competence, however, it becomes important to understand the precursors of early social-emotional behaviour *before* children enter school, during the 0 to 5 period. Social-emotional competence is believed to have its roots in children’s early temperament and language ability, as well as their earliest relationships with caregivers, which provide a foundation for subsequent interpersonal relations.[50] To fully understand the factors that contribute to school success, therefore it is imperative to broaden our focus and consider an ecological and developmental perspective on the problem, considering biological, academic, familial, and social-emotional factors and their interplay. To date, few studies have examined early social-emotional markers in relation to academic outcomes, although longitudinal studies such as the *National Longitudinal Study of Children and Youth*[51] hold great promise in this regard.

Implications

From the studies that do exist, we know that a significant number of children display social-emotional difficulties that interfere with their relationships with both adults and peers, affecting their school engagement, performance, and their potential to become competent adults and productive citizens.[52] One in five youth display problems severe enough to warrant mental health services.[53-55] In light of these findings, dealing with social and emotional problems in the schools is one component of a larger educational mandate — to prepare students to function effectively in a complex social world. British Columbia's Ministry of Education has taken a unique step in this regard by making *social responsibility* one of four "foundational skills," as important as reading, writing, and numeracy. Evidence-based, early intervention programs that enhance social-emotional development are needed,[22] along with efforts to evaluate the efficacy of new, promising programs (eg, Mary Gordon's *Roots of Empathy*). Provision of adequate teacher training in social-emotional development is also critical. We have long recognized the importance of early intervention (eg, *Perry Preschool Project, Head Start*), but such efforts need to be based on a solid understanding of the early precursors to social and emotional behaviour and the complex ways in which characteristics of child and family interact with the social context in which a child functions, recognizing the importance social-emotional functioning in facilitating school completion and academic success across the school years.

References

1. Bowlby JW, McMullen K. *At a crossroads: First results from the 18 to 20-year-old cohort of the Youth in Transition Survey*. Ottawa, Ontario: Human Resources Development Canada and Statistics Canada; 2002. No. 81-591-XIE.
2. McCaul EJ, Donaldson GA, Coladarci T, Davis WE. Consequences of dropping out of school: Findings from high school and beyond. *Journal of Educational Research* 1992;85(4):198-207.
3. Tremblay RE. When children's social development fails. In: Keating DP, Hertzman C, eds. *Developmental health and the wealth of nations: Social, biological, and educational dynamics*. New York, NY: Guilford Press; 1999:55-71.
4. Cohen MA. The monetary value of saving a high-risk youth. *Journal of Quantitative Criminology* 1998;14(1):5-33.
5. Audas R, Willms JD. *Engagement and dropping out of school: A life-course perspective*. Ottawa, Ontario: Applied Research Branch. Strategic Policy. Human Resources Development Canada; 2001. No. W-01-1-10E.
6. Shonkoff JP, Phillips DA. *From Neurons to Neighborhoods: The science of early childhood development*. Washington, DC: National Academy Press; 2000.
7. Hymel S, Comfort C, Schonert-Reichl K, McDougall P. Academic failure and school dropout: The influence of peers. In: Juvonen J, Wentzel KR, eds. *Social motivation: Understanding Children's School Adjustment*. New York, NY: Cambridge University Press; 1996:313-345.
8. Gilbert S, Devereaux MS, eds. *Leaving School: Results from a national survey comparing school leavers and high school graduates 18 to 20 years of age*. Ottawa, Ontario: Human Resources and Labour Canada; 1993.

©2014-2026 ABILIO | SCHOOL SUCCESS

9. Christensen SL, Sheridan SM. *Schools and Families: Creating essential connections for learning*. New York, NY: Guilford Press; 2001.

10. Ekstrom RB, Goertz ME, Pollack JM, Rock DA. Who drops out of high school and why? Findings from a national study. *Teachers College Record* 1986;87(3):356-373.

11. Ensminger ME, Slusarcick AL. Paths to high school graduation or dropout: A longitudinal study of a first-grade cohort. *Sociology of Education* 1992;65(2):95-113.

12. Howell FM, Frese W. Early transition into adult roles: Some antecedents and outcomes. *American Educational Research Journal* 1982;19(1):51-73.

13. Rumberger RW. Dropping out of middle school: A multilevel analysis of students and schools. *American Educational Research Journal* 1995;32(3):583-625.

14. McMillen M, Kaufman P. *Dropout Rates in the United States: 1992*. Washington, DC: National Centre for Education Statistics, Office of Educational Research and Improvement, US Department of Education; 1993. No. NCES 93-464. Available at: https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=93464. Accessed February 22, 2017.

15. Goertz ME, Ekstrom RB, Rock D. Dropouts, high school: Issues of race and sex. In: Lerner RM, Petersen AC, Brooks-Gunn J, eds. *Encyclopedia of Adolescence*. Vol 1. New York, NY: Garland; 1991:250-253.

16. O'Sullivan RG. Validating a method to identify at-risk middle school students for participation in a dropout prevention program. *Journal of Early Adolescence* 1990;10(2):209-220.

17. Rumberger RW. High school dropouts: A review of issues and evidence. *Review of Educational Research* 1987;57(2):101-122.

18. Hahn A. Reaching out to America's dropouts: What to do? *Phi Delta Kappan* 1987;69(4):256-263.

19. Goleman D. *Emotional intelligence*. New York, NY: Bantam Books; 1995.

20. Juvonen J, Wentzel KR, eds. *Social motivation: Understanding children's school adjustment*. New York, NY: Cambridge University Press; 1996.

21. McClelland MM, Morrison FJ, Holmes DL. Children at risk for early academic problems: The role of learning-related social skills. *Early Childhood Research Quarterly* 2000;15(3):307-329.

22. Raver CC. Emotions matter: Making the case for the role of young children's emotional development for early school readiness. *Social Policy Report* 2002;16(3):3-18.

23. Wentzel KR, Asher SR. The academic lives of neglected, rejected, popular, and controversial children. *Child Development* 1995;66(3):754-763.

24. Battistich V, Solomon D, Watson M, Schaps E. Caring school communities. *Educational Psychologist* 1997;32(3):137-151.

25. Goodenow C. Classroom belonging among early adolescent students: Relationships to motivation and achievement. *Journal of Early Adolescence* 1993;13(1):21-43.

26. Noddings N. *The challenge to care in schools: An alternative approach to education*. New York, NY: Teachers College Press; 1992.

27. Ryan RM, Powelson CL. Autonomy and relatedness as fundamental to motivation and education. *Journal of Experimental Education* 1991;60(1):49-66.

28. Horn WF, Packard T. Early identification of learning problems: A meta-analysis. *Journal of Educational Psychology* 1985;77(5):597-607.

29. Wentzel KR. Does being good make the grade? Social behavior and academic competence in middle school. *Journal of Educational Psychology* 1993;85(2):357-364.

©2014-2026 ABILIO | SCHOOL SUCCESS

30. Wentzel KR. Social goals and social relationships as motivators of school adjustment. In: Juvonen J, Wentzel KR, eds. *Social Motivation: Understanding Children's School Adjustment*. New York, NY: Cambridge University Press; 1996:226-247.

31. Ladd GW, Kochenderfer BJ, Coleman CC. Classroom peer acceptance, friendship, and victimization: Distinct relational systems that contribute uniquely to children's school adjustment? *Child Development* 1997;68(6):1181-1197.

32. Berndt TJ, Keefe K. Friends' influence on school adjustment. In: Juvonen J, Wentzel KR, eds. *Social motivation: Understanding children's school adjustment*. New York, NY: Cambridge University Press; 1996:248-178.

33. Connell JP, Wellborn JG. Competence, autonomy, and relatedness: A motivational analysis of self-system processes. In: Gunnar MR, Sroufe LA, eds. *Self processes in development*. Hillsdale, NJ: Lawrence Erlbaum Associates; 1991:43-77. *The Minnesota Symposia on Child Psychology*; vol. 23.

34. Kindermann TA, McCollam TL, Gibson EJr. Peer networks and students' classroom engagement during childhood and adolescence. In: Juvonen J, Wentzel KR, eds. *Social Motivation: Understanding children's school adjustment*. New York, NY: Cambridge University Press; 1996:279-312.

35. Ryan AM. Peer groups as a context for the socialization of adolescents' motivation, engagement, and achievement in school. *Educational Psychologist* 2000;35(2):101-111.

36. Birch SH, Ladd GW. Interpersonal relationships in the school environment and children's early school adjustment: The role of teachers and peers. In: Juvonen J, Wentzel KR, eds. *Social Motivation: Understanding children's school adjustment*. New York, NY: Cambridge University Press; 1996:199-225.

37. Berndt TJ, Keefe K. Friends' influence on adolescents' adjustment to school. *Child Development* 1995;66(5):1312-1329.

38. McDougall P, Hymel S, Vaillancourt T, Mercer L. The consequences of childhood peer rejection. In: Leary MR, ed. *Interpersonal Rejection*. New York, NY: Oxford University Press; 2001:213-247.

39. Haynie DL, Nansel T, Eitel P, Crump AD, Saylor K, Yu K, Simons-Morton B. Bullies, victims and bully/victims: Distinct groups of at risk youth. *Journal of Early Adolescence* 2001;21(1):29-49.

40. Hodges EVE, Perry DG. Victims of peer abuse: An overview. *Reclaiming Children & Youth: Journal of Emotional and Behavioral Problems* 1996;5(1):23-28.

41. Juvonen J, Nishina A, Graham S. Peer harassment, psychological adjustment, and school functioning in early adolescence. *Journal of Educational Psychology* 2000;92(2):349-359.

42. Cairns RB, Cairns BD, Neckerman HJ. Early school dropout: Configurations and determinants. *Child Development* 1989;60(6):1437-1452.

43. Kupersmidt JB, Coie JD. Preadolescent peer status, aggression, and school adjustment as predictors of externalizing problems in adolescence. *Child Development* 1990;61(5):1350-1362.

44. Ladd GW, Birch SH, Buhs ES. Children's social and scholastic lives in kindergarten: Related spheres of influence? *Child Development* 1999;70(6):1373-1400.

45. Rumberger RW. Dropping out of high school: The influence of race, sex, and family background. *American Educational Research Journal* 1983;20(2):199-220.

46. Entwisle DR, Alexander KL, Olson LS. *Children, schools, and inequality*. Boulder, Colo: Westview Press; 1997.

47. Skinner EA, Belmont MJ. Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology* 1993;85(4):571-581.

48. Birch SH, Ladd GW. The teacher-child relationship and children's early school adjustment. *Journal of School Psychology* 1997;35(1):61-79.

©2014-2026 ABILIO | SCHOOL SUCCESS

49. Hamre BK, Pianta RC. Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development* 2001;72(2): 625-638.

50. Rubin KH, Bukowski W, Parker JG. Peer interactions, relationships, and groups. In: Eisenberg N, ed. *Social emotional and personality development*. New York, NY: John Wiley & Sons; 1998:619-700. Damon W, ed. *Handbook of child psychology*; vol 3.

51. Willms JD, ed. *Vulnerable children: Findings from Canada's National Longitudinal Survey of Children and Youth*. Edmonton, Alberta: University of Alberta Press; 2002.

52. Greenberg MT, Domitrovich C, Bumbarger B. The prevention of mental disorders in school-aged children: Current state of the field. *Prevention & Treatment* 2001;4:1-48.

53. Offer D, Schonert-Reichl KA. Debunking the myths of adolescence: Findings from recent research. *Journal of the American Academy of Child and Adolescent Psychiatry* 1992;31(6):1003-1014.

54. Offord DR, Boyle MH, Racine YA. The epidemiology of antisocial behavior in childhood and adolescence. In: Pepler DJ, Rubin KH, eds. *The development and treatment of childhood aggression*. Hillsdale, NJ: Lawrence Erlbaum Associates; 1991:31-54.

55. Romano E, Tremblay RE, Vitaro F, Zoccolillo M, Pagani L. Prevalence of psychiatric diagnoses and the role of perceived impairment: Findings from an adolescent community sample. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 2001;42(4):451-461.

©2014-2026 ABILIO | SCHOOL SUCCESS

Links between Early Childhood Development and School Completion: Comments on Vitaro, Smith, and Hymel and Ford

Michel Janosz, PhD

Université de Montréal, Canada

May 2014, Éd. rév.

Introduction

The three texts examined here present highly convergent and complementary syntheses. Shelly Hymel and Laurie Ford focus primarily on showing how preschool children's socioaffective skills determine the quality of their school experience. While the authors briefly recognize the importance of other aspects of development (biological, cognitive, cultural, socioeconomic and family environment), they chiefly advance scientific arguments that justify the need to learn more about the precursors of early childhood socioaffective development.

Frank Vitaro[a] places the onus on the negative impact that behaviour (aggressiveness) and self-control problems have on children's school experience, due to the close association between such problems and difficulties such as language disorders and attention deficit. He also mentions the influence of children's family and socioeconomic environment in this regard. The author then provides a brief overview of preschool interventions that have helped children better adjust to school. He reminds readers that duration and intensity are important characteristics of effective interventions. Vitaro supports the statements of Hymel and Ford by stressing the importance of promoting the early development of social and emotional skills.

Anne Smith summarizes what we know about the impact and effectiveness of preschool education programs (*Early Childhood Education)*. She also mentions the importance of intervention dosage (intensity and duration), and goes on to specify that not all preschool education programs offer the same quality of services. She draws attention to studies showing that the quality of those educational environments has as much to do with structural factors (size of the group, educator-children ratio, educator skills) as with educational processes (quality of educator-child relationships, relationship attitudes, child-centred educational processes, etc.).

©2014-2026 ABILIO | SCHOOL SUCCESS

Recent Research Results and Conclusions

There is no doubt that the quality of social and emotional development plays a central role in school experience. The quality of learning is intimately linked to the quality of students' social integration.[1,2] The authors' focus on the importance of early childhood social and emotional development is surely justified, on both theoretical and empirical grounds. It is worth adding, however, that recent longitudinal studies show that, while setbacks at the beginning of the schooling process (failure, retention) are powerful predictors of school dropout during adolescence, the same applies to family and socioeconomic factors.[3-5] Therefore, there is no cause yet to claim the primacy of socioaffective risk factors over other social factors, at least during the preschool years.

Furthermore, a point of view that is fairly absent from the proposed syntheses is that of school as an educational environment in its own right. Socioaffective and behavioural risks early in life generate school difficulties in the context of interaction with an educational environment whose very composition, space-time organization, educational practices, etc. have an impact on the manifestation of school achievement.[6-8]

Moreover, stating that a lack of social and emotional skills during the preschool years increases the risk of a negative school experience does not necessarily mean that the opposite argument applies. Not all of the students who experience problems at school show socioaffective risk factors in early childhood. A number of researchers have addressed the psychosocial and schooling heterogeneity of adolescents who drop out of school.[9-11] While certain types of dropouts probably manifest difficulties from the time they enter kindergarten, this does not seem to be the case for many of them. An approach that focuses on identifying various paths of development would no doubt help delve deeper into the links between preschool social and emotional development, and subsequent adjustment to school.[12] In our opinion, it is also worthwhile to insist further on the issue of gender differences. Boys are more likely to have problems at school: they are more prone to failure, grade retention, dropping out, etc.[13] Despite a plethora of explanatory hypotheses, ranging from biological determinism to feminist analyses, we must acknowledge that there is little empirical knowledge on the subject. The differential impact of early childhood social and emotional skills on the school experience of boys and girls needs to be documented better.

Implications for Policy and Services

©2014-2026 ABILIO | SCHOOL SUCCESS

It is worth recalling and reinforcing several of the authors' recommendations:

1. It is of the utmost importance to increase the public's access to *quality* preschool education programs, in other words, programs whose content and application is modeled on the characteristics of tried and tested programs. However, it is not enough to simply provide additional financial and material resources. It is also essential to improve the quality of educator training with regard to specific knowledge and know-how. University-level training is better suited to the complexity of the operations required to set up specialized education programs.
2. Services must be adapted to communities' cultural and socioeconomic characteristics, particularly those of the more underprivileged areas, which are also the areas that are most likely to benefit from preschool interventions.[14] A comprehensive approach that incorporates health and social services, with coordination and cooperation among various community partners is essential to meeting this challenge.[15,16]
3. It would nevertheless be a mistake to focus solely on preschool interventions. Governments must implement ongoing action strategies that are tailored to children's various stages of development and socialization contexts. Although early intervention is beneficial, and its cost-benefit analysis justifies the place it should occupy, it is not a panacea.[14] The adverse effects of many social and emotional problem determinants will remain despite early intervention (family, poverty, neighbourhood life, peers, stressful life events, etc.). Some children and families' degree of risk is such that support over several years or at different stages of social development is required. That is why we find it extremely important to think about the continuity of services between the preschool and school periods (elementary and high school).
4. Integrating a socialization mandate into the mission of education ministers (e.g., in Quebec and British Colombia) is certainly a step in the right direction. Schools must implement the most effective educational practices, not only to develop school learning and skills, but also to develop social and behaviour management skills.[8,17] Unfortunately, university training seems lacking in this respect. Once again, we believe that universities must improve or fine-tune their training programs so that future teachers and school principals will be better prepared to fulfill their socialization mandate.

©2014-2026 ABILIO | SCHOOL SUCCESS

5. However, it is impossible for schools to shoulder alone the responsibility for providing all prevention, support or remedial services when it comes to social adjustment. They must in turn be able to count on the resources, support and expertise of various partners in their community.[15] Certain organizational models seem to facilitate the integration and coordination of services, particularly in underprivileged areas (e.g., *Full Service Schools*; see also references 18, 19 and 20). This being said, it is up to the different levels of government to promote and support active participation by various school and community partners in such cross-sector partnerships.

