

REL Appalachia Ask A REL Response

Behavior and Mental Health, Early Childhood
May 2021

Question:

What are the behavioral outcomes of students who experience delayed kindergarten entry or retention in kindergarten or first grade?

Response:

Thank you for your request to our REL Reference Desk regarding evidence-based information about outcomes of students who experience delayed kindergarten entry or retention in early elementary school. Ask A REL is a collaborative reference desk service provided by the 10 Regional Educational Laboratories (RELs) that, by design, functions much in the same way as a technical reference library. Ask A REL provides references, referrals, and brief responses in the form of citations in response to questions about available education research.

Following an established REL Appalachia research protocol, we searched for peer-reviewed articles and other research reports on outcomes of students who experience delayed kindergarten entry or retention in early elementary school. The sources included ERIC and other federally funded databases and organizations, research institutions, academic research databases, and general Internet search engines. For more details, please see the methods section at the end of this document.

The research team did not evaluate the quality of the resources provided in this response; we offer them only for your reference. Also, the search included the most commonly used research databases and search engines to produce the references presented here, but the references are not necessarily comprehensive, and other relevant references and resources may exist. References are listed in alphabetical order, not necessarily in order of relevance.

References

Bettencourt, A. F., Gross, D., Ho, G., & Perrin, N. (2018). The costly consequences of not being socially and behaviorally ready to learn by kindergarten in Baltimore City. *Journal of Urban Health*, 95(1), 36–50. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5862700/>

From the abstract: “Social, emotional, and behavioral skills are foundational to learning and long-term success. However, poverty and exposure to adverse childhood experiences reduce the chances of children entering kindergarten socially-behaviorally ready to learn. This study examined the unique impact of 5-year-old children (N = 11,412) entering kindergarten not socially-behaviorally ready on three costly school outcomes by fourth grade in Baltimore

City Public Schools: being retained in grade, receiving services and supports through an IEP or 504 plan, and being suspended/expelled. Controlling for all other types of school readiness, students not identified as socially-behaviorally ready for kindergarten were more likely to experience all three school outcomes. Findings underscore the importance of early prevention and intervention strategies targeting parents and social-behavioral readiness skills during the first 5 years of life.”

Hong, G., & Yu, B. (2008). Effects of kindergarten retention on children’s social-emotional development: An application of propensity score method to multivariate, multilevel data. *Developmental Psychology*, 44(2), 407–421. Abstract retrieved from <https://eric.ed.gov/?id=EJ788258>; full text can be requested from authors at https://www.researchgate.net/publication/5521374_Effects_of_Kindergarten_Retention_on_Children’s_Social-Emotional_Development_An_Application_of_Propensity_Score_Method_to_Multivariate_Multilevel_Data

From the abstract: “This study examines the effects of kindergarten retention on children’s social-emotional development in the early, middle, and late elementary years. Previous studies have generated mixed results partly due to some major methodological challenges, including selection bias, measurement error, and divergent perceptions of multiple respondents in different domains of child development. The authors address these challenges by using propensity score stratification to contend with selection bias and by embedding measurement models in hierarchical models to account for measurement error and to model dependence among observations. The authors’ analyses of a series of multivariate models enable them to compare the retention effects across different respondents over different time points. In general, the results show no evidence suggesting that kindergarten retention does harm to children’s social-emotional development. Rather, the findings suggest that, had the retained kindergartners been promoted to the first grade instead, they would possibly have developed a lower level of self-confidence and interest in reading and all school subjects 2 years later and would have displayed a higher level of internalizing problem behaviors at the end of the treatment year and 2 years later.”

Hwang, S. H. J., & Cappella, E. (2018). Rethinking early elementary grade retention: Examining long-term academic and psychosocial outcomes. *Journal of Research on Educational Effectiveness*, 11(4), 559–587. <https://eric.ed.gov/?id=ED607187>

From the abstract: “Grade retention, the practice of requiring a student to remain in the same grade the following year, disproportionately affects students with sociodemographic risk and facing academic challenges. Each year, the United States spends \$20 billion on retention and two million children are retained. Extant studies examining early elementary grade retention generally focus on short-term effects and academic outcomes; little is known about long-term effects on academic and psychosocial outcomes in the middle grades. The current study uses propensity score methods and a national data set to estimate the effect of first- or second-grade retention on academic achievement and psychosocial outcomes six or seven years later. By comparing students who were retained to students who were similar on observed characteristics but otherwise promoted, we generate causal estimates that show a statistically

significant negative effect of retention on reading achievement. Significant and robust effects were not consistently detected for other academic or psychosocial outcomes. As grade retention is a widely used educational intervention, implications for its effectiveness from a policy and practice perspective are discussed.”

Jimerson, S. R., & Ferguson, P. (2007). A longitudinal study of grade retention: Academic and behavioral outcomes of retained students through adolescence. *School Psychology Quarterly*, 22(3), 314–339. Abstract retrieved from <https://eric.ed.gov/?id=EJ776138>; full text available at https://www.researchgate.net/publication/232445916_A_longitudinal_study_of_grade_retention_Academic_and_behavioral_outcomes_of_retained_students_through_adolescence

From the abstract: “Most research examining the efficacy of early grade retention has been limited to outcomes during elementary school. A notable gap in the retention literature is the dearth of studies examining outcomes during late adolescence. The results of this prospective longitudinal study include comparisons among four unique samples: (1) early grade retainees; (2) students retained in a transition classroom; (3) students recommended for transitional placement but promoted; and (4) regularly promoted students, through the eleventh grade. Results of this study failed to demonstrate the effectiveness of grade retention on academic achievement. Moreover, analyses of behavior suggest that retained students display more aggression during adolescence. Furthermore, the group of students recommended for transitional placement, but promoted, were comparable to the control group on all achievement and behavior measures during high school. The results of this study may be further understood considering a transactional model of development, emphasizing the importance early experiences on subsequent development. The results of longitudinal studies of grade retention warrant further consideration in developing educational policies and implementing effective prevention and early intervention strategies.”

Lincove, J. A., & Painter, G. (2006). Does the age that children start kindergarten matter? Evidence of long-term educational and social outcomes. *Educational Evaluation and Policy Analysis*, 28(2), 153–179. Abstract retrieved from <https://eric.ed.gov/?id=EJ750490>; full text available at https://www.researchgate.net/publication/228963318_Does_the_Age_That_Children_Start_Kindergarten_Matter_Evidence_of_Long-Term_Educational_and_Social_Outcomes

From the abstract: “The appropriate age for students to begin school is an issue of debate for educators, administrators, and parents. Parents worry that young children may not be able to compete with older classmates; schools worry that young students will not be able to meet rigorous academic standards associated with school accountability. Past literature is inconclusive as to the overall effect of age at school entry. Some research suggests that younger students have lower average achievement in early elementary school, while others find that students with summer birthdates, who are assumed to be younger at school entry, gain more education on average. At present, little is known about the impact of age at school entry on education attainment as students transition from high school into college and the labor market. This study uses data from the National Education Longitudinal Survey to examine long-term effects of age at school entry on both educational and social outcomes,

with special attention to those students who enter kindergarten a year later than their peers. The results of this study suggest that delaying kindergarten does not create any long-term advantages for students.”

NICHD Early Child Care Research Network. (2007). Age of entry to kindergarten and children’s academic achievement and socioemotional development. *Early Education Development*, 18(2), 337–368. Abstract retrieved from <https://eric.ed.gov/?id=EJ772209>; full text available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2140009/pdf/nihms-32744.pdf>

From the abstract: “Data on more than 900 children participating in the National Institute of Child Health and Human Development Study of Early Child Care were analyzed to examine the effect of age of entry to kindergarten on children’s functioning in early elementary school. Children’s academic achievement and socioemotional development were measured repeatedly from the age of 54 months through 3rd grade. With family background factors and experience in child care in the first 54 months of life controlled, hierarchical linear modeling (growth curve) analysis revealed that children who entered kindergarten at younger ages had higher (estimated) scores in kindergarten on the Woodcock-Johnson (W-J) Letter-Word Recognition subtest but received lower ratings from kindergarten teachers on Language and Literacy and Mathematical Thinking scales. Furthermore, children who entered kindergarten at older ages evinced greater increases over time on 4 W-J subtests (i.e., Letter-Word Recognition, Applied Problems, Memory for Sentences, Picture Vocabulary) and outperformed children who started kindergarten at younger ages on 2 W-J subtests in 3rd grade (i.e., Applied Problems, Picture Vocabulary). Age of entry proved unrelated to socioemotional functioning.”

Vandecandelaere, M., Schmitt, E., Vanlaar, G., De Fraine, B., & Van Damme, J. (2014). Effects of kindergarten retention for at-risk children’s psychosocial development. *Educational Psychology*, 36(8), 1354–1389. Abstract retrieved from <https://eric.ed.gov/?id=EJ1109450>; full text available at https://www.researchgate.net/profile/Machteld-Vandecandelaere/publication/265211674_Effects_of_kindergarten_retention_for_at-risk_children%27s_psychosocial_development/links/54eedf360cf2e2830865ba82/Effects-of-kindergarten-retention-for-at-risk-childrens-psychosocial-development.pdf