References

1. Finn JD. Withdrawing from school. *Review of Educational Research* 1989;59(2):117-142.
2. Wehlage GG, Rutter RA, Smith GA, Lesko N, Fernandez RR. *Reducing the risk: schools as communities of support*. New York, NY: Falmer Press; 1989.
3. Alexander KL, Entwisle DR, Kabbani NS. The dropout process in life course perspective : Early risk factors at home and school. *Teachers College Record* 2001;103(5):760-822.
4. Garnier HE, Stein JA, Jacobs JK. The process of dropping out of high school: A 19-year perspective. *American Educational Research Journal* 1997;34(2):395-419.
5. Jimerson SR, Egeland B, Sroufe LA, Carlson B. A prospective longitudinal study of high school dropouts: Examining multiple predictors across development. *Journal of School Psychology* 2000;38(6):525-549.
6. Baker JA, Derrer RD, Davis SM, Dinklage-Travis HE, Linder DS, Nicholson MD. The flip side of the coin: Understanding the school's contribution to dropout completion. *School Psychology Quarterly* 2001;16(4):406-426.
7. Janosz M, Georges P, Parent S. L'environnement socioéducatif à l'école secondaire : un modèle théorique pour guider l'évaluation du milieu. *Revue Canadienne de Psycho-Éducation* 1998;27(2):285-306.
8. Teddlie C, Reynolds D, eds. *The international handbook of school effectiveness research*. London: Falmer Press; 2000.
9. Cairns RB, Cairns BD, Neckerman HJ. Early school dropout: Configurations and determinants. *Child Development* 1989;60(6):1437-1452.
10. Kronick RF, Hargis CH. *Dropouts:who drops out and why – and the recommended action*. Springfield, Ill: Charles C. Thomas; 1990.
11. Janosz M, Le Blanc Marc, Boulerice B, Tremblay RE. Predicting different types of school dropouts: A typological approach with two longitudinal samples. *Journal of Educational Psychology* 2000;92(1):171-190.
12. Cairns RB, Bergman LR, Kagan J, eds. *Methods and models for studying the individual: Essays in honor of Marian Radke-Yarrow*. Thousand Oaks, Calif: Sage Publications; 1998.
13. Conseil Supérieur de l'Éducation. *Pour une meilleure réussite scolaire des garçons et des filles*. Ste-Foy, Québec: Le Conseil;1999. Available at: http://www.cse.gouv.qc.ca/fichiers/documents/publications/facteurs.pdf. Accessed October 25, 2007.
14. Brooks-Gunn J. Do you believe in magic?: What we can expect from early childhood intervention programs. *Social Policy Report* 2003;17(1):3-14.

©2014-2026 ABILIO | SCHOOL SUCCESS

15. Arnold DH, Ortiz C, Curry JC, Stowe RM, Goldstein NE, Fisher PH, Zeljo A, Yershova K. Promoting academic success and preventing disruptive behavior disorders through community partnership. *Journal of Community Psychology* 1999;27(5):589-598.

16. Burt MR, Resnick G, Novick ER. *Building supportive communities for at-risk adolescents: It takes more than services*. 1st ed. Washington, DC: American Psychological Association; 1998.

17. Gottfredson DC. *Schools and delinquency*. Cambridge: Cambridge University Press; 2001.

18. Dryfoos JG. *Full-service schools: a revolution in health and social services for children, youth, and families.* 1st ed. San Francisco, Calif: Jossey-Bass; 1994.

19. Kronick RF. *Human services and the full service school: the need for collaboration.* Springfield, Ill: Charles C. Thomas; 2000.

20. Zigler EF, Finn-Stevenson M, Stern BM. Supporting children and families in the schools: the school of the 21st century. *American Journal of Orthopsychiatry* 1997;67(3):396-407.

Note:

[a] Comments on original paper published by Frank Vitaro in 2003. To have access to this article, contact us at cedje-ceecd@umontreal.ca.

School Completion/School Achievement as Outcomes of Early Childhood Development: Comments on Vitaro and Hymel and Ford

Russell W. Rumberger, PhD

University of California, Santa Barbara, USA

May 2014, Éd. rév.

Introduction

As the economies of advanced nations become more dependent on an educated workforce, students who fail to complete high school will find it more and more difficult to secure meaningful employment that leads to social well-being. Therefore, it is more important than ever to understand and address the factors that contribute to early school withdrawal.

Research on school dropouts has examined a myriad of factors that predict why some students fail to complete high school. These factors fall into two distinct perspectives: one is an individual perspective that focuses on individual factors – such as demographic characteristics, experiences, attitudes and behaviours – associated with dropping out; the other is based on an institutional perspective that focuses on the contextual factors found in students' families, schools, communities and peers. Both perspectives are useful and indeed necessary to understand this complex phenomenon.[1] In addition, research has examined both proximal factors to dropping out – typically those associated with the high-school years when most students leave school – and distal factors associated with the experiences and backgrounds of students before they enter high school, but which may contribute directly or indirectly to their early withdrawal from high school.

Research and Conclusions

The two papers by Hymel/Ford and Vitaro[a] focus on one important and understudied area of research on school dropout: identifying the early childhood experiences of students that may contribute to their later success or failure in high school. After briefly reviewing research on the proximal factors associated with dropping out, particularly academic skills and family characteristics, Hymel/Ford focus on one specific factor that they argue is critical to academic

©2014-2026 ABILIO | SCHOOL SUCCESS

success: socio-emotional competence. They review a number of studies that suggest children with poor social skills and emotional control have more difficulty getting along with peers and with adults, and experience early academic failure, which leads to later academic and social problems and, eventually, early school withdrawal. Yet, as they rightly point out, the relationship between socio-emotional and academic competence may well be reciprocal, which suggests the need for more extensive longitudinal studies. Vitaro also focuses on social behaviour as an important precursor to early and later school failure, but he links these problematic behaviours to disadvantaged families and some cultural communities. He then reviews a number of rigorously evaluated preschool programs that have been effective in improving the cognitive, social and emotional development of children and even reducing high-school dropout rates.

These two papers support the idea that attitudes, behaviours and experiences of young children can contribute to their long-term success or failure in school. They also support the idea that failure to complete high school is not simply due to academic difficulties, such as low test scores or grades, but may be directly related to social and behavioural problems in school. Both of these ideas are supported not only by the literature cited in these two papers, but also by other theoretical and empirical literature that is not cited. Rumberger,[1] for example, reviews several theories of school dropout that suggest withdrawal from school, as well as a related phenomenon, student mobility, are forms of disengagement with an academic dimension (e.g. doing school work) and a social dimension (e.g. getting along with others) that are reflected in both the formal (e.g. school activities) and informal (peer and adult relationships) aspects of school. In addition to the studies cited in these two papers, a number of other long-term studies of cohorts of students have examined the predictors of dropping out from as early as first grade.[2-7] These studies found that early academic achievement and engagement (e.g. attendance, misbehaviour) in elementary and middle school predicted eventual withdrawal from high school.

One additional indicator of early school performance has received considerable attention of late, at least in the U.S.: school retention. Historically, a large number of students are retained in each year of school. Data from the U.S. suggest that about one in five eighth-graders in 1988 had been retained at least once since first grade.[8] As more states end social promotion and institute high-school exit examinations, this number will no doubt rise. Already in Texas, which has instituted both policies, one out of every six ninth-grade students was retained in 1996-97 (see Appendix A[9]). Although some recent studies have suggested that retention may have some positive effects on academic achievement,[10,11] virtually all the empirical studies to date suggest

that retention, even in lower elementary grades, significantly increases the likelihood of dropping out.[8,12-17] For example, Rumberger[8] found that students who were retained in grades 1 to 8 were four times more likely to drop out between grades 8 and 10 than students who were not retained, even after controlling for socioeconomic status, eighth-grade school performance and a host of background and school factors.

Although the two papers and the research reported above underscore the importance of identifying and addressing individual attitudes and behaviours in early childhood that may contribute to high-school failure, this research does not address the role that schools play in promoting or addressing these attitudes and behaviours. Recent statistical models have demonstrated that between 20 and 50 percent of the variability in achievement and other outcomes among students can be attributed to the schools that students attend.[18] Research studies have shown that the characteristics of schools as well as characteristics of individuals predict dropping out of school.[8,19,20] For example, research has demonstrated that several types of school characteristics have been found to influence school dropout rates, including student composition, school resources, school structure and school processes and practices (see Rumberger[1] for a review).

Implications for Policy and Services Perspectives

Both of these papers suggest that sufficient research exists to support the expansion of preschool and early-childhood programs to help address the early precursors to school failure and high-school withdrawal. Both papers also stress the need for programs that address the social and emotional as well as the cognitive needs of the child. At the same time, they caution that complex relationships between these needs, especially among children from different social class and cultural backgrounds, require more research. They also stress that all programs require thorough evaluations to demonstrate their effectiveness.

All of these recommendations are reasonable. Rigorous evaluations of existing preschool programs have demonstrated that they can produce long-term benefits in reducing high- school dropout rates directly and indirectly by reducing early precursors to dropping out, such as referral to special education.[21] Moreover, such programs typically address all the needs of the child – cognitive, social, and emotional.

©2014-2026 ABILIO | SCHOOL SUCCESS

In addition to preschool programs, other interventions will be needed to prevent early difficulties in children that lead to high-school failure and early withdrawal. These include parental training programs, after-school programs, summer-school programs and in-school programs. These programs have the potential to help these difficulties whether they are due to children's academic, social or emotional needs. Yet despite the existence of many programs in each of these areas, for the most part, existing programs have not been rigorously evaluated.[22-24] Such evaluations are important before governments and local providers invest money in early intervention programs.

At the same time, policy-makers need to examine existing school policies and practices to see to what extent they may be contributing to early school difficulties that eventually lead to high-school withdrawal. Retention policies are but one example. A more fundamental problem, at least in the U.S., is ensuring that all students have the same opportunities to learn and achieve success in school by providing a safe learning environment, adequate textbooks and learning materials, and fully qualified teachers.[25]

Only through a comprehensive effort that focuses on students, families, schools and communities will it be possible to address the problem of high-school dropouts.

References

1. Rumberger RW. Why Students Drop Out of School and What Can be Done. Paper presented at: Dropouts in American: How severe is the problem? What do we know about intervention and prevention?; January 16, 2001; Harvard University.
2. Barrington BL, Hendricks B. Differentiating characteristics of high school graduates, dropouts, and nongraduates. *Journal of Educational Research* 1989;82(6):309-319.
3. Morris JD, Ehren BJ, Lenz BK. Building a model to predict which fourth through eighth graders will drop out of high school. *Journal of Experimental Education* 1991;59(3):286-293.
4. Roderick M. *The Path to Dropping Out.* Westport, Conn: Auburn House; 1993.
5. Alexander KK, Entwisle DR, Horsey C. From first grade forward: Early foundations of high school dropout. *Sociology of Education* 1997;70(2):87-107.
6. Garnier HE, Stein JA, Jacobs JK. The process of dropping out of high school: A 19-year perspective. *American Educational Research Journal* 1997;34(2):395-419.
7. Jimerson S, Egeland B, Sroufe LA, Carlson B. A prospective longitudinal study of high school dropouts: Examining multiple predictors across development. *Journal of School Psychology* 2000;38(6):525-549.
8. Rumberger RW. Dropping out of middle school: A multilevel analysis of students and schools. *American Educational Research Journal* 1995;32(3):583-625.
9. Texas Education Agency. *1996-97 Report on Grade Level Retention*. Austin, Tex: Texas Education Agency;1998.

©2014-2026 ABILIO | SCHOOL SUCCESS

10. Alexander KL, Entwisle DR, Dauber SL. *On the success of failure: A reassessment of the effects of retention in early grades*. New York, NY: Cambridge University Press; 1994.

11. Roderick M, Bryk AS, Jacob BA, Easton JQ, Allensworth E. *Ending Social Promotion: Results from the First Two Years.* Chicago, Ill: Consortium on Chicago School Research; 1999.

12. Grisson JB, Shepard LA. Repeating and dropping out of school. In: Sheppard LA, Smith ML, eds. *Flunking Grades: Research and Policies on Retention*. New York, NY: Falmer Press; 1989:34-63.

13. Kaufman P, Bradby D. *Characteristics of At-Risk Students in the NELS:88*. Washington, DC: US Government Printing Office; 1992.

14. Roderick M. Grade Retention and School Dropout: Investigating the Association. *American Educational Research Journal* 1994;31(4):729-759.

15. Rumberger RW, Larson KA. Student mobility and the increased risk of high school drop out. *American Journal of Education* 1998;107(1):1-35.

16. Jimerson SR. On the failure of failure: Examining the association between early grade retention and education and employment outcomes during late adolescence. *Journal of School Psychology* 1999;37(3):243-272.

17. Jimerson S, Anderson GE, Whipple AD. Winning the battle and losing the war: Examining the relation between grade retention and dropping out of high school. *Psychology in the Schools* 2002;39(4):441-457.

18. Raudenbush SW, Bryk AS. *Hierarchical linear models: Applications and data analysis methods*. 2nd edition. Thousand Oaks, CA: Sage Publications; 2002.

19. Bryk AS, Thum YM. The effects of high school organization on dropping out: An exploratory investigation. *American Educational Research Journal* 1989;26(3):353-383.

20. Rumberger RW, Thomas SL. The distribution of dropout and turnover rates among urban and suburban high schools. *Sociology of Education* 2000;73(1):39-67.

21. Barnett WS. Long-term effects of early childhood programs on cognitive and school outcomes. *Future of Children* 1995;5(3):25-50.

22. Slavin RE, Karweitt NL, Wasik BA, eds. *Preventing early school failure: Research, policy, and practice*. Boston, Mass: Allyn & Bacon; 1994.

23. Cooper H, Charlton K, Valentine JC, Muhlenbruck L. Making the most of summer school: A meta-analytic and narrative review. *Monographs of the Society for Research in Child Development* 2000;65(1):1-118.

24. Mattingly DJ, Prislin R, McKenzie TL, Rodriguez JL, Kayzar B. Evaluating evaluations: The case of parent involvement programs. *Review of Educational Research* 2002;72(4):549-576.

25. Card D, Krueger AB. School resources and student outcomes. *Annals of the American Academy of Political & Social Science* 1998;559:39-53.

Note:

[a] Comments on original paper published by Frank Vitaro in 2003. To have access to this article, contact us at cedje-ceecd@umontreal.ca

©2014-2026 ABILIO | SCHOOL SUCCESS

Preschool Education and School Completion

Suh-Ruu Ou, PhD, Arthur J. Reynolds, PhD

Institute of Child Development, University of Minnesota-Twin Cities, USA

September 2020, Éd. rév.

Introduction

From the “nursery school” movement of the 1920s to the intensive interventions of the early 1960s, preschool education in the United States has existed for a century. The contemporary goal of preschool education is to enhance children’s school readiness skills and healthy development more broadly. This is particularly important for children growing up in poverty or having special needs so they can begin kindergarten with their peers fully ready to succeed.[1] This was the key rationale of the federally sponsored Head Start program in 1965, and for many other preschool programs opened by states and school districts in the years and decades that followed.

The percentage of the nation’s three- and four-year-olds enrolled in public or private school-based preschool has increased from 9.5% in 1964 to 53.8% in 2017, a nearly 6-fold increase.[2] Considering all forms of non-parental education and care, 75% of young children not yet in kindergarten currently participate in preschool.[3] In parallel fashion to these societal shifts, the importance of documenting and understanding the effects of preschool has also increased substantially.

Findings over the past five decades have indicated that preschool programs can enhance children’s cognitive skills, literacy, numeracy, and social skills necessary for school success, as well as promote school achievement in the elementary grades, reduce the need for special education and grade retention, reduce the risk of delinquency, and increase levels of educational attainment.[4-11] Among these outcomes, educational attainment is particularly important, given its link to economic self-sufficiency and positive health behaviours.[12,13] This review will focus on the connection between preschool participation and measures of school completion in the published literature.

Subject

©2014-2026 ABILIO | SCHOOL SUCCESS

For this review, preschool programs are defined broadly as the provision of center-based educational and family services to children at ages three or four. Programs are increasingly universally available with a full-day schedule, though federal as well as state and local communities prioritize children residing in low-income families or who have special needs.[1,3] Given the timing and breadth of services, preschool programs are designed to promote healthy development but also may be regarded as preventive in reducing the risk of underachievement.[1] Programs that begin at birth are included if services are also provided for three- and four-year-olds. Programs in kindergarten and from birth to age three are excluded (see Gomby, Culross, and Behrman[14] and Sweet and Appelbaum,[15] for reviews of the latter).

Preschool programs have been found to be associated with higher IQ scores, better school achievement, lower rates of grade retention and special education placement, and lower rates of delinquency and adult criminal activities.[6,8,11,16-19] These outcomes are known predictors of school completion.[20-23] Preschool programs of high quality are likely to have effects on school completion through the effects on these and other predictors.

Review Findings

Results from several model programs have shown the positive effects of preschool participation on school completion and years of education.[7,24-27] Although diverse in approaches, these programs are high in quality, are intensive in focus, and provide family services. Participants in the HighScope Perry Preschool Program were found to have higher rates of high-school graduation (71% vs. 54% at age 27; 77% vs. 60% at age 40).[19,28] Participation in the Abecedarian Project was found to be associated with a higher rate of attending four-year college (36% vs. 14%), more years of education at age 21 and age 30.[29,30] Similar results were found in a large-scale program, the Chicago Child-Parent Centers (CPC).[18,31-33] Participants in the CPC preschool program have higher rates of school completion (65.8% vs. 54.2% at age 22; 86.9% vs. 80.7% at age 35) and more years of education. However, Head Start, the largest preschool program in the U.S., has had mixed results.[34] Some studies found effects on high school completion[34-37] and college attendance.[36] However, other studies found no long-term effects.[38-40] Only a few studies of contemporary state prekindergarten programs have reported enduring effects into middle school [41-43] and beyond.[44] For example, Michigan's Great Start Readiness Program (GSRP) found effects on high school graduation on time (57% vs. 43% at age 19).[44] Table 1 displays a summary of these findings.