From the abstract: “Kindergarten retention is a popular practice for children who are considered unready for primary school. However, past research has not yet succeeded to find consistent, strong empirical evidence supporting the practice. In the current study, kindergarten repeaters’ development in nine psychosocial domains is compared with that of equally at risk but (1) continuously promoted age-mates and (2) promoted age-mates who repeated first grade instead. Analysing data from a large-scale longitudinal study using propensity score matching and multilevel modelling, the findings reveal no harm of kindergarten retention for at-risk children’s long term psychosocial development. Rather, we find that, relative to equally at-risk but continuously promoted children, kindergarten repeaters benefit from retention with respect to higher levels of well-being, and peer relations, and lower levels of hyperactivity, aggression and asocial behaviour. Compared to similar children who were promoted but who were retained in first grade instead, kindergarten repeaters are found to benefit more from retention with respect to higher levels

of well-being, self-confidence, attitude to work and independent behaviour, and lower levels of hyperactivity.”

Additional Ask A REL Responses to Consult

Ask A REL Midwest at American Institutes for Research. (2020). *What research exists on kindergarten retention?*

<https://ies.ed.gov/ncee/edlabs/regions/midwest/askarel/2020/kindergarten-retention.aspx>

Ask A REL Northeast and Islands at Education Development Center. (2020). *What does the research say about the appropriate age for students to enter kindergarten?*

<https://ies.ed.gov/ncee/edlabs/regions/northeast/AskAREL/Response/137>

Ask A REL Northeast and Islands at Education Development Center. (2019). *What is the research evidence on student outcomes related to early admission to kindergarten?*

<https://ies.ed.gov/ncee/edlabs/regions/northeast/AskAREL/Response/55>

Additional Organizations to Consult

Head Start Early Childhood Learning and Knowledge Center: <https://eclkc.ohs.acf.hhs.gov/>

From the website: “Head Start programs prepare America’s most vulnerable young children to succeed in school and in life beyond school. To achieve this, Head Start programs deliver services to children age birth to 5 and their families in core areas of early learning, health, and family well-being.”

- Transitions: <https://eclkc.ohs.acf.hhs.gov/transitions>

National Association for the Education of Young Children: <https://www.naeyc.org/>

From the website: “The National Association for the Education of Young Children (NAEYC) is a professional membership organization that works to promote high-quality early learning for all young children, birth through age 8, by connecting early childhood practice, policy, and research. We advance a diverse, dynamic early childhood profession and support all who care for, educate, and work on behalf of young children.”

- Social and emotional development: <https://www.naeyc.org/resources/topics/social-and-emotional-development>

Methods:

Keywords and Search Strings

The following keywords and search strings were used to search the reference databases and other sources:

- (“kindergarten entry age” OR “kindergarten retention” OR “delayed kindergarten entry” OR “early elementary retention”) AND (“social emotional” OR behavior* OR adjustment OR psychosocial) AND (outcome* OR effect*)

Databases and Resources

We searched ERIC, a free online library of more than 1.6 million citations of education research sponsored by the Institute of Education Sciences (IES), for relevant resources. Additionally, we searched the academic database ProQuest, Google Scholar, and the commercial search engine Google.

Reference Search and Selection Criteria

In reviewing resources, Reference Desk researchers consider—among other things—these four factors:

- Date of the publication: Searches cover information available within the last 10 years, except in the case of nationally known seminal resources.
- Reference sources: IES, nationally funded, and certain other vetted sources known for strict attention to research protocols receive highest priority. Applicable resources must be publicly available online and in English.
- Methodology: The following methodological priorities/considerations guide the review and selection of the references: (a) study types—randomized controlled trials, quasi experiments, surveys, descriptive data analyses, literature reviews, policy briefs, etc., generally in this order; (b) target population, samples (representativeness of the target population, sample size, volunteered or randomly selected), study duration, etc.; (c) limitations, generalizability of the findings and conclusions, etc.
- Existing knowledge base: Vetted resources (e.g., peer-reviewed research journals) are the primary focus, but the research base is occasionally slim or nonexistent. In those cases, the best resources available may include, for example, reports, white papers, guides, reviews in non-peer-reviewed journals, newspaper articles, interviews with content specialists, and organization websites.

Resources included in this document were last accessed on May 10, 2021. URLs, descriptions, and content included here were current at that time.

This memorandum is one in a series of quick-turnaround responses to specific questions posed by education stakeholders in the Appalachia region (Kentucky, Tennessee, Virginia, and West Virginia), which is served by the Regional Educational Laboratory Appalachia (REL AP) at SRI International. This Ask A REL response was developed by REL AP under Contract ED-IES-17-C-0004 from the U.S. Department of Education, Institute of Education Sciences, administered by SRI International. The content does not necessarily reflect the views or policies of IES or the U.S. Department of Education, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. government.