©2014-2026 ABILIO | SCHOOL SUCCESS

To sum up, the effects of preschool programs on school completion were examined in some published studies. Examples of those programs include the HighScope Perry Preschool Program, the Abecedarian Project, Curriculum Comparison Study, Consortium for Longitudinal Studies (including Perry Preschool, Early Training Project, the Philadelphia project, and Karnes, Shwedel and Williams's project), Chicago Child-Parent Center Program, Head Start studies in several locations, and Michigan's Great Start Readiness Program. The latter is a state-funded Pre-K program.

Problems and Research Context

Although many studies showed the link between preschool programs and school achievement, few studies examined school completion as outcomes due to the availability of longitudinal data. Moreover, most of the studies examined model programs, thus the sample sizes were small, usually less than 150. In addition to the need for more evidence to support the association between preschool programs and school completion, researchers have also recognized the importance of understanding the mechanisms of long-term effects of preschool programs.[16,45,46] That is, how do preschool programs lead to positive outcomes over time? Recently, studies have been conducted to examine the mechanisms of the link between preschool participation and school completion.[16,30,47-49] Two major issues warrant further attention. First, more studies of large-scale programs are needed, especially for universal programs enrolling children across all socioeconomic strata. Current evidence is encouraging, however.[43,50] Moreover, greater understanding of how preschool participation can lead to higher levels of school completion is crucial to identify the most important program elements and the school and family experiences that are necessary for lasting effects.

Key Research Questions

Beyond the findings on the effects of preschool programs on school achievement, the linkage between preschool programs and school completion has gained more attention, because school completion is ultimately linked to people's economic and social well-being and can reduce the need for remedial education and social welfare services.[51-55] How preschool programs are associated with school completion is addressed in the next section.

Recent Research Results

©2014-2026 ABILIO | SCHOOL SUCCESS

The theory behind preschool programs has been discussed and tested in some studies.[16,19,27,30,47,48,56-59] Many hypotheses explaining the long-term effects of preschool have been proposed. These are summarized and explicated in the Five-Hypothesis Model of Intervention Effects (5HM[48,57]; see Figure 1). The two major hypotheses investigated most in the studies are the cognitive advantage hypothesis and the family support hypothesis.[49]

According to the cognitive advantage hypothesis, the positive effects of preschool on cognitive development at school entry launch children into positive scholastic development and commitment that facilitate improved developmental outcomes in adolescence and beyond. As a central rationale behind preschool programs, the cognitive advantage hypothesis has consistent research support. Among the developed abilities to be nurtured from this perspective are language and literacy skills, knowledge of quantitative concepts, oral communication, school readiness and general cognitive skills. Of course, achievement motivation, attitudes and interests also contribute to cognitive and scholastic development.[60,61]

The family support hypothesis indicates that long-term effects of interventions will occur to the extent that program participation enhances family functioning and parenting practices. Increased parent involvement, for example, may strengthen home support for children's learning by motivating higher aspirations for children's educational performance and increasing the quality of interactions and activities that occur (e.g., reading to and with children, going to the library). Participation in preschool programs may also promote the family and school stability through increasing interaction between parents and teachers. According to Bronfenbrenner,[62] long-term effects of preschool are more likely if the home environment, children's major early learning context, is strengthened. Preschool programs are time-limited, but family experiences persist.

The cognitive advantage and family support hypotheses suggest that strengthening literacy, language and cognitive skills, as well as parent involvement in children's lives, are important goals of preschool programs. Activities and curricula to support these goals can contribute to positive long-term effects on school completion and other outcomes.

Three other hypotheses have also been investigated to explain the long-term effects of preschool education. The contribution of the school and community support hypothesis has been demonstrated in several studies.[38,47,57,63] This hypothesis predicts that the program will increase the probability of children's attendance in effective schools and reduce the probability of school

©2014-2026 ABILIO | SCHOOL SUCCESS

mobility, both of which are positively associated with educational attainment.[64] The two remaining hypotheses, motivational advantage and socio-emotional adjustment, also have been found to contribute to educational success and attainment across studies,[57,65,66] but further assessment of their contributions and generalizability are needed. They, along with the other three hypotheses, influence occupational, social behavior, and health outcomes in adulthood through educational attainment.[48,66]

The five hypotheses together have demonstrated across studies to have the best comparative fit in accounting for long-term effects on educational attainment and related indicators of well-being.[65,66] Nevertheless, additional studies of 5HM are needed. The complete set of processes expected to be impacted from early childhood to adulthood well-being is shown in Figure 1.

Conclusions and Implications

In summary, preschool programs are embedded in a broader context of family, community and school processes.[59] The effects of preschools will be more likely to persist if learning gains are reinforced and supported by family and school experiences after the end of program participation.[17,58,67]

The findings of this review suggest various implications for social policy. Preschool programs for children at risk can lead to higher levels of school completion. The long-term effects have been explained, in part, by the cognitive advantage, family support and school support hypotheses of intervention effects. High-quality preschool programs should be promoted. Research indicates that the lasting effects of preschool programs on educational attainment can benefit the participants and society, with outcomes that include higher projected lifetime earnings, savings from less special education placement, and savings from reduced involvement in the criminal justice system.[12,51,54,68-72]

Findings from the present study, in conjunction with other studies, suggest some future directions. More studies are needed to examine long-term effects of preschool programs on school completion and higher educational attainment, such as college attendance. In particular, studies of large-scale programs, such as Head Start and state-funded preschools, are needed. Finally, greater understanding of the mechanisms of long-term effects is needed across and wide range of programs.

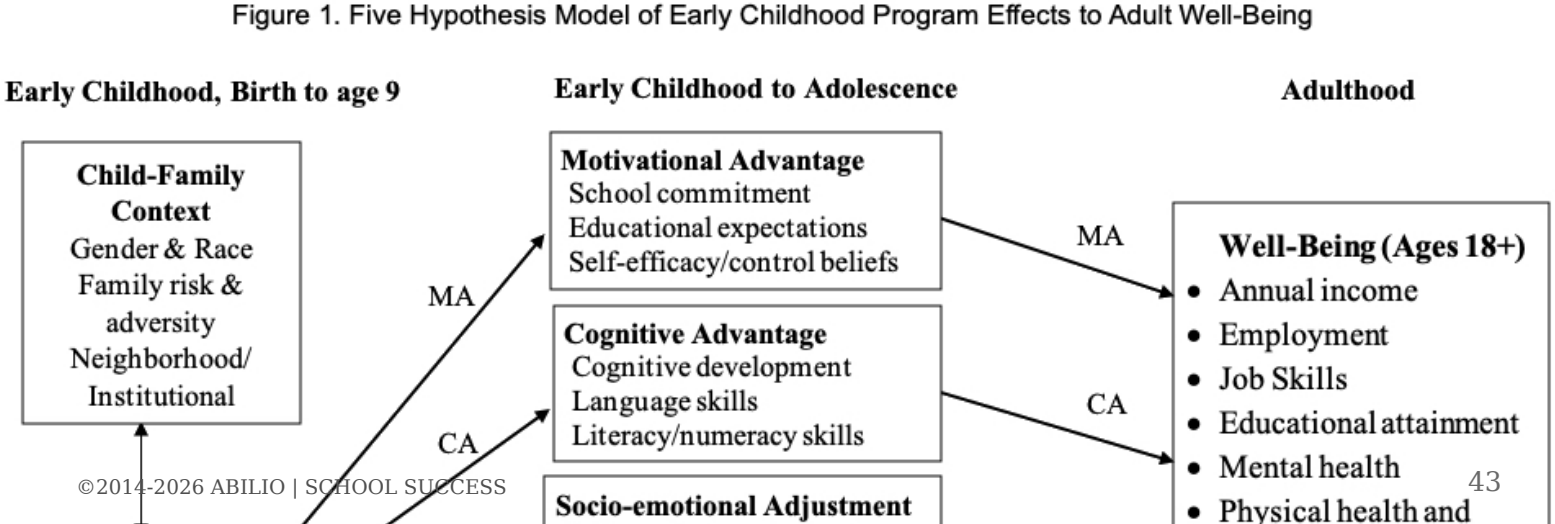
Table 1. Summary Information on Selected Studies

Table 1. Summary Information on Selected Studies

Early Intervention Programs	Age of entry and length	Program description	Original Sample sizes	High school completion rates	College attendance
Model programs					
Carolina Abecedarian Project[25,26,29]	6 weeks-5 or 8 / 5 to 8 years	Full-day child care for preschoolers; Parent program for school-age	N=111 E=57 C=54	*Age 21* E (70%) > C(67%) *Age 30 (N.S.)* E (88.5%) > C(81.6%)	*Age 21* E (36%) >C (14%) (4-year college) *Age 30* E (23.1%) >C (6.1% (bachelor degree)
Curriculum Comparison Study[73]	4 years/ 1 to 2 years	Part-day preschool program, kindergarten program	N=312 E=244 C=68	*Post-high school* E(67%) > C (53%) (Graduation, N.S.)	
Consortium for Longitudinal Studies[74]	Birth to 4 years/1 to 6 years	Diverse set from parenting to center-based preschool	N=364	*Average age 20* E (64.8%) > C (52.5%)	
HighScope Perry Preschool Program[16,19,28]	3 to 4 years/ 1 to 2 years	Preschool program 12 1/2 hours/week home visits 1 1/2 hours/week 30 weeks a year	N=123 E=58 C=65	*Age 27* E (71%) > C(54%) (Graduation) *Age 40* E (77%) > C(60%) (Graduation)	*Age 27 (N.S.)* E (33%) > C (28%)
Large-scale programs					
Chicago Child-Parent Center Program[18,32,33]	3 or 4 years / 1 to 6 years	Half-day preschool program; Half-day or full-day kindergarten program	N=1,539 E=989 C=550	*Age 23* E (71.4%) >C (63.7%) *Age 35* E (86.9%) >C (80.7%)	*Age 23* (4-year colle E (14.7%) > C (10% *Age 35* (4-year colle E (29.3%) > C (21.4
Head Start[34-36]	3 or 4 years / 1 year	Preschool program	N=3,255 N=3,698[35]	*Age 23* E (64.6%) > C (58.6%) *Age 19+* E > C (diff 8.7%)	*Age 23* E (25.1%) > C (17.6 *Age 19+* E>C (diff 5.7%, N.S
Michigan's Great State Readiness Program[44]	4 years/1 year	State Pre-K	N=595 P=338 C=257	*Age 19 (Graduation on time)* E (57%)> C (43%) Non-White: E (59%) > C (37%) White: E (56%) = C (47%)	

Note. Four projects were included in the Consortium: Perry Preschool, Early Training Project, the Philadelphia project, and Karnes, Shwedel, and Williams's project. N.S. = Not significant.

Figure 1. Five Hypothesis Model of Early Childhood Program Effects to Adult Well-Being



©2014-2026 ABILIO | SCHOOL SUCCESS

References

1. Reynolds AJ, Temple JA, eds. *Sustaining early childhood learning gains : program, school, and family influences*. New York, NY: Cambridge University Press 2019.
2. U. S. Department of Education. *Digest of Education Statistics: 2018*. Washington, DC: National Center for Education Statistics, U. S. Department of Education.;2019. Table 103.20. Report no. NCES-2020-009.
3. U. S. Department of Education. *Digest of Education Statistics: 2018*. Washington, DC: National Center for Education Statistics, U. S. Department of Education;2019. Table 202.40. Report no. NCES-2020-009.
4. Barnett WS. Long-term effects of early childhood programs on cognitive and school outcomes. In: Barnett WS, Boocock SS, eds. *Early care and education for children in poverty : promises, programs, and long-term results*. Albany, NY: Albany, NY: State University of New York Press; 1998:11-44.
5. Bryant D, Maxwell K. The effectiveness of early intervention for disadvantaged children. In: Guralnick M, ed. The effectiveness of early intervention. Baltimore, MD: Paul H. Brookes Publishing; 1997:23-46.
6. Camilli G, Vargas S, Ryan S, Barnett WS. Meta-analysis of the effects of early education interventions on cognitive and social development. *Teachers College Record*. 2010;112(3):579-620.
7. Consortium for Longitudinal Studies. *As the twig is bent--lasting effects of preschool programs*. Hillsdale, N.J.: L. Erlbaum Associates; 1983.
8. McCoy DC, Yoshikawa H, Ziol-Guest KM, Duncan GJ, Schindler HS, Magnuson K, Yang R, Koepp A, Shonkoff JP. Impacts of early childhood education on medium- and long-term educational outcomes. *Educational Researcher*. 2017;46(8):474-487.
9. Yoshikawa H. Long-term effects of early childhood programs on social outcomes and delinquency. *The Future of Children*. 1995:51-75.
10. Yoshikawa H, Weiland C, Brooks-Gunn J, Burchinal M, Espinosa L, Gormley WT, Ludwig J, Magnuson K, Phillips D, Zaslow M. *Investing in our future: The evidence base on preschool education*. Washington, D.C.; Society for Research in Child Development: 2013.
11. Cannon JS, Kilburn MR, Karoly LA, Mattox T, Muchow AN, Buenaventura M. *Investing early: Taking stock of outcomes and economic returns from early childhood programs*. Santa Monica, CA: RAND Corporation; 2017.
12. Duncan GJ, Ludwig J, Magnuson KA. Reducing poverty through preschool interventions. *The Future of Children*. 2007;17(2):143-160.
13. Muennig P. Can universal pre-kindergarten programs improve population health and longevity? Mechanisms, evidence, and policy implications. *Social Science & Medicine*. 2015;127:116-123.
14. Gomby D, Culross P, Behrman R. Home visiting: Recent program evaluations - Analysis and recommendations. *The Future of Children*. 1999;9(1):4-26.
15. Sweet M, Appelbaum M. Is home visiting an effective strategy? A meta-analytic review of home visiting programs for families with young children. *Child Development*. 2004;75(5):1435-1456.
16. Barnett WS, Young JW, Schweinhart LJ. How preschool education influences long-term cognitive development and school success: A causal model. In: Barnett WS, Boocock SS, eds. *Early care and education for children in poverty : promises, programs, and long-term results*. Albany, NY: Albany, NY: State University of New York Press; 1998:167-184.
17. Ou S, Arteaga I, Reynolds A. Dosage effects in the child-parent center PreK-to-3rd grade program: A Re-analysis in the Chicago longitudinal study. *Children and Youth Services Review*. 2019;101:285-298.

©2014-2026 ABILIO | SCHOOL SUCCESS

18. Reynolds AJ, Temple JA, Robertson DL, Mann EA. Long-term effects of an early childhood intervention on educational achievement and juvenile arrest: A 15-year follow-up of low-income children in public schools. *JAMA*. 2001;285(18):2339-2346.

19. Schweinhart LJ, Barnes HV, Weikart DP. *Significant benefits : the High-Scope Perry preschool study through age 27*. Ypsilanti, MI: High/Scope Press; 1993.

20. Alexander KL, Entwisle DR, Kabbani NS. The dropout process in life course perspective: Early risk factors at home and school. *Teachers College Record*. 2001;103(5):760-822.

21. Cairns RB, Cairns BD, Neckerman HJ. Early school dropout: Configurations and determinants. *Child Development*. 1989;60(6):1437-1452.

22. Ou S, Reynolds A. Predictors of educational attainment in the Chicago Longitudinal Study. *School Psychology Quarterly*. 2008;23(2):199-229.

23. Rumberger RW, Lim SA. *Why students drop out of school: A review of 25 years of research*. Santa Barbara, CA: California Dropout Research Project Report; 2008.

24. Campbell FA, Helms R, Sparling JJ, Ramey CT. Early-childhood programs and success in school: The Abecedarian study. In: Barnett WS, Boocock SS, eds. *Early care and education for children in poverty : promises, programs, and long-term results*. Albany, NY: Albany, NY: State University of New York Press; 1998:145-166.

25. Campbell FA, Ramey CT, Pungello E, Sparling J, Miller-Johnson S. Early childhood education: Young adult outcomes from the Abecedarian Project. *Applied Developmental Science*. 2002;6(1):42-57.

26. Ramey CT, Campbell FA, Burchinal M, Skinner ML, Gardner DM, Ramey SL. Persistent effects of early childhood education on high-risk children and their mothers. *Applied Developmental Science*. 2000;4(1):2-14.

27. Schweinhart LJ, Weikart DP. *Lasting differences : the High/Scope Preschool Curriculum Comparison Study through age 23*. Ypsilanti, Mich.: High/Scope Press; 1997.

28. Schweinhart LJ, Montie J, Xiang Z, Barnett WS, Belfield CR, Nores M. *Lifetime effects : the High/Scope Perry preschool study through age 40*. Ypsilanti, MI: High/Scope Press; 2005.

29. Campbell FA, Pungello EP, Burchinal M, Kainz K, Pan Y, Wasik BH, Barbarin OA, Sparling JJ, Ramey CT. Adult outcomes as a function of an early childhood educational program: an Abecedarian Project follow-up. *Developmental Psychology*. 2012;48(4):1033-1043.

30. Campbell FA, Pungello EP, Miller-Johnson S, Burchinal M, Ramey CT. The development of cognitive and academic abilities: Growth curves from an early childhood educational experiment. *Developmental Psychology*. 2001;37(2):231-242.

31. Ou S-R, Reynolds AJ. Early childhood intervention and educational attainment: Age 22 findings from the Chicago Longitudinal Study. *Journal of Education for Students Placed at Risk (JESPAR)*. 2006;11(2):175-198.

32. Reynolds AJ, Ou S, Temple JA. A multicomponent, preschool to third grade preventive intervention and educational attainment at 35 years of age. *JAMA Pediatrics*. 2018;172(3):247-256.

33. Reynolds AJ, Temple JA, Ou S-R, Robertson DL, Mersky JP, Topitzes JW, Niles MD. Effects of a school-based, early childhood intervention on adult health and well-being: A 19-year follow-up of low-income families. *Archives of Pediatrics & Adolescent Medicine*. 2007;161(8):730-739.

34. Oden S, Schweinhart LJ, Weikart DP. *Into adulthood : a study of the effects of Head Start*. Ypsilanti, MI: High/Scope Press; 2000.

35. Deming D. Early childhood intervention and life-cycle skill development: Evidence from Head Start. *American Economic Journal: Applied Economics*. 2009;1(3):111-134.

36. Garces E, Thomas D, Currie J. Longer-term effects of Head Start. *American Economic Review*. 2002;92(4):999-1012.

©2014-2026 ABILIO | SCHOOL SUCCESS

37. Ludwig J, Miller DL. Does Head Start improve children's life chances? Evidence from a regression discontinuity design. *The Quarterly Journal of Economics*. 2007;122(1):159-208.

38. Lee VE, Loeb S. Where do Head Start attendees end up? One reason why preschool effects fade out. *Educational Evaluation and Policy Analysis*. 1995;17(1):62-82.

39. McKey RH. The Impact of Head Start on Children, Families and Communities. Final Report of the Head Start Evaluation, Synthesis and Utilization Project. 1985.

40. Seitz V, Apfel NH, Rosenbaum LK, Zigler E. Long-term effects of projects Head Start and Follow Through: The New Haven Project. In: Consortium for Longitudinal Studies., ed. *As the twig is bent--lasting effects of preschool programs*. Hillsdale, N.J.: Lawrence Erlbaum Associates; 1983:299-332.

41. Barnett WS, Jung K, Youn M, Frede E. *Abbott preschool program longitudinal effects study: Fifth grade follow-up*. New Brunswick, NJ: National Institute for Early Education Research; 2013.

42. Dodge KA, Bai Y, Ladd HF, Muschkin CG. Impact of North Carolina's early childhood programs and policies on educational outcomes in elementary school. *Child Development.* 2017;88(3):996-1014.

43. Gormley WT, Phillips D, Anderson S. The Effects of Tulsa's Pre-K Program on Middle School Student Performance. *Journal of Policy Analysis and Management*. 2018;37(1):63-87.

44. Schweinhart LJ, Xiang Z, Daniel-Echols M, Browning K, Wakabayashi T. *Michigan Great Start Readiness Program evaluation 2012: High school graduation and grade retention findings*. Ypsilanti, MI: HighScope Educational Research Foundation; 2012.

45. Berlin LJ, Brooks-Gunn J, McCarton C, McCormick MC. The effectiveness of early intervention: examining risk factors and pathways to enhanced development. *Preventive medicine.* 1998;27(2):238-245.

46. Borman G, Hewes G. The long-term effects and cost-effectiveness of success for all. *Educational Evaluation and Policy Analysis*. 2002;24(4):243-266.

47. Ou S. Pathways of long-term effects of an early intervention program on educational attainment: Findings from the Chicago longitudinal study. *Journal of Applied Developmental Psychology.* 2005;26(5):578-611.

48. Reynolds A, Ou S. Paths of effects from preschool to adult well-being: a confirmatory analysis of the child-parent center program. *Child Development.* 2011;82(2):555-582.

49. Reynolds A, Ou S, Mondi C, Hayakawa M. Processes of early childhood interventions to adult well-being. *Child Development*. 2017;88(2):378-387.

50. Hill CJ, Gormley WT, Adelstein S. Do the short-term effects of a high-quality preschool program persist? *Early Childhood Research Quarterly*. 2015;32(Supplement C):60-79.

51. Barnett WS. Benefit-cost analysis of preschool education: Findings from a 25-year follow-up. *American Journal of Orthopsychiatry*. 1993;63(4):500-508.

52. Barnett WS, Masse LN. Comparative benefit–cost analysis of the Abecedarian program and its policy implications. *Economics of Education Review*. 2007;26(1):113-125.

53. Nores M, Belfield C, Barnett W, Schweinhart L. Updating the economic impacts of the High/Scope Perry Preschool Program. *Educational Evaluation and Policy Analysis*. 2005;27(3):245-261.

54. Reynolds AJ, Temple JA, Robertson DL, Mann EA. Age 21 Cost-Benefit Analysis of the Title I Chicago Child-Parent Centers. *Educational Evaluation and Policy Analysis*. 2002;24(4):267-303.

55. Reynolds A, Temple J, White B, Ou S, Robertson D. Age 26 Cost-Benefit Analysis of the Child-Parent Center Early Education Program. *Child Development*. 2011;82(1):379-404.

©2014-2026 ABILIO | SCHOOL SUCCESS

56. Berrueta-Clement JR, Schweinhart LJ, Barnett WS, Epstein AS, Weikart DP. *Changed lives : the effects of the Perry preschool program on youths through age 19*. Ypsilanti, Mich.: High/Scope Press; 1984.

57. Reynolds AJ. *Success in early intervention: the Chicago Child-Parent Centers*. Lincoln, Neb.: University of Nebraska Press; 2000.

58. Bailey D, Duncan GJ, Odgers CL, Yu W. Persistence and fadeout in the impacts of child and adolescent interventions. *Journal of Research on Educational Effectiveness*. 2017;10(1):7-39.

59. Woodhead M. When psychology informs public policy: The case of early childhood intervention. *American Psychologist*. 1988;43(6):443-454.

60. Anastasi A, Urbina S. Psychological testing. 7th ed. Upper Saddle River, N.J.: Prentice Hall; 1997.

61. Zigler E, berman W. Discerning the future of early-childhood intervention. *American Psychologist*. 1983;38(8):894-906.

62. Bronfenbrenner U. Is early intervention effective? In: Struening EL, Guttentag M, eds. *Handbook of evaluation research*. Beverly Hills, CA: Sage; 1975:519-603.

63. Currie J, Thomas D. School quality and the longer-term effects of head start. *Journal of Human Resources*. 2000;35(4):755-774.

64. Temple JA, Reynolds AJ. School mobility and achievement: Longitudinal findings from an urban cohort. *Journal of School Psychology*. 1999;37(4):355-377.

65. Reynolds AJ, Englund M, Ou S, Schweinhart LJ, Campbell FA. Paths of effects of preschool participation to educational attainment at age 21: A 3-study analysis. In: Reynolds AJ, Rolnick AJ, Englund MM, Temple JA, eds. *Childhood programs & practices in the first decade of life: A human capital integration*. New York: NY: Cambridge University Press; 2010:415-452.

66. Englund MM, White B, Reynolds AJ, Schweinhart LJ, Campbell FA. Health outcomes of the Abecedarian, Child-Parent Center, and HighScope Perry Preschool programs. In: Reynolds AJ, Rolnick AJ, Temple JA, eds. *Health and education in early childhood: Predictors, interventions, and policies*. New York: NY: Cambridge University Press; 2014:257-292.

67. Zigler E, Styfco SJ. Head Start and Beyond: A national plan for extended childhood intervention. New Haven, Conn: Yale University Press; 1993.

68. Karoly LA. Investing in the future: Reducing poverty through human capital investments. *Focus*. 2000;21(2):38-43.

69. Karoly LA, Kilburn MR, Bigelow JH, Caulkins JP, Cannon JS. *Assessing costs and benefits of early childhood intervention programs: Overview and application to the starting early starting smart program*. Seattle, WA: Casey Family Programs; Santa Monica: RAND; 2001.

70. Heckman JJ. Policies to foster human capital. *Research in Economics*. 2000;54(1):3-56.

71. Masse LN, Barnett WS. *A benefit cost analysis of the abecedarian early childhood intervention*. New Brunswick, NJ: National Institute for early education research; 2002.

72. Reynolds A, Ou S, Mondi C, Giovanelli A. Reducing poverty and inequality through preschool-to-third-grade prevention services. *American Psychologist*. 2019;74(6):653-672.

73. Miller LB, Bizzell RP. The Louisville Experiment: A comparison of four programs. In: Consortium for Longitudinal Studies, ed. *As the twig is bent--lasting effects of preschool programs*. Hillsdale, N.J.: Lawrence Erlbaum Associates; 1983:171-199.

74. Royce JM, Darlington RB, Murray HW. Pooled analyses: Findings across studies. In: Consortium for Longitudinal Studies., ed. *As the twig is bent--lasting effects of preschool programs*. Hillsdale, N.J.: Lawrence Erlbaum Associates; 1983:411-459.

©2014-2026 ABILIO | SCHOOL SUCCESS

Services or Programs that Influence Young Children (0-5) and Their School Completion/Academic Achievement

Penny Hauser-Cram, EdD

Boston College, Lynch School of Education, USA

May 2014, 2e éd. rév.

Introduction

Evidence is accumulating on the long-term benefits of participation in early education programs for children from low-income families. Effective early education programs are believed to influence later academic skills through increased cognitive skills, greater motivation to learn and an enhanced knowledge base at school entry,[1] all of which provide the child with further opportunities to promote academic engagement during the school years. If early education programs are effective, not only will children themselves benefit, but schools and society will also benefit through not having to provide costly services during later life stages.

Subject

Several important factors inform questions about the effectiveness of early education programs. The need for more quality early childhood programs has been increasing because over 64 % of mothers of young children are in the workforce, both in Canada[2] and the United States.[3] Further, much discussion on school readiness has focused on the importance of children's physical health, cognitive growth and learning, self-regulation and motivation, positive relationship with peers and cooperation with adults,[4] all of which are potential benefits of quality early education programs.

Since the 1970s, several studies on the effects of early education have been initiated. Most followed children through at least part of their elementary school experience[5] whereas a few followed participants into adulthood.[6,7] In a review of the major experimental studies, Ramey and Ramey[1] noted several common features of effective interventions. Such interventions are (1) initiated in infancy; (2) intensive, comprehensive and individualized; (3) directly provided to the child; (4) high quality with frequent program monitoring; and (5) continued in some form into the

©2014-2026 ABILIO | SCHOOL SUCCESS

early school years.

Problems

Numerous problems are inherent in conducting research on the longitudinal effects of early education services and programs.[8] Longitudinal studies are expensive and require long-term commitments from funding agencies. They are also prone to participant attrition, making studies that begin with reasonable sample sizes fall below acceptable limits after a few years. Further, often the most needy participants drop out, especially from comparison groups, limiting knowledge of effectiveness across diverse populations. And finally, measurement problems exist, as core constructs often require different measures at different life stages.

Research Context

Initial research on long-term effects of early education programs was restricted to studies conducted on demonstration programs located at single sites and enrolling relatively small samples (e.g. the Abecedarian project, the Brookline Early Education Project, the Perry Preschool Project). These studies were initiated in the 1970s, a time when fewer mothers were in the work force and fewer early childhood programs were available than today. Nevertheless, they have produced findings on the effects of early education on participants during the school-aged, adolescent and adult years. More recent research has focused on multi-site studies with fairly large samples and produced findings related to the school years.

Key Research Questions

The central question about the effectiveness of early childhood programs for children from low-income families is: To what extent do such programs make a difference in children's long-term academic outcomes? Related questions exist about which program features are associated with more positive outcomes. Additional questions focus on whether the quality of the school experiences subsequent to the early childhood program enhances or impedes the effects of early childhood experiences.

Recent Research Results

Several extensive reviews have been conducted on the effectiveness of early education programs. Brooks-Gunn[9] provided a briefing for the Subcommittee on Human Resources of the U.S. House of Representatives on the results of evaluations of high-quality early education

©2014-2026 ABILIO | SCHOOL SUCCESS

intervention programs. She concluded that centre-based programs, in comparison to home visiting programs and case management programs, have the most consistent positive effects on children. Further, when programs served a wide socioeconomic range of families, they appear to be most effective for children who are poor or near poor and/or have mothers with little education.

Barnett[10] conducted a thorough review of 36 studies on the effects of early education programs for children from low-income families. He concluded that such programs result in short-term increases in cognitive performance and long-term effects on school performance, grade retention, placement in special education and social adjustment. Nevertheless, not all programs yielded such benefits; some failed to follow participants through the school years, while others suffered from research design problems, such as lack of random assignment to program and comparison groups. Barnett identified two studies with long-term academic outcomes as outstanding in their methodological rigour.

The first of these, the Abecedarian Project[7,11] provided high-quality early child care and school-age educational support to 111 participants. Participants were randomly assigned to the child care and school-aged components. A total of 104 individuals participated in the follow-up study at age 21. Those who had received the early child-care program had higher academic skills and intellectual performance as young adults, had completed more years of education and were more likely to attend college. Benefits were more apparent for females than for males. The school-age intervention served to maintain the benefits of the early childhood component, but had weaker effects than the child care component.

The Perry Preschool Project[6] is a second study known for its methodological rigour. A total of 123 children entered this study at the age of three or four and were randomly assigned to a program or comparison group. Children in the program group received a high-quality, developmentally guided preschool program. A follow-up study conducted when participants were 27 years of age indicated that program participants had significantly higher rates of high-school completion (or its equivalent), earned higher salaries, had fewer arrests and had fewer out-of-wedlock births.

More recent interventions are also yielding positive outcomes. One promising program is the Chicago Child-parent Center (CPC).[12,13] In contrast to the two programs described above, which were model demonstration programs at a single site, CPC is part of the Chicago Public Schools and has centres in 24 locations. The program provides preschool education for children

©2014-2026 ABILIO | SCHOOL SUCCESS

beginning at age three and family support programs aimed at encouraging parent involvement in children's education. Such services are offered through second or third grade. A total of 1281 individuals (83.2% of the original sample) participated in a follow-up study at age 20. Those who had been in the preschool program had significantly more years of education, a higher rate of high-school completion and a lower rate of school drop-out in comparison to similar individuals who had not attended the program. Benefits appeared to be more pronounced for males than for females.

Conclusions

Longitudinal evaluation of early childhood programs is challenging due to participant attrition, especially differential attrition between the program and comparison group, and the difficulty of measuring core constructs, such as motivation over time. Nevertheless, evaluations of the more rigorous studies of early education programs for children living in low-income families indicate specific advantages for participants in terms of long-term academic outcomes, notably educational attainment and high school completion. Some studies (e.g. the Perry Preschool Project) also indicate social advantages for participants, such as a reduction in arrest rates and out-of-wedlock births, as well as increased earnings.A recent follow-up study of the Brookline Early Education Project reported that the urban young adults who had participated in the project during their infant through preschool years not only had increased earnings and greater educational attainment than their peers but also had more advantageous mental health and greater health efficacy.[14] Indeed, mental-health benefits, although seldom examined as an outcome of early education, may be central to academic achievement, as Hymel and Ford suggest.[15]Such benefits accrue when programs are of high quality, provide intensive centre-based services during the early childhood years and maintain continued support services to children and families during the first few years of school.

Implications

Although evidence is amassing on the effectiveness of intensive and high-quality preschool programs on children's later academic attainment, additional studies are needed to determine why some programs demonstrate benefits for females whereas others demonstrate benefits for males. More research is needed to determine the optimum age for program initiation, as some effective studies began in infancy and others were initiated during the early preschool years. Further, rather than additional studies of demonstration models, future research should focus on

©2014-2026 ABILIO | SCHOOL SUCCESS

programs that provide services in community settings, such as public schools. One critical question is how to scale up effective programs so they can reach a large number of children. Studies are also needed to consider the type of ongoing support that is most effective for children and families during the school years. Since results of rigorous evaluations of early education programs demonstrate clear long-term benefits for children, policies related to the provision of quality universal preschool education deserve careful consideration.

As Campbell and Wentzel both indicate, the congruence among the papers in this section on the associations between participation in high-quality preschool programs and later school completion is evident. Considered as a whole, however, the articles (including my own) are incomplete. In particular, although the empirical work on the links between preschool programs and school completion are by necessity based on preschool data from an earlier time, the need for preschool service models that are appropriate to our current population of preschoolers is great. The programs developed in the 1970s and 1980s were focused on a different population of preschoolers than we have today. Many immigrant children in the United States are English language learners, and their early education needs require complementary approaches to learning a new language and maintaining growth in their home language.[16] Further, productive teacher-parent relationships demand that teachers have sufficient cultural understanding of parents' beliefs about schooling, early education, child development, and parenting and of how teacher-parent value differences may affect children's academic life.[17] Finally, children with disabilities are now routinely included in many early education programs and the former early education models require revision to take into account the needs of children with a broader array of developmental pathways.

Wentzel maintains that the call for theoretical models to guide program development is crucial to the effectiveness of future preschool programs. Programs are developed based on both *explicit* and *implicit* models of change, and we are at a point in the early childhood community where we can be more deliberative in the models we select and in explicating our understanding of the services, activities and processes that promote positive development. The task, thus, is to develop those models based on developmental theory, while simultaneously considering the developmental processes through which prior programs achieved success, and attending to the needs of the full complement of current preschool children and their families.

References

1. Ramey CT, Ramey SL. Early intervention and early experience. *American Psychologist* 1998;53(2):109-120.

©2014-2026 ABILIO | SCHOOL SUCCESS

2. Statistics Canada. Social and Economic Characteristics of Individuals, Families and Households, 2001 Census. Available at: http://www.statcan.ca/english/IPS/Data/97F0021XCB2001001.htm. Accessed February 18, 2004.

3. U. S. Bureau of Labor Statistics. Working in the 21st century. Available at: http://www.bls.gov/opub/working/chart16.pdf. Accessed on February 18, 2004.

4. National Research Council and Institute for Medicine. *From neurons to neighborhoods: The science of early childhood development*. Washington, DC: National Academy Press; 2000.

5. Hauser-Cram P, Pierson DP, Walker DK, Tivnan T. *Early education in the public schools: Lessons from a comprehensive birth-to-kindergarten program*. San Francisco, Calif: Jossey-Bass; 1991.

6. Schweinhart LJ, Barnes HV, Weikart DP. *Significant benefits: the High/Scope Perry Preschool Study through age 27*. Ypsilanti, MI: High/Scope Press; 1993

7. Campbell FA, Ramey CT, Pungello E, Sparling J, Miller-Johnson S. Early childhood education: Young adult outcomes from the Abecedarian project. *Applied Developmental Science* 2002;6(1):42-57.

8. Lerner RM, Hauser-Cram P, Miller E. Assumptions and features of longitudinal designs: Implications for early childhood education. In: Spodek B, Saracho ON, Pelligrini AD, eds. *Yearbook in early education* Vol. 8. New York, NY: Teachers College Press; 1998:113-138

9. Brooks-Gunn J. Do you believe in magic? : What can we expect from early childhood intervention programs? *Society for Research in Child Development Social Policy Report* 2003;17(1).

10. Barnett WS. Long-term effects of early childhood programs on cognitive and school outcomes. *Future of Children* 1995;5(3):25-50.

11. Campbell FA, Pungello EP, Miller-Johnson S, Burchinal M, Ramey CT. The development of cognitive and academic abilities: Growth curves from an early childhood education experiment. *Developmental Psychology* 2001;37(2):231-242.

12. Reynolds AJ, Temple JA, Robertson DL, Mann EA. Long-term effects of an early childhood intervention on educational achievement and juvenile arrest. *JAMA - Journal of the American Medical Association* 2001;285(18):2339-2346.

13. Temple JA, Reynolds AJ, Miedel WT. Can early intervention prevent high school dropout? Evidence from the Chicago Child-Parent Centers. *Urban Education* 2000;35(1):31-56.

14. Palfrey JS, Hauser-Cram P, Bronson MB, Warfield ME, Sirin S, Chan E. The Brookline Early Education Project: A 25-year follow-up study of a family-centered early health and development intervention. *Pediatrics* 2005;116(1):144-152.

15. Hymel S, Ford L. School completion and academic success: The impact of early social-emotional competence. In: Tremblay RE, Barr RG, Peters RDeV, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2003:1-7. Available at: http://www.child-encyclopedia.com/documents/Hymel-FordANGxp.pdf. Accessed August 29, 2005.

16. Snow CE, Paez M. The Head Start classroom as an oral language environment: What should the performance standards be? In: Zigler E, Styfco SJ, eds. *The Head Start debates (friendly and otherwise*). Baltimore, Md: P.H. Brookes Publishing; 2004:113-128.

17. Hauser-Cram P, Sirin SR, Stipek D. When teachers' and parents' values differ: Teachers' ratings of academic competence in children from low-income families. *Journal of Educational Psychology* 2003;95(4):813-820.

©2014-2026 ABILIO | SCHOOL SUCCESS

Services or Programs that Influence Young Children's Academic Success and School Completion

Carol McDonald Connor, PhD, Frederick J. Morrison, PhD

University of Michigan, USA

May 2014, 2e éd. rév.

Introduction and Subject

Early childhood care and education/intervention programs have been shown to significantly enhance children's prospects for academic success by reducing the probability of referral to special education, grade retention, and leaving school prior to high school graduation, especially for children at risk for academic underachievement.[1-3] Risk factors include poverty, developmental and learning disabilities, belonging to an ethnic minority, and speaking English as a second language, among other things.[4,5] In addition, early childhood programs demonstrate significant return on investment over children's lifetimes according to cost-benefit analyses.[6] Perhaps one of the most important functions of early childhood programs is providing a strong foundation for literacy development, bearing in mind that poor academic skills are strongly associated with dropping out of school and delinquency.[7,8] However, there is an important caveat with regard to these research findings: only early childhood care and education programs of high quality are associated with positive outcomes. Poor quality programs appear to be associated with negative child outcomes[9] and, unfortunately, the very children most likely to benefit from early childhood programs are the least likely to be enrolled in high-quality programs.[10] New research is revealing how high-quality programs may be supporting children's language and literacy development and that the impact of specific preschool language and literacy activities may depend on children's language and emergent literacy skills.[11,12]

Problems, Research Context, and Research Questions

As educators and policy makers consider whether and how to implement high-quality early childhood care and education programs, there are two important issues to keep in mind:

©2014-2026 ABILIO | SCHOOL SUCCESS

1. In order to understand the potential impact of early childhood care and education programs, an understanding of the multiple factors that affect children's academic success and school completion is needed.
2. Based on an understanding of these multiple factors, determining which elements of early childhood education and intervention are associated with long-term positive effects on children's academic success is important.

There is a growing consensus about the benefits of early childhood programs; however there is considerable controversy about defining what high-quality early childhood care and education might be and what should be taught to very young children.[1,3,13] Recent research provides important insight and guidelines regarding these subjects.

Recent Research Results

A number of longitudinal studies, some using nationally representative samples, contribute to our body of knowledge regarding

1. the multiple factors that affect children's success in school
2. the aspects of early childhood programs that impact these multiple factors.

In the United States, such programs include studies of Head Start, Abecedarian and Highscope/Perry Preschool Programs,[2] the NICHD Early Childcare Research Network study (NICHD-ECRN), and the Early Childhood Longitudinal Study (ECLS), as well as smaller studies such as the Home-School Study.[14] Studies on specific interventions, such as Dialogic Reading[15] are also informative. New studies of preschool classroom activities are also revealing.[16] Summaries of the relevant research findings are provided below.

Multiple Influences on Children's Academic Success

Child factors

Perhaps the most robust predictors of children's school success are their early oral language skills, including vocabulary, use of complex sentences, and metalinguistic awareness (of which phonological awareness is one element).[4] Emergent literacy skills, including letter knowledge, knowledge about letter–sound correspondence and understanding the purposes of reading and writing,[4] are also associated with later school success.[17] Emerging evidence indicates that

©2014-2026 ABILIO | SCHOOL SUCCESS

children's self-regulation skills — their ability to maintain engaged focus, to stay on task, to inhibit inappropriate behaviours, and to delay gratification — may also predict later school success.[18-20,21,22] Overall, there is good evidence that parents and teachers, as well as home and school environments, can influence the development of these child skills.[14,16,18,20,23-26] Thus, early childhood programs that focus on strengthening children's language, literacy, and self-regulation across multiple contexts typically prove to be most effective in promoting school success.

Sociocultural factors

The effect of poverty, race/ethnicity, and community are distal factors that, research indicates, are associated with children's school success.[26,27] However, it is not always clear how these distal factors operate through more proximal factors such as parenting and schooling. Certainly, children's health and well-being, which are affected by socioeconomic status, can influence their ability to pay attention in class and to interact with parents, teachers, and peers.[26] There is also evidence that the achievement gap between ethnic/racial minority and majority students begins before children enter elementary school and may be related to the amount and ways that parents talk to their children and to the home learning environment.[5,8,14,28] Unfortunately, there is also good evidence that parents' educational level and socioeconomic status (SES) are positively related to the quality of the early childhood program in which their children are enrolled (NICHD-ECCRN studies) and the subsequent schooling their children receive.[8,27] Children from higher SES homes tend to attend higher quality early childhood programs and children from lower SES home tend to attend lower quality programs.[11]

Parenting

In general, the influence of parenting is greater than is the influence of early childhood programs on children's school success. In fact, the quality of parenting young children receive accounts for almost four times the variability in children's academic outcomes when compared to the independent effect of early childhood programs.[29] Distal factors such as socioeconomic status and culture/ethnicity/race tend to operate through the more proximal dimensions of parenting[30] including the home learning environment,[14] parents' warmth-responsivity,[31,32] and parental control and discipline.[33] Theoretically, then, early childhood programs that focus on fostering parenting skills and rich home learning environments should be, and are, very effective in promoting children's school success; albeit some studies indicate that programs that are solely parent-focused (i.e. with no center-based child focus) may not be as effective.[34] Early childhood

care and education programs that provide direct child intervention *and* foster close ties with parents, encourage effective parenting, and parenting behaviours that promote children's language, cognitive, and literacy skills are among the most effective programs with the strongest cost-benefits ratios.[26,35] For example, the Title 1 Chicago Child–Parents Centers, which provided both child center-based intervention as well as parent education, yielded a total societal benefit of more than $7 per dollar invested, taking into account reduced educational and criminal justice costs and increased taxes paid on the higher earnings of the participants.[6]

Early childhood care and education

More than 60% of the almost 20 million children under the age of five, living in the United States, will spend time in some form of regular childcare.[36] Thus, the quality of care all children receive while parents work is becoming an increasingly important consideration for service providers and policy makers. Although the effect of parenting is greater than that of early childhood programs, program quality still significantly predicts children's school success even after controlling for the effect of parenting.[29] We discuss the definitions of "high-quality" early childhood programs and their effects on children's school success in the next section. Social and policy implications surrounding parents working out of the home, such as family leave and workplace policies that make it easier for parents to combine work and family responsibilities deserve more discussion than we can provide in this paper and readers are referred to articles in this Encyclopaedia[37] and other resources.[13]

Defining high-quality early childhood care and education/intervention

One of the dilemmas when designing effective early childhood programs is that there are widely differing definitions of program quality.[3] For some, quality ends with physical plant, teacher credentials, and child–staff ratios. Yet these factors alone do not explain why some early childhood programs are effective in supporting children's academic success and others are not. In the most rigorous studies, quality is closely tied to definitions of child success. When the goals of early childhood programs differ, the meaning of "child success" and the measured outcomes differ. For example, success has been variously defined as children's school completion, delinquency, referral to special education, linguistic skills, cognitive ability, academic performance, and social development, including infant responsiveness, peer relations, and behaviour in the classroom.[9,10,38-44] Recently, with the passage of the *No Child Left Behind Act* in the U.S., publicly funded early childhood programs have been encouraged to increase their focus

©2014-2026 ABILIO | SCHOOL SUCCESS

on language and literacy skill development. Further, depending on definitions of child success, there is also evidence of child characteristics by instruction interactions so that early childhood activities that promote, for example, early literacy for one child, might not be effective for a child who has different skill strengths and weaknesses.[45,46]

Thus, in order to design high-quality preschool programs, service-providers and policy- makers need a clear sense of what the program is to accomplish. If the goal is to support children's academic success later in school and foster school completion, then high-quality programs should combine elements that are associated with children's "school readiness,"[3] which include developing language, literacy, and self-regulation, as well as support for parents, because, as discussed earlier, research indicates that each of these factors provides a foundation for school success. Further, where there is evidence of specific skills in individual children, these should be considered in the instructional strategies and developed through instruction interactions.

As noted previously, early childhood care and education programs that include strong support for parents and caregivers are among the most effective, with a strong societal return on investment. Parenting is a crucial predictor of children's school success and early childhood programs provide an opportunity to support parents in their efforts at home while supporting children directly in the classroom. Effective programs include home visiting and outreach efforts such as Head Start and the Title I Chicago Parent-Child centers,[6] parent literacy programs,[47] providing books to take home, and specific interventions, such as Dialogic Reading.[15] These parenting programs frequently support families' communities as well.[3]

One of the most consistent observations in early childhood classrooms where children went on to develop stronger academic skills was the linguistic environment of the classroom, including teacher-child interactions, teacher responsiveness, and teachers' styles of interacting with children. In these studies,[14,48-51] verbal interactions between the teacher and students were consistent predictors of children's early literacy and communicative competency. These programs frequently enhanced children's language and pre-reading skills and were associated with improved reading skills in later grades. For example, children in Head Start and Title 1 preschool classrooms where teachers used more wh-questions (i.e., who, what, where, when, and why) rather than yes–no questions or imperatives (i.e., commands such as, "sit down") tended to achieve higher scores on measures that predict later reading success.[45] Classroom transcripts revealed that when teachers used wh-questions, they tended to elicit more cognitively challenging talk,[14] including predicting, inferring, and enriching vocabulary, than when they used

©2014-2026 ABILIO | SCHOOL SUCCESS

yes–no questions or imperatives (i.e., commands such as “sit down). In classrooms where teachers interacted with preschoolers using more cognitively challenging talk, children demonstrated stronger vocabulary and reading comprehension skills in first grade and beyond than did children in classrooms where the teacher-child interactions were proportionally more didactic and directive.[14,52]

One reason the linguistic environment of early childhood programs may have such an important influence on literacy development is that young children must learn to talk and become competent users of language across a variety of settings.[52] Further, children may come to school with the discourse practices of their heritage discourse community, which may differ in important ways from the discourse practices of the school classroom.[53] Preschools can offer an opportunity for these children to learn English (in the U.S.), if they speak another language at home, and to learn the kinds and ways of talking that are generally preferred in schools, including the more formal interactions that occur in classrooms. Some educators[54] suggest that explicitly teaching children who may not learn classroom discourse routines at home (such as responding to and using wh-questions and using school grammar) may be more effective in supporting children’s later success in school than ignoring or accepting forms of English that may work against their ongoing academic achievement.[55] That is not to say that using a dialect other than school forms of English should be considered a risk factor for underachievement. New research indicates that for U.S. African-American Preschoolers, there is a U-shaped relation between frequency of African-American English (AAE) feature use and emergent language and literacy, including phonological awareness.[56,21,22] Children who used AAE features most or least frequently demonstrated stronger emergent literacy than did preschoolers who used AAE features with moderate frequency.

Beyond language skills, emerging evidence indicates that children’s early self-regulation predicts school success[21,22] and that parenting practices may influence its development.[5, 18] The importance of self-regulation is well established for older children.[57] However, it is not clear what role early childhood care and education programs might play or what teaching strategies might nurture its development. However, preschoolers who achieved higher scores on a task of self-regulation that required children to switch tasks demonstrated stronger growth in vocabulary, emergent literacy, and math than did preschoolers who had lower scores.[21,22] More research is needed in this area, especially focusing on how to improve preschoolers’ self-regulation in the classroom.

©2014-2026 ABILIO | SCHOOL SUCCESS

Although research is just emerging on specifically *why* and *how* to teach young children elements of literacy, over the past decade *what* children need to learn has been fairly well established:[1,17]

1. Letters and letter-sound correspondence in combination with phonological awareness, including rhyming, phonemic segmentation and blending
2. Emergent reading
3. Emergent writing
4. Basic mathematics concepts
5. Metacognitive aspects of literacy.

Children who begin first grade with strong skills in these areas experience greater success learning to read than do children with weaker skills. For example, in a nationally representative sample, children who began kindergarten already knowing their letters were stronger readers by the end of first grade than were children who did not[58] — an important advantage that should follow them through school.[59] Phonological awareness (e.g., rhyming) is one of the most important predictors of later reading ability and is a teachable skill that, when explicitly taught in combination with letters, promotes stronger reading skills.[60] Pretending to read storybooks, emergent reading,[4,61] and pretending to write, also called invented spelling or emergent writing,[62] are also positively associated with children's early literacy, as is dialogic reading. In fact, dialogic reading (teachers or parents read storybooks with children in cognitively challenging ways) can be effectively taught to parents and teacher and leads to stronger early literacy skills.[63]

The role of explicit instruction in emergent literacy, specifically letter knowledge, phonological awareness, and other print concepts is less well understood but new research indicates that a combination of child-centered strategies[64] and explicit instruction may yield stronger results than either one alone.[12] In addition, the content of this explicit instruction appears to have a differential impact on preschoolers' emergent literacy and vocabulary growth depending on the skills with which they enter preschool.[16] In this study, preschoolers with weaker emergent literacy and vocabulary skills demonstrated greater growth when they interacted with their teacher in activities specifically targeting emergent literacy (phonological awareness, shared book reading). For preschoolers with stronger skills, a wider variety of activities, both explicit and implicit, supported their emergent literacy and vocabulary growth. Moreover, the more time

©2014-2026 ABILIO | SCHOOL SUCCESS

preschoolers spent in these activities, the stronger was their emergent literacy growth – the less time they spent in these activities, the less their emergent literacy growth. The amount of time preschoolers spent in play (dramatic play centers, blocks, etc.) positively predicted vocabulary growth, especially for preschoolers with weaker vocabulary skills. Play was not, however, associated with emergent literacy growth. This specificity has been observed for parent-child interactions and shared book reading as well.[65,66]

Elements of emergent literacy and language (letter knowledge, phonological awareness, etc.) can be taught through playful activities, such as pretend story writing, word and rhyming games, shared storybook reading, number games, puzzles, and poetry, and by attending to the expectations for self-regulated behaviour in the classroom. Children who begin school at a disadvantage, with low vocabulary skills and no experience with letters, reading, and word games may especially benefit from such activities.[16] For example, Head Start children who began the school year with smaller vocabularies generally achieved stronger early literacy skills when their teachers talked more frequently about letters, letter sounds, and rhyming, played word games, and encouraged children to write their names[45] and used invented spelling.[62] However, such talk affected growth in these skills much less when children started the school year with strong vocabulary skills. For these children, more frequent focus on metacognitive aspects of literacy, such as talk about storybooks, the purpose of reading and writing, authors, and the act of writing appeared to be related to stronger early literacy skill growth.[45] Thus, the effectiveness of specific instructional strategies may depend on children's initial skill levels and the child outcome of interest.[16]

These kinds of *child by instruction* interactions are evident in the early elementary grades as well.[67,68] With this in mind, the term "high-quality" program may be misleading because what might be high quality for one child may be ineffective, and thus low quality, for another, depending on the goals of the early childhood program. It may be more useful to use the term "effective" instead of "high-quality." This would encourage focus on child outcomes rather than a "one-size-fits-all" silver bullet approach to designing effective early childhood care and education programs.

Conclusions and Implications

Early childhood care and education programs provide significant support for children's academic success, measurable societal returns on investment, and a clear strategy for supporting school

completion, especially for children at risk for school failure. However, while the effectiveness of early childhood programs is closely tied to each of these benefits, ineffective programs may actually have a negative impact on children's academic achievement. Effective early childhood programs take into account the multiple factors that influence children's school success, including parents, teachers, home and classroom. Programs that provide two-generation support (including both the child and parent/caregiver) have consistently been found to be associated with school success. Specific strategies, such as parent outreach and education, dialogic reading, and home visits, are quite effective in supporting parenting skills, fostering parent sensitivity and discipline practices, as well as improving children's home learning environment. Early childhood programs that provide a linguistically rich learning environment with explicit focus on developing emergent literacy, where cognitively challenging talk is encouraged and emergent literacy instruction is tailored to the needs of the students appear to be most effective in supporting language and literacy development and providing critical foundational skills for school success. These foundational skills include knowing letters and letter–sound relations, phonological awareness, basic math concepts, emergent reading and writing, and an understanding of the purposes of reading, writing, and math. Emerging research indicates that nurturing children's self-regulation skills may provide another important strategy for improving their school success. Overall, effective early childhood care and education programs are proving to be one of the most powerful means of supporting families and their children on the road to academic success and school completion.

References

1. Bowman BT, Donovan S, Burns MS. *Eager to learn: Educating our preschoolers*. Washington DC: National Academy Press; 2001.
2. Barnett SW. Long-term effects of early childhood programs on cognitive and school outcomes. *Future of Children* 1995;5(3):25-50.
3. Shonkoff JP, Meisels SJ, eds. *Handbook of Early Childhood Intervention*. 2nd ed. New York: Cambridge University Press; 2000.
4. Snow CE, Burns MS, Griffin P, eds. *Preventing reading difficulties in young children*. Washington, DC: National Academy Press; 1998. Council NR, ed.
5. Shonkoff JP, Phillips DA, eds. *From neurons to neighborhoods: The science of early childhood development*. Washington DC: National Academy Press; 2000.
6. Reynolds AJ, Temple JA, Robertson DL, Mann EA. Age 21 cost-benefit analysis of the Title I Chicago child-parent centers. *Educational Evaluation and Policy Analysis* 2003;24(4):267-303.
7. Hallahan DP, Kauffman JM, Lloyd JW. *Introduction to learning disabilities*. 2nd ed. Boston: Allyn and Bacon; 1999.
8. Jencks C, Phillips M. *The Black-White test score gap*. Washington, DC: Brookings Institute; 1998.

©2014-2026 ABILIO | SCHOOL SUCCESS

9. Phillips D, McCartney K, Scarr S. Child-care quality and children's social development. *Developmental Psychology* 1987;23(4):537-543.
10. Peisner-Feinberg ES, Burchinal MR. Relations between preschool children's child-care experiences and concurrent development: The cost quality and outcomes study. *Merril Palmer Quarterly* 1997;43(3):451-477.
11. Connor CM, Son S-H, Hindman AH, Morrison FJ. Teacher qualifications, classroom practices, family characteristics, and preschool experience: Complex effects on first graders' vocabulary and early reading outcomes. *Journal of School Psychology* 2005;43(4):343-375.
12. Graue E, Clements MA, Reynolds AJ, Niles MD. More than teacher directed or child initiated: Preschool curriculum type, parent involvement, and children's outcomes in the Child-Parent Centers. *Education Policy Analysis Archives* 2004;12(72):1-38.
13. Brooks-Gunn J, Han W-J, Waldfogel J. Maternal employment and child cognitive outcomes in the first three years of life: NICHD study of early child care. *Child Development* 2002;73(4):1052-1072.
14. Dickinson DK, Tabors PO. *Beginning literacy with language*. Baltimore, Md: Paul H. Brookes Publishing; 2001.
15. Whitehurst GJ, Arnold DS, Epstein JN, Angell AL, Smith M, Fischel JE. A picture book reading intervention in day care and home for children from low-income families. *Developmental Psychology* 1994;30(5):679-689.
16. Connor CM, Morrison FJ, Slominski L. Preschool instruction and children's literacy skill growth. In review.
17. Rayner K, Foorman BR, Perfetti CA, Pesetsky D, Seidenberg MS. How psychological science informs the teaching of reading. *Psychological Science in the Public Interest* 2001;2(2):31-74.
18. McClelland MM, Morrison FJ, Holmes DL. Children at risk for early academic problems: The role of learning-related social skills. *Early Childhood Research Quarterly* 2000;15(3):307-329.
19. Kurdek L, Sinclair RJ. Psychological, family, and peer predictors of academic outcomes is first through fifth-grade children. *Journal of Educational Psychology* 2000;92:449-547.
20. Li-Grining C, Pittman LD, Chase-Lansdale PL. Temperament and early childhood development: Individual differences among young children in low-income urban communities. Submitted for publication.
21. Cameron CE, McClelland MM, Jewkes AM, Connor CM, Farris CL, Morrison FJ. Touch your toes! Describing a behavioral measure of preschool self-regulation. In review.
22. McClelland MM, Cameron CE, Farris CL, Jewkes AM, Connor CM, Morrison FJ. Links between early self-regulation and vocabulary, literacy and math skills. In review.
23. Huttenlocher J, Haight W, Bryk A, Seltzer M, Lyons T. Early vocabulary growth: Relation to language input and gender. *Developmental Psychology* 1991;27(2):236-248.
24. Huttenlocher J, Vasilyeva M, Cymerman E, Levine S. Language input and child syntax. *Cognitive Psychology* 2002;45(3):337-374.
25. Hart B, Risley TR. *Meaningful differences in the everyday experience of young American children*. Baltimore, Md: Paul H. Brookes Publishing; 1995.
26. Morrison FJ, Bachman HJ, McDonald Connor C. *Improving literacy in America: guidelines from research*. New Haven, Conn: Yale University Press; 2005.
27. McLoyd VC. Socioeconomic disadvantage and child development. *American Psychologist* 1998;53(2):185-204.
28. Tabors PO. *One child, two languages*. Baltimore, Md: Paul H. Brookes; 1997.
29. NICHD-ECCRN. Does amount of time spent in child care predict socioemotional adjustment during the transition to kindergarten? *Child Development* 2003;74(4):969-1226.

©2014-2026 ABILIO | SCHOOL SUCCESS

30. Bachman HJ. How did we get here? Examining the sources of White-Black differences in academic achievement. Paper presented at: Biennial meeting of the Society for Research in Child Development; 1999; Albuquerque, NM.

31. Berlin LJ, Brooks-Gunn J, Spiker D, Zaslow MJ. Examining observational measures of emotional support and cognitive stimulation in Black and White mothers of preschoolers. *Journal of Family Issues* 1995;16(5):664-686.

32. Tamis-LeMonda CS, Bornstein MH, Damast AM. Responsive parenting in the second year: Specific influences on children's language and play. *Early Development and Parenting* 1996;5(4):173-183.

33. Chase-Lansdale PL, Pittman LD. Welfare reform and parenting: Reasonable expectations. *Future of Children* 2002;12(1):167-183.

34. Gomby DS, Culross PL, Berhrman RE. Home visiting: Recent program evaluation - Analysis and recommendations. *Future of Children* 1999;9(1):4-26.

35. Karoly LA, Kilburn MR, Bigelow JH, Caulkins JP, Cannon JS, Chiesa JR. *Assessing costs and benefits of early childhood intervention programs: Overview and application to the starting early starting smart program*. Santa Monica, Calif: RAND; 2001.

36. Smith K. *Who's minding the kids? Child care arrangements: Spring 1997*. Washington, DC: U.S. Census Bureau; 2002.

37. Kamerman SB. Maternity, paternity, and parental leave policies: The potential impacts on children and their families. In: Tremblay RE, Barr RG, Peters RDeV, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec; Centre of Excellence for Early Childhood Development; 2003:1-4. Available at: http://www.child-encyclopedia.com/documents/KamermanANGxp.pdf. Accessed May 15, 2003.

38. Barnett WS, Frede EC, Mobasher FH, Mohr P. The efficacy of public preschool programs and the relationship of program quality to efficacy. *Education Evaluation and Policy Analysis* 1987;10(1):37-49.

39. Bryant DM, Burchinal M, Lau LB, Sparling JJ. Family and classroom correlates of Head Start children's developmental outcomes. *Early Childhood Research Quarterly* 1994;9(3-4):289-309.

40. Bryant DM, Peisner-Feinberg ES, Clifford RM. *Evaluation of public preschool programs in North Carolina*. Chapel Hill, NC: University of North Carolina; 1993. ED373882.

41. Campbell FA, Ramey CT. Effects of early intervention on intellectual and academic achievement: A follow-up study of children from low income families. *Child Development* 1994;65(2):684-698.

42. Lee VE, Brooks-Gunn J, Schnur E, Liaw F-R. Are Head Start effects sustained? A longitudinal follow-up comparison of disadvantaged children attending Head Start, no preschool, and other preschool programs. *Child Development* 1990;61(2):495-507.

43. Wasik BH, Ramey CT, Bryant DM, Sparling JJ. A longitudinal study of two early intervention strategies: Project CARE. *Child Development* 1990;61(6):1682-1696.

44. Burchinal MR, Campbell FA, Bryant DM, Wasik BH, Ramey CT. Early intervention and mediating processes in cognitive performance of children of low-income African American families. *Child Development* 1997;68(5):935-954.

45. Connor CM. *Preschool children and teachers talking together: The influence of child, family, teacher, and classroom characteristics on children's developing literacy* [Dissertation]. Ann Arbor, Mich: Educational Studies, University of Michigan; 2002.

46. Morrison FJ, Connor CM. Understanding schooling effects on early literacy. *Journal of School Psychology* 2002;40(6):493-500.

47. Neuman SB. Social contexts for literacy development: a family literacy program. In: Roskos KA, Christie JF, eds. *Play and literacy in early childhood: research from multiple perspectives*. Mahwah, NJ: Lawrence Erlbaum Associates; 2000:153-168.

©2014-2026 ABILIO | SCHOOL SUCCESS

48. Smith MW, Dickinson DK. Describing oral language opportunities and environments in Head Start and other preschool classrooms. *Early Childhood Research Quarterly* 1994;9(3-4):345-366.

49. Dickinson DK. Book reading with preschoolers: Coconstruction of text at home and at school. *Early Childhood Research Quarterly* 1992;7(3):323-346.

50. Dickinson DK, Smith MW. Long-term effects of preschool teachers' book readings on low-income children's vocabulary and story comprehension. *Reading Research Quarterly* 1994;29(2):105-122.

51. Buzzelli CA. The moral implications of teacher-child discourse in early childhood classrooms. *Early Childhood Research Quarterly* 1996;11(4):515-534.

52. Gleason JB. *The development of language*. Boston, Mass: Allyn and Bacon; 1997.

53. Heath SB. *Ways with words*. Cambridge, England: Cambridge University Press; 1983.

54. Delpit L. *Other people's children: cultural conflict in the classroom*. New York, NY: The New Press; 1995.

55. Scarborough HS, Charity AH, Griffin D. Is unfamiliarity with "School English" (SE) related to reading achievement by African-American students? Paper presented at: SSSR; June 2002; Chicago, Ill.

56. Connor CM, Craig HK. African American preschoolers' use of African American English and their emergent literacy development: A complex relation. *Journal of Speech, Language and Hearing Research*.In press.

57. Stone NJ. Exploring the relationship between calibration and self-regulated learning. *Educational Psychology Review* 2000;12(4):437-475.

58. Catts HW. The early identification of language-based reading disabilities. *Language, Speech, and Hearing Services in Schools* 1997;28(1):86-89.

59. Entwisle DR, Alexander KL, Olson LS. *Children, schools, and inequality*. Boulder, Colo: Westview Press; 1997.

60. Bradley L, Bryant PE. Categorizing sounds and learning to read -- a causal connection. *Nature* 1983;301(3):419-421.

61. Sulzby E. Children's emergent reading of favorite storybooks: A developmental study. *Reading Research Quarterly* 1985;20(4):458-481.

62. Lombardino LJ, Bedford T, Fortier C, Carter J, Brandi J. Invented spelling: Developmental patterns in kindergarten children and guidelines for early literacy intervention. *Language, Speech, and Hearing Services in Schools* 1997;28(4):333-343.

63. Whitehurst GJ, Epstein JN, Angell AL, Payne AC, Crone DA, Fischel JE. Outcomes of emergent literacy intervention in Head Start. *Journal of Educational Psychology* 1994;86(4):542-555.

64. Bowman BT, Donovan MS, Burns MS, eds. *Eager to learn: Educating our preschoolers*. Washington, DC: National Academy Press; 2000. Available at: http://www.nap.edu/books/0309068363/html/. Accessed December 9, 2005.

65. Senechal M, LeFevre JA, Smith-Chant BL, Colton KV. On refining theoretical models of emergent literacy: The role of empirical evidence. *Journal of School Psychology* 2001;39(5):439-460.

66. Senechal M, LeFevre JA, Thomas EM, Daley KE. Differential effects of home literacy experiences on the development of oral and written language. *Reading Research Quarterly* 1998;33(1):96-116.

67. Connor CM, Morrison FJ, Petrella JN. Effective reading comprehension instruction: Examining child by instruction interactions. *Journal of Educational Psychology* 2004;96(4):682-698.

68. Connor CM, Morrison FJ, Katch EL. Beyond the reading wars: The effect of classroom instruction by child interactions on early reading. *Scientific Studies of Reading* 2004;8(4):305-336.

©2014-2026 ABILIO | SCHOOL SUCCESS

Relationship Between Preschool Programs and School Completion: Commentary on Hauser-Cram, McDonald Connor and Morrison, and Ou and Reynolds

Frances A. Campbell, PhD

Frank Porter Graham Child Development InstituteUniversity of North Carolina, Chapel Hill, USA

May 2014, 2e éd.

Introduction

Without exception, scholars who have examined the evidence that early childhood programs can positively affect school completion agree that such programs do enhance the likelihood of school completion for children growing up in poverty. The papers approach the question from different perspectives. Hauser-Cram[a] discusses a number of problems that make it hard to give definitive answers to this question, then summarizes conclusions reached by others who have considered the matter, and finally describes three preschool programs that have demonstrated positive, long-lasting effects on educational attainment for poor children. Connor and Morrison[b] go into more detail about background factors associated with academic attainment; they discuss the evidence for and against targeting the child or the parent as the primary focus of an early childhood program, and show that the field has not always been specific about what exactly the goal of an early childhood program should be: child language, pre-literacy skills, parenting practices, or teacher behaviours. Ou and Reynolds defined precisely what they meant by “early childhood program” and summarized the evidence emerging from the eight studies that met their definition (children were in “treatment” between the ages of three and four years, and data existed to examine long-term educational achievement). These scholars included a useful summary table describing outcomes from the studies that met their criteria.[3]

Research and Conclusions

Obviously, the more carefully controlled experimental studies, such as the *Perry Preschool* and the *Abecedarian* programs, have the strongest evidence of benefit. Although both have relatively small samples, sample size is partly offset by good experimental design and low attrition.

©2014-2026 ABILIO | SCHOOL SUCCESS

Importantly, the much larger *Chicago Child-Parent Center* study has comparable evidence of long-term benefits. For the most widely offered of all preschool programs, *Head Start*, the evidence of long-term efficacy is still mixed.

There are some differences among the authors as to the best model through which early childhood programs can influence school completion, but strong evidence of the superiority of one service delivery model over another is lacking. Connor and Morrison conclude that best practice combines some form of family treatment with direct services to children. However, if school completion is the criterion in question, long-term outcomes from the *Abecedarian* study do not support the idea that family focus is crucial. The evidence is that the child-focused preschool program had a stronger effect on young adult educational attainment than did a more family-centered program provided in the primary grades.

This is not to argue that a child-focused preschool program can nullify the effects of the early home environment. The *Abecedarian* analyses suggest that centre-based preschool educational programs operate to some extent independently of the home environment to influence children's development – both contribute, and the better the quality of the early environment, the better the child is likely to do in school. However, it has not been proven that adding a parent-focused component onto a child-centered preschool experience leads to cognitive/academic benefit over and above what the child-focused program alone provides.

A randomized study that addressed the importance of adding a parent component to a centre-based early childhood education experience was the *Carolina Approach to Responsive Education* (Project CARE). In this study, one group of children had centre-based treatment to which a family education component was added, while a second group of children had the family education component alone. Children treated in both ways were compared to untreated controls. Children with centre-based education plus home visits outperformed the control group during the early childhood years, but those with home visits alone did not.[1,2]

Data from the *Perry Preschool Project* were used to test whether long-term positive benefits seemed to come from enhancement of the cognitive development of study participants or from positive effects on the family. The results indicated that direct cognitive enhancement was the more likely mechanism. The *Abecedarian* study tested mediators of the effects of early childhood programs on long-term academic test scores (through age 21) and found that, for both reading and math achievement, the effects of the early childhood program were mediated through

©2014-2026 ABILIO | SCHOOL SUCCESS

program effects on early cognitive development.[3] Similarly, the *Abecedarian* data indicate that both maternal IQ and the early home environment exert main effects on long-term educational attainment, but when the models are tested for mediation, it can be shown that maternal IQ influences educational attainment through its effect on the quality of the early childhood home environment.

Ou and Reynolds suggest three models that might account for the benefit of early childhood program on school completion: direct cognitive benefit to the individual child leading to better school progress across the years; positive changes for the family that influence the extent to which the child adapts to school; and support for schools such that children have better attendance and less mobility across schools, thus experience more continuity across the years, thereby learning more effectively.

Connor and Morrison contribute unique comments on what components of early education lead to success in learning to read. They also make an excellent point about the need to treat each young child as an individual, tailoring the early education to match his or her developmental stage and learning style.

Implications for Development and Policy

Cost/benefit analyses indicate that early childhood programs can save society up to $7 for each dollar spent in the early years due to reductions in grade retention and use of special services, in terms of higher earning potential, and due to reductions in the societal cost of lawbreaking. Where early childhood treatment did not appear to be associated with a reduction in crime, the cost benefit was not so powerful.[4]

These papers are unanimous in their support for early childhood programs, although they differ to some extent in what they emphasize and on just how child-focused, centre-based programs, parent programs and school-based programs best combine to influence school completion. The implications are similar, however. Young children at risk, especially those growing up in poverty, can derive great benefit from high-quality early childhood programs. Conversely, poverty makes it more likely that children will have poor quality preschool programs – or none at all. High-quality early childhood programs are those that focus on the individual child and tailor his or her education to what is needed to prepare for later success. Money spent during the early years is cost-beneficial for society. Policy makers need to keep emphasizing the importance of the early

years, and making resources available to ensure that poor children have access to high-quality care that also ensures they receive preschool education designed to give them the best preparation for school success and school completion.

References

1. Wasik BH, Ramey CT, Bryant DM, Sparling J. A longitudinal study of two early intervention strategies: Project CARE. *Child Development* 1990;61(6):1682-1696.
2. Burchinal MR, Campbell FA, Bryant DM, Wasik BM, Ramey CT. Early intervention and mediating processes in cognitive performance of children of low-income African American families. *Child Development* 1997;68(5):935-954.
3. Campbell FA, Pungello EP, Miller-Johnson S, Burchinal M, Ramey CT. The development of cognitive and academic abilities: growth curves from an early childhood educational experiment. *Developmental Psychology* 2001;37(2):231-242.
4. Masse L. A benefit-cost analysis of the Carolina Abecedarian Preschool program. Paper presented in: Campbell F, Chair, What's a good early childhood education worth and why? Symposium presented at: the Biennial Meeting of the Society for Research in Child Development; April 26, 2003; Tampa, Fla.

Notes:

[a] Comments on original paper published by Penny Hauser-Cram in 2004. To have access to this article, contact us at cedje-ceecd@umontreal.ca.

[b] Comments on original paper published by Carol McDonald Connor & Frederick J. Morrison in 2004. To have access to this article, contact us at cedje-ceecd@umontreal.ca.

©2014-2026 ABILIO | SCHOOL SUCCESS

The Links between Preschool Programs and School Completion Comments on Hauser-Cram, McDonald Connor and Morrison, and Ou and Reynolds

Kathryn R. Wentzel, PhD

University of Maryland, USA

May 2014, 2e éd.

Comments on:

1. Services or Programs that Influence Young Children's Academic Success and School Completion, Carol McDonald Connor and Frederick J. Morrison
2. Services or Programs that Influence Young Children (0-5) and Their School Completion/Academic Achievement, Penny Hauser-Cram
3. Preschool Education and School Completion, Suh-Ruu Ou and Arthur J. Reynolds

Introduction

The papers by Connor and Morrison, Hauser-Cram, and Ou and Reynolds provide a clear and comprehensive overview of research and related issues relevant to preschool education and school readiness. As noted by these authors, the topic of early childhood education should be of utmost interest to educators and policy-makers alike; increasingly, evidence supports conclusions that some programs can promote short-term gains in a number of important cognitive and social domains, as well as academic attainment and school completion many years later. Moreover, these programs appear to be especially beneficial for at-risk children.

Research and Conclusions

Across the three papers, there is general consensus concerning what is known about early child-care and education programs and the challenges that implementation and evaluation of these programs present. Indeed, many scholars agree that the most pronounced and consistent effects of early childhood programs are on children's language and literacy skills, with some evaluations also documenting positive social and affective outcomes; other long-term effects of some model programs have included increased rates of school completion.[1,2,3] It is also clear from the

©2014-2026 ABILIO | SCHOOL SUCCESS

literature that positive long-term effects for children tend to be greatest when they attend model programs that begin services at birth and extend into the elementary-school years, that integrate efforts to support positive parenting with school-based instruction and that employ highly skilled teachers. Connor and Morrison, Hauser-Cram, and Ou and Reynolds also appear to agree that in order to make significant progress toward greater understanding of these findings, researchers must increase efforts to define and interpret what is meant by quality and long-term success, implement and evaluate model programs on a larger scale and utilize theoretical models to identify the mechanisms and multiple factors that can explain why certain programs appear to have significant, positive effects on children's lives.

These interpretations of the extant literature are thoughtful and well grounded in the literature. Therefore, in response to these papers, I would like to expand on several points and offer some additional perspectives on how to approach some of these challenges. A central issue raised in these papers relates to the multiple definitions of program quality and success that appear in the literature. Connor and Morrison argue that clearly articulated goals for early childhood programs are often lacking. Ou and Reynolds extend this argument by suggesting that, although short-term social and cognitive gains have been cited as meaningful outcomes that are influenced by quality programs, the ultimate and most important goal of early childhood programs should be educational attainment.

Historically, the explicit target of formal educational programs has been to develop intellectual and academic skills that contribute to a well-functioning citizenry. However, policy-makers, as well as parents and educators, have also acknowledged the important contributions of schooling to the development of children's social and self-regulatory skills, including the development of positive interpersonal relationships, social perspective-taking skills, motivation to achieve valued social and academic outcomes and positive educational aspirations.[4] This tradition of promoting multiple goals for school children underscores the notion that being a successful student and ultimately a competent citizen requires the development of many skills. Therefore, a focus on the accomplishment of distal goals such as educational attainment requires concomitant attention to goals more proximal to early childhood development, such as social and self-regulatory functioning and social adjustment to school. In turn, achieving these developmental milestones should contribute in positive ways to later academic accomplishments and attainments. In fact, much research on elementary-level and secondary-level students documents significant correlations between social competencies and positive academic outcomes.[5]

©2014-2026 ABILIO | SCHOOL SUCCESS

In line with this suggestion, I agree wholeheartedly with Ou and Reynolds' call for further development and use of theoretical models to guide work in this area. Without conceptual frameworks to guide systematic hypothesis testing, it is not possible to make any clear identification of the underlying causal mechanisms that can inform practitioners about how and why specific practices work better than others. Towards this end, I would propose that researchers make better use of what we know about effective parenting to identify components of model programs. As noted in each paper, parenting factors explain a significant and meaningful proportion of the variance in school success over and above that explained by program effects. In light of these findings, it is essential that programs provide services to parents that can enhance parenting skills, parent-child communication strategies and parental efficacy for child-rearing and for interacting with educational institutions. These and other positive aspects of parenting can only serve to enhance the overall effects of more child-centred interventions at school.

In addition, however, it is reasonable to ask a slightly different question: what do we know about effective parenting that can be incorporated into and thus improve early childhood programs? There is widespread recognition that specific parenting practices are central to the development of childhood competencies.[6,7] Parents who provide children with appropriate levels of control by consistently enforcing rules and providing structure for children's activities; who communicate expectations to perform up to one's potential as well as to practice age-appropriate levels of self-reliance and self-control; who engage in democratic communication styles that solicit children's opinions and feelings; and who express warmth and approval have children who thrive socially as well as cognitively.[8] In addition, effective parents tend to be those who model appropriate values and skills [9] and who scaffold their children to be more self-reliant learners. [10]

Although it is critical for parents to be taught these skills, it is reasonable to assume that teachers can also be taught how to employ these strategies and that their use will increase the likelihood that their students will thrive academically and socially in the classroom.[11] In fact, in studies of elementary school-aged children, teacher provisions of structure, guidance and autonomy have been related to a range of positive motivational as well as academic outcomes.[12,13] Moreover, young children's adjustment to school has been related to teacher-student relationships characterized by warmth, absence of conflict and open communication.[14] Taking these findings one step further, it is likely that preschool teachers who interact with children in a manner consistent with "best practices" of parents will also significantly increase these

©2014-2026 ABILIO | SCHOOL SUCCESS

children’s chances of developing a positive attitude toward schooling as well as valuable social and academic skills.

Implications

Connor and Morrison, Hauser-Cram, and Ou and Reynolds provide a set of recommendations for improving our understanding of the effects of early childhood programs. Support for longitudinal and large-scale studies, clarification of program goals, theory development and greater focus on family functioning are laudable objectives for the field to pursue. In addition, I would argue that program goals should be multi-faceted, targeting developmentally appropriate skills of young children that will facilitate the achievement of more long-term goals into adulthood. Moreover, program developers must utilize conceptual models that identify multiple outcomes that can be linked to the achievement of more distal educational outcomes. In this regard, there is much to be learned from research on what parents can do to promote the development of cognitive, social and affective competencies in their children. Implementing these practices into early childhood programs should contribute to a basic understanding of how and why some early childhood teachers promote positive outcomes in children while others do not.

References

1. Ramey CT, Ramey SL. Early intervention and early experience. *American Psychologist* 1998;53(2):109-120.
2. Ramey CT, Campbell FA, Burchinal M, Skinner ML, Gardener DM, Ramey SL. Persistent effects of early childhood education on high-risk children and their mothers. *Applied Developmental Science* 2000;4(1):2-14.
3. Reynolds AJ, Temple JA, Robertson DL, Mann EA. Long-term effects of an early childhood intervention on educational achievement and juvenile arrest. *JAMA - Journal of the American Medical Association* 2001;285(18):2339-2346.
4. Wentzel KR. Social competence at school: Relations between social responsibility and academic achievement. R*eview of Educational Research* 1991;61(1):1-24.
5. Wentzel KR. School adjustment. In: Reynolds W, Miller G, eds. *Handbook of psychology. Vol. 7: Educational Psychology*. New York, NY: Wiley; 2003:235-258.
6. Grusec JE, Goodnow JJ. Impact of parental discipline methods on the child's internalization of values: A reconceptualization of current points of view. *Developmental Psychology* 1994;30(1):4-19.
7. Maccoby EE, Martin JA. Socialization in the context of the family: Parent-child interaction. In: Mussen PH, ed. *Handbook of child psychology*. Vol 4. New York, NY: Wiley; 2003:1-1001
8. Baumrind, D. Current patterns of parental authority. *Developmental Psychology Monograph* 1971;4(1, Pt.2):1-103.
9. Bandura A. *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall; 1986.
10. Wertsch JV. *Vygotsky and the social formation of mind*. Cambridge, Mass: Harvard University Press; 1985.
11. Wentzel KR. Are effective teachers like good parents? Teaching styles and student adjustment in early adolescence. *Child Development* 2002;73(1):287-301.

©2014-2026 ABILIO | SCHOOL SUCCESS

12. Grolnick WS, Ryan RM. Autonomy support in education: Creating the facilitating environment. In: Hastings N, Schwieso J, eds. *New directions in educational psychology. Vol. 2: Behavior and motivation*. London, England: Falmer Press; 1987:213-232.

13. Skinner EA, Belmont MJ. Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology* 1993;85(4):571- 581.

14. Pianta RC, Hamre B, Stuhlman M. Relationships between teachers and children. In: Reynolds W, Miller G, eds. *Handbook of psychology. Vol. 7: Educational Psychology*. New York, NY: Wiley; 2002:199-234.

©2014-2026 ABILIO | SCHOOL SUCCESS

Promoting Young Children's School Readiness: What Parents Can Do

Janet Agnes Welsh, PhD

Wayne State University School of Medicine, USA

May 2014

Introduction

This section involves promotion of school readiness in young children. When children begin school with the cognitive, behavioural and social-emotional skills needed to benefit from the learning experiences provided, they are more likely to experience long-term success. Research on early childhood education and development has identified a number of practices that promote school readiness in young children. We will review a number of these, with a particular emphasis on strategies that can be utilized by parents and other caregivers.

Subject

School readiness refers to a constellation of skills and behaviours that children have developed by the time of school entry, which allow them to adjust well to school and to maximally profit from the learning experiences they encounter.[1] While earlier thinking about school readiness focused on pre-academic skills such as counting and letter recognition, more recent conceptualizations emphasize the importance of social-emotional competencies as well, such as the ability to follow instructions, inhibit impulses, and focus attention.[1] While the cognitive and social-emotional aspects of readiness are interrelated, they also make independent contributions both to children's initial adjustment to school and to their long-term academic and behavioural success.

Problems

Deficits in school readiness can create long-term difficulties for children. Those who enter school behind their peers in terms of basic cognitive and social-emotional skills are at risk for a number of negative outcomes, including low achievement, peer problems, low attachment and investment in school, and school dropout.[2] Unfortunately, many children, particularly those from low-income families, arrive at school with low levels of both cognitive and behavioural readiness. This

©2014-2026 ABILIO | SCHOOL SUCCESS

“achievement gap” between disadvantaged children and those from more advantaged homes does not disappear with schooling; in fact, it tends to widen over time as children get older.[3]

Research Context

Because poor school readiness often sets the stage for chronic difficulties with school adjustment, interventions designed to boost school readiness generally focus on children under the age of 5. These include strategies that target children’s skills directly by promoting language development, emergent literacy, and early math skills, as well as programs to support peer competence and to promote attention control, motivation, and engagement in learning. Some of these interventions target children directly and take place either in preschool settings (such as Head Start), or they target school readiness indirectly by targeting various aspects of parenting. Parent-focused programs often take place in the context of home visitation programs (such as the Nurse-Family Partnership program or the Early Start Program). While many interventions are designed to remediate the deficits of at-risk children, others are universal, targeting all children (such as the preschool PATHS program).

Key Research Questions

A number of questions have emerged from research on children’s school readiness and from intervention studies targeting readiness. These include:

- Which components of school readiness are most critical for long-term school adjustment and academic success?
- Which interventions affect these components, and how well do they work?
- Which children benefit the most from school readiness interventions?
- Are school-based or parent-focused interventions more effective in promoting school readiness, or do these approaches complement one another?

Recent Research Results

A number of interventions have been evaluated and found to be effective at promoting children’s school readiness. While many of these involve center-based programs such as Head Start, for the purposes of this chapter, we will focus on those programs that involve parents.

©2014-2026 ABILIO | SCHOOL SUCCESS

Research has identified a powerful role for warm, sensitive parent-child relationships in the promotion of children's development. It appears that patterns developed in infancy and toddlerhood influence school readiness through their effects on children's developing cognitive and self-regulation skills.[4] In the preschool years, sensitive, responsive parenting has been linked to the development of executive function and attention control, both of which are important for school readiness.[5,6] Alternatively, harsh, inconsistent, or coercive parenting strategies are associated with lower levels of both cognitive and behavioural readiness,[4,7] possibly because this impairs the development of emotion regulation and impulse control.[1] This seems to be particularly true for children from low-income families, where warm, supportive parenting can buffer children against the negative effects of economic disadvantage.[8]

In the cognitive domain, Dialogic reading refers to a form of parent-child book reading during which parents engage children in conversations about the story, make a point of presenting new vocabulary words, and ask complex questions. Whitehurst and colleagues[9,10] trained parents to utilize these techniques when reading to their preschoolers. When parents were able to do this consistently (defined as 15 minutes per day, three or more times per week for 8 weeks), children from both low- and middle-income families showed significant improvement in their language skills. Additionally, children who were below average on tests of expressive and receptive language showed significant improvements in their early literacy skills as a result of dialogic reading at home.[11] Similarly, research has shown that when parents are trained to tutor their kindergarten children in early academic skills (e.g., letter identification, phonemic awareness), children make meaningful progress.[12,13]

In addition to dialogic reading, parents can promote children's school readiness by providing educational toys and literacy materials such as books and writing supplies. The presence of toys and learning materials in the home is positively related to children's subsequent cognitive and language development.[7]

Although parent-child conversation has not been directly linked to school readiness outcomes, it is linked to advances in children's vocabulary and syntactic skills.[14] In turn, these are significant predictors of later literacy skills; vocabulary during the preschool years is linked to children's reading comprehension skills in third grade.[15] Therefore, conversational interactions between parents and young children may facilitate school readiness by contributing to children's linguistic competence.[16] Conversely, research has demonstrated that high rates of prohibitions and restricted language (e.g., commands) are linked to low levels of both cognitive and

©2014-2026 ABILIO | SCHOOL SUCCESS

behavioural readiness.[17,18]

Research Gaps

While parent-focused interventions to promote school readiness often lead to improvements in parenting and may also include positive effects on child development generally, specific links to school readiness are usually lacking. Programs that target parents of infants and toddlers frequently lack sufficient longitudinal follow-up to document clear readiness outcomes. When links to school readiness are made, however, they are often fairly modest, and effects may be found only for certain subgroups. For example, the Nurse-Family Partnership program, a well-researched home visitation program that targets low-income, first-time mothers, found that only particular subgroups of children demonstrated school readiness benefits from this intervention.[19] Further research is needed to determine which interventions are most appropriate and helpful for particular children and families.

Conclusions

Research on school readiness indicates that a number of parenting behaviours relate to children's developmental and behavioural competence, and more modest evidence links these improvements to school readiness outcomes. Warm, responsive parent-child relationships are powerful buffers against the toxic effects of poverty and the risks posed by dispositional characteristics such as premature birth. Parent-child interactions that involve joint play and book reading, complex conversations, and interactions with cognitively challenging toys and other pre-literacy materials appear to facilitate language development, self-regulation, attention control, and engagement in learning. These factors in turn set the stage for school readiness. Children's school adjustment can also be facilitated when positive home-school partnerships exist, and when parents can complement classroom learning with positive home learning experiences. Parenting practices involving harsh discipline, inconsistent or coercive parent-child interactions, and a lack of rich verbal input can contribute to readiness deficits in children. Parent-focused school readiness interventions can promote parenting changes that lead to improvements in children's development and behaviour, but research has not always linked these directly to improvements in school readiness.

Implications for Parents, Services and Policy

©2014-2026 ABILIO | SCHOOL SUCCESS

The accumulated research evidence suggests several key ways in which parents can promote their young children's school readiness. First, research suggests that parents should strive to engage in warm, supportive, and responsive interactions with their young children, because these foster the cognitive and self-regulatory skills that underlie much of school readiness. Similarly, parents should try to avoid coercive interactions characterized by prohibitions and anger displays, as these are associated with school readiness deficits. Second, parents of young children should strive to engage them in rich conversations that include novel vocabulary and other linguistic challenges. Improvements in these behaviours by parents have resulted in improvements in children's language skills, cooperativeness, and joint attention.[16] Third, parents can provide a cognitively stimulating home environment by making toys, books, and other literacy materials available to children, and by supporting their use through scaffolding and rich conversational exchanges. Finally, because research suggests that a positive home-school relationship is linked to children's readiness, parents are encouraged to forge positive partnerships with teachers so that learning activities at home can complement those encountered at school.

The research is clear that children from low-income families are particularly at risk for low readiness and the long-term negative consequences associated with the "achievement gap", and that positive parenting may be particularly critical for these children. However, it may be very difficult for low-income parents to provide children with the experiences needed for school success. These parents often experience high levels of stress, depression, and family disorganization, and they may struggle themselves with low literacy and negative school experiences. Low-income families often lack the material resources needed to provide toys, books, and enrichment experiences that facilitate cognitive and social-emotional development. Therefore, a challenge for educators and policy makers is to provide parents of vulnerable children with the skills and resources necessary to foster and support school readiness.

References

1. Blair C. School readiness: Integrating cognition and emotion in a neurobiological conceptualization of children's functioning at school entry. *Am Psy.* 2002; 57:111–127.
2. Garnier HE, Stein JA, Jacobs JK. The process of dropping out of high school: A 19 year perspective. *Am Ed Res J.* 1997; 34:395–419.
3. Alexander, K.K. & Entwisle, D.R. Achievement in the first two years of school: Patterns and processes. *Monographs of the Society for Research in Child Development*, 1988, 53, (2, Serial No. 218).
4. McCabe KM, Clark R, Barnett D. Family protective factors among urban African American youth. *J Clin Child Psy.* 1999; 28:137–150.

©2014-2026 ABILIO | SCHOOL SUCCESS

5. Bernier A, Carlson SM, Deschense M, Matte-Gagne C. Social factors in the development of early executive functioning: A closer look at the caregiving environment. *Dev Sci*. 2011; 1:1–13.
6. Hughes C, Ensor R. Independence and interplay between maternal and child risk factors for preschool problem behaviors? *Int J Beh Dev*. 2009; 33:312–322.
7. Bradley RH, Caldwell BM. Early home environment and changes in mental test performance in children from 6 to 36 months. *Dev Psy*. 1976; 12:93–97.
8. Hill, NE. Parenting and academic socialization as they relate to school readiness: The roles of ethnicity and family income. *J Ed Psy*, 2001, 93: 686-697.
9. Arnold DS, Whitehurst GJ. Accelerating language development through picture book reading: A summary of dialogic reading and its effect. In: Dickinson D ed. *Bridges to literacy: Children, families, and schools*. Malden: Blackwell Publishing; 1994: 103–128.
10. Whitehurst GJ, Arnold DS, Epstein JN, Angell AL, Smith MA. A picture book reading intervention in day care and home for children from low income families. *Dev Psy*. 1994; 30:679–689.
11. Lonigan CJ, Whitehurst GJ. Relative efficacy of parent and teacher involvement in shared reading intervention for preschool children from low income backgrounds. *Early Child Res Qtrly*, 1998; 13:263-290.
12. Erion J. Parent tutoring: A meta-analysis. *Ed Treat Child*. 2006; 29:79-106.
13. Nye C, Turner H, Schwartz J. *Approaches to parent involvement for improving the academic performance of elementary school age children*. Campbell Systematic Reviews: Campbell Corporation; 2006.
14. Reese E, Newcombe R. Training mothers in elaborative reminiscing enhances children's autobiographical memory and narrative. *Child Dev*. 2007; 78:1153–1170.
15. Storch SA, Whitehurst GJ. Oral language and code-related precursors to reading: Evidence from a longitudinal structural model. Dev Psy. 2002; 38:934–947.
16. Landry SH, Smith KE, Swank PR, Guttentag C. A responsive parenting intervention: The optimal timing across early childhood for impacting maternal behaviors and child outcomes. *Dev Psy*. 2008; 44:1333–1353.
17. Hart B, Risley TR. Meaningful differences in the everyday experiences of young American children. Baltimore: Brookes Publishing; 1995.
18. Landry SH, Smith KE, Swank PR, Miller-Loncar CL. Early maternal and child influences on children's later independent cognitive and social functioning. *Child Dev*. 2000; 71:358–375.
19. Olds D L, Henderson CR, Cole R, Eckenrode J, Kitzman H. Long term effects of nurse home visitation on children's criminal and antisocial behavior: Fifteen year follow up of a randomized controlled trial. In: Feldman MA ed. *Early Intervention: The essential readings*. Malden: Blackwell Publishing; 2004: 238–255.

©2014-2026 ABILIO | SCHOOL SUCCESS

Kindergarten for four-year-olds: a measure to promote school and social success in children from disadvantaged backgrounds

France Capuano, PhD, Marc Bigras, PhD, Christa Japel, PhD

Université du Québec à Montréal, Canada

May 2014

Introduction

There is converging research evidence that children of preschool age need to develop their ability to regulate their emotions and behaviours in order to succeed in school. They must also develop other skills that contribute to the learning of reading, writing, and mathematics.[1,2,3,4] From the very start of school, major differences can be seen among children with respect to these skills. In Quebec, a French-language Canadian province, 26% of children come to school with significant cognitive or socio-emotional delays.[5] Although these children come from various backgrounds, their number increases according to their level of material and social poverty.[5] It is generally recognized that these delays hinder children's ability to succeed in school,[6] and that these children are at higher risk of experiencing conflictual relationships, which can also compromise their school success.[7]

Subject

Having four-year-olds take part in a kindergarten program is one of the educational strategies used to promote school readiness. In Canada, these programs were first set up in the 1970s; they are offered half-time at public schools to four-year-olds in disadvantaged areas.[8] In 2013, Quebec introduced a full-time kindergarten program for children from underprivileged backgrounds.[9] The justification for such a measure is based on the finding that families in underprivileged areas are less likely to use government-regulated childcare services and that their children are over-represented in poor-quality childcare services.[10],11 Yet quality preschool services are necessary to foster school readiness. Quality is defined by the service's structural characteristics (adult-child ratios, training and remuneration of staff) and by the quality of its processes (adult-child interactions, child-child interactions, and educational activities).[12] Studies amply describe the characteristics of effective programs, but the quality of preschool services still varies widely

©2014-2026 ABILIO | SCHOOL SUCCESS

throughout North America.[13] Children of all backgrounds usually benefit from a high-quality preschool environment, but children from underprivileged backgrounds benefit even more; hence the initiative of offering a full-time program.[14,15]

Research results

Research results are clear, but consensus on educational strategies is lacking

The type and the number of stimulation activities offered in preschool programs are the subject of lively debate among researchers, practitioners and decision-makers. While some advocate development of the whole child, others prefer the teaching of specific skills. In the United States, for example, there has been strong political pressure to have preschool services focus on the development of cognitive skills within structured learning situations, as is often done in school.[16] This position is probably influenced by a number of studies which show that preschool skills in math, reading, and writing, along with children's attention capacity, are the best indicators of later school success.[17] Yet many U.S. researchers are opposed to this orientation, arguing that it disposes of all the other areas of children's development that are linked to their ability to learn.[16] Currently, there seems to be a growing consensus that preschool stimulation activities should target the child's overall development.[18]

In addition, there is a whole debate around the best educational approaches for getting children to develop these skills. This debate revolves around the respective roles of the adult and the child in the educational process. The play-centred approach gives preference to the child's initiative in his or her learning and is often opposed to a so-called teacher-directed approach, where the teacher assigns activities for the children to do. A recent meta-analysis[19] as well as the Chicago Child-Parent Centers[20] program show that direct teaching approaches are associated with higher performance in terms of children's cognitive skills. On the other hand, when it comes to self-regulation and socio-emotional skills, approaches combining child-initiated play and adult-initiated structured teaching appear to be more effective.[14] However, the studies included in the meta-analysis are several years old and are often imprecise as to the specific nature of the approaches used. They may not take into account recently recognized practices for promoting the development of certain skills in children. These recent practices, which could be qualified as direct instruction, are carried out in a fun and interactive context. Thus, they are different from more traditional methods, which for the most part consisted in having children learn through repetition as a group.

©2014-2026 ABILIO | SCHOOL SUCCESS

In order to shed some light on the range of educational approaches, Table 1 presents a continuum of the approaches compiled, with free play and direct instruction at the two opposite poles. For each approach, we present the respective roles of the child and the adult, the quality of the interactions between them, and the objectives pursued. For several authors, child-initiated play is central to the acquisition of the skills needed to adapt to school.[2,21,22] But is this single approach sufficient for children who have special needs or whose quality of play is poor, as is often the case in children from disadvantaged backgrounds?[21] In guided play, the adult intervenes to create a more complex (i.e., symbolic) play situation since this type of play is associated with the development of competencies such as the self-regulation of emotions and behaviours.[23] Table 1 also presents the category of directed play, in which learning objectives are focused on school prerequisites, such as language-related notions. While still starting from the children's interests, the teacher using directed play targets the acquisition of specific skills. The category of playful learning involves activities initiated and prepared by the adult to explicitly teach specific skills. This teaching is usually done in small groups, in a way that encourages frequent and warm interactions between the teacher and the child or among the children themselves. These interactions are supported by strategies such as discussions, behaviour modelling, role playing, problem solving, interactive reading, and games among the children. Finally, the "drill and practice" category of educational approaches describes structured teaching situations where the teacher organizes and controls the activities. Here, teachers use repetition, memorization and worksheets; for example, they show the children letters, numbers and vocabulary words and ask them to identify and repeat them.

According to the research, these approaches are all associated, to varying degrees and depending on the application contexts, with the child being better prepared for school. In this respect, a balanced approach that includes activities initiated by the child (free play, guided play and directed play) and by the adult (playful learning and drill-and-practice) is likely the most worthwhile avenue.[14] However, there is little data available to back up this view. Regardless, given the research findings on the value of all the approaches compiled here, imposing a single approach could deprive children of experiences that would otherwise contribute to their development.

Conclusion

The success of the educational approaches is strongly associated with the quality of the interactions between the teachers and the children.[24] To ensure this quality, effective teaching

©2014-2026 ABILIO | SCHOOL SUCCESS

should make use of a variety of approaches, including explicit instruction, engaging in warm interactions that are sensitive to the child's needs, providing feedback, verbal interactions, and making sure the stimulation offered is purposely directed toward achieving learning objectives. Moreover, this teaching should take place in an environment that is not too structured.[25] Indeed, this environment should offer a balance between adult-initiated and child-initiated activities. These requirements for quality teaching are high. Consequently, it is essential that teachers be supported in using a variety of approaches to promote children's overall development. This support should be based on best practices and provided through a professional development program specific to preschool education.[26]

Table 1. Preschool educational approaches situated along the child play (C) / adult-structured (A) continuum

Play				Direct instructions
		Balanced		
Free play	Directed play	Directed play	Playful learning	Drill and practice

©2014-2026 ABILIO | SCHOOL SUCCESS

C initiates play A provides an environment rich in play opportunities Exchanges with A are not required unless C decides otherwise Pedagogical objective: development of complex (symbolic) play	C initiates play A supports child through modelling or prompting Exchanges with A are required, but are adapted according to C's proposals and play abilities Pedagogical objective: development of complex (symbolic) play)	C initiates play A supports child through modelling or prompting A-C exchanges are required, frequent, warm, and centred around C's needs Pedagogical objective: learning of specific skills	C initiates play A supports child through modelling or prompting A-C exchanges are required, frequent, warm, and centred around C's needs Pedagogical objective: learning of specific skills	A determines learning situations: who does what with who, when and how Exchanges with C are not required unless A decides otherwise. A has same objectives for all. Pedagogical objective: learning of specific skills

Symbolic play: activity freely chosen by the child where the child is emotionally and intellectually engaged without concern for day-to-day demands.

Balanced approach: the learning opportunities are initiated by C or by A, and A makes sure there is a balance among the various educational approaches so as to foster the child's development.

References

1. Boivin M, Bierman KL. School readiness : Introduction to a multifaceted and developmental construct. In: Boivin M, Bierman KL, eds. *Promoting school readiness and early learning. Implications of developmental research for practice*. New York, NY: The Guilford Press; 2014:3-14.
2. Hirsh-Pasek K, Golinkoff RM. The great balancing act : Optimizing core curricula through playful pedagogy. In: Zigler E, Gilliam WS, Barnett WS, eds. *The Pre-K debates. Current controversies and issues*. Baltimore, MD: Paul H. Brookes Publishing Co; 2011:110-116.

©2014-2026 ABILIO | SCHOOL SUCCESS

3. Wasik BA, Hindman A. The role of language and literacy interventions in school readiness. In: Boivin M, Bierman KL, eds. *Promoting school readiness and early learning. Implications of developmental research for practice*. New York, NY: The Guilford Press; 2014:165-186.

4. Starkey P, Klein A, DeFlorio L. (2014). Promoting math readiness through a sustainable prekindergarten mathematics intervention. In: Boivin M, Bierman KL, eds. *Promoting school readiness and early learning. Implications of developmental research for practice.* New York, NY: The Guilford Press; 2014:187-210.

5. Simard M, Tremblay M-E, Lavoie A, Audet N. *Enquête québécoise sur le développement des enfants à la maternelle 2012.* Québec. Institut de la statistique du Québec, 2013.

6. Rimm-Kaufman SE, Pianta RC. An ecological perspective on the transition to kindergarten : A theoretical Framework to guide empirical research. *Journal of Applied Developmental Psychology* 2000;21(5):491-511.

7. Ryan RM, Fauth RC, Brooks-Gunn J. Childhood poverty :Implications for school readiness and early childhood éducation. In: Spodek B, Saracho ON, eds. *Handbook of research on the éducation of children. 2nd ed*. Mahwah, NJ : Earlbaum; 2006:323-346.

8. Doherty G. Ensuring the best start in life : Targeting versus universality in early childhood development. IRPP Choices 2007;13(8).

9. Projet de loi n°23 : Loi modifiant la Loi sur l'instruction publique concernant certains services éducatifs aux élèves vivant en milieu défavorisé et âgés de quatre ans, adopté et sanctionné le 14 juin 2013. Assemblée nationale du Québec.

10. Japel C, Tremblay RE, Côté S. *La qualité, ça compte! La qualité des services de garde au Québec : Résultats de l'Étude longitudinale du développement des enfants du Québec (ÉLDEQ).* Choix, Vol. 11, no. 4. Montréal: Institut de recherche en politiques publiques, 2005.

11. Japel C. Factors of risk, vulnerability and school readiness among preschoolers: Evidence from Quebec. *IRPP Choices* 2008;14(16).

12. Vandell DL, Wolfe B. *Child care quality: Does it matter and does it need to be improved?* Washington, DC: US Department of Health and Human Services, 2000.

13. Japel C, Dihman P. Les services à la petite enfance : la qualité et son impact sur le développement des enfants. In: Tarabulsy G, Provost M, eds. Développement social et émotionnel des enfants et adolescents, Tome 2. Presses de l'Université du Québec ; 2012:155-192.

14. Barnett WS. Effectiveness of early educational intervention. *Science* 2011;333:975

15. Pianta RC, Barnett WS, Burchinal M, Thornburg KR. The effects of preschool education: What we know, how public policy is or is not aligned with the evidence base, and what we need to know. *Psychological Science in the Public Interest ID* 2009;(2):49-88.

16. Bishop-Josepf SJ, Zigler E. (2011). The cognitive/academic emphasis versus whole child approach : The 50-year Debate. In: Zigler E, Gilliam WS, Barnett WS, eds. *The Pre-K debates. Current controversies and issues.* Baltimore, MD: Paul H. Brookes Publishing Co; 2011:83-88.

17. Duncan GJ, Dowsett CJ, Claessens A, Magnuson K, Huston AC, Klebanov P, Pagani LS, Feinstein L, Engel M, Brooks-Gunn J, Sexton H, Duckworth K, Japel C. School readiness and later achievement. *Developmental psychology* 2007;43:1428-1446.

18. Zigler E. A model preschool program. In: Zigler E, Gilliam WS, Barnett WS, eds. *The Pre-K debates. Current controversies and issues*. Baltimore, MD: Paul H. Brookes Publishing Co; 2011:136-140.

19. Camilli G, Vargas S, Ryan S, Barnett WS. (2010). Meta-analysis of the effects of early education interventions on cognitive and social development. *Teachers College Record* 2010;112(3):579-620.

©2014-2026 ABILIO | SCHOOL SUCCESS

20. Reynolds AJ, Temple JA, White BA, Ou S, Robertson DL. Age 26 cost-benefit analysis of the Child-Parent Center early education program. *Child Development* 2011;82:379-404.

21. Trawick-Smith J. Teacher-child play interactions to achieve Learning outcomes: Risks and opportunities. In: Pianta RC, Barnett WS, Sheridan LM, Sheridan SM, eds. *Handbook of early childhood education.* New York, NY: The Guilford Press; 2012:259-277.

22. Hirsh-Pasek K, Golinkoff RM. The great balancing act : Optimizing core curricula through playful pedagogy. In: Zigler E, Gilliam WS, Barnett WS, eds. *The Pre-K debates. Current controversies and issues*. Baltimore, MD: Paul H. Brookes Publishing Co; 2011:110-116.

23. Diamond A, Barnett WS, Thomas J, Munro S. Preschool program improves cognitive control. *Science* 2007;318:1387-1388.

24. Mashburn AJ, Pianta RC, Hamre BK, Downer JT, Barbarin OA, Bryant D, Burchinal M, Early DM, Howes C. Measures of classroom quality in prekindergarten and children's development of academic, language, and social skills. *Child Development* 2008;79:732-749.

25. Burchinal M, Howes C, Pianta R, Bryant D, Early D, Clifford R, Barbarin O. Predicting child outcomes at the end of kindergarten from the quality of pre-kindergarten teacher-child interactions and instruction. *Applied Developmental Science* 2008;12:140-153.

26. Pianta RC. A degree is not enough: Teachers need stronger and more individualized professional development supports to be effective in the classroom. In: Zigler E, Gilliam WS, Barnett WS, eds. The Pre-K debates. *Current controversies and issues.* Baltimore, MD: Paul H. Brookes Publishing Co. 2011:64-68.

©2014-2026 ABILIO | SCHOOL SUCCESS