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The effect of smaller classes on infection-related school absence: evidence from the Project STAR randomized controlled trial

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Abstract

Background In an effort to reduce viral transmission, many schools reduced class sizes during the recent pandemic. Yet the effect of class size on transmission is unknown.

Methods We used data from Project STAR, a randomized controlled trial in which 10,816 Tennessee elementary students were assigned at random to smaller classes (13 to 17 students) or larger classes (22 to 26 students) in 1985–89. We merged Project STAR schools with data on local deaths from pneumonia and influenza in the 122 Cities Mortality Report System. Using mixed-effects linear, Poisson, and negative binomial regression, we estimated the main effect of smaller classes on absence. We used an interaction to test whether the effect of small classes on absence was larger when and where community pneumonia and influenza prevalence was high.

Results Small classes reduced absence by 0.43 days/year (95% CI -0.06 to -0.80, $p < 0.05$), but small classes had no significant interaction with community pneumonia and influenza mortality (95% CI -0.27 to + 0.30, $p > 0.90$), indicating that the reduction in absence due to small classes was not larger when community disease prevalence was high.

Conclusion Small classes reduced absence, but the reduction was not larger when disease prevalence was high, so the reduction in absence was not necessarily achieved by reducing infection. Small classes, by themselves, may not suffice to reduce the spread of respiratory viruses.

Keywords Influenza, Infection, Class size

In response to the pandemic of COVID-19 (coronavirus disease 2019), caused by the virus SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2), many schools implemented policies to reduce class size. During the 2020–21 school year, approximately one-half of US schools implemented some type of “hybrid” instruction policy that reduced in-person class size by having a sub-

stantial fraction of children stay home to receive instruction remotely [1]. European countries including France, Norway, Denmark, and Iceland restricted class size as a condition for reopening schools in person, and an OECD report described class size as a “critical parameter for the reopening of schools.” [2].

Concerns about class size resurfaced as schools contemplated reopening in late August 2021, when no COVID vaccine had yet been approved for elementary students (5- to 11-year-olds), only 40% of middle and high school students (12 to 17-year-olds) had been fully vaccinated [3] and only 61% of parents had received at least one vaccine dose [4].

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Smaller Classes Or Larger

Jeremy D. Finn, Kenneth K. Wong



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Safe and Healthy School Environments Howard Frumkin M.D.,Robert J. Geller M.D.,I. Leslie Rubin M.D.,Janice Nodvin,2006-08-03 Millions of children and adults across the nation spend their days in school buildings and they need safe healthy environments to thrive learn and succeed This book explores the school environment using the methods and perspectives of environmental health science Though environmental health has long been understood to be an important factor in workplaces homes and communities this is the first book to address the same basic concerns in schools The editors are physicians and educators trained in pediatrics occupational and environmental medicine and medical toxicology and the authors are experts in their fields drawn from across the United States and abroad Each section of the book addresses a different concern facing schools today In the first six sections the various aspects of the school environment are examined Chapters include the physical environment of the school air quality issues pest control cleaning methods food safety safe designs of playgrounds and sports fields crime and violence prevention and transportation In the last two sections recommendations are made for school administrators on how to maximize the health of their schools Appropriately evaluating the school environment implementing strategies to address children and adults with disabilities emphasizing health services infectious disease prevention and recognition and occupational health for faculty and staff are all addressed The entire book is evidence based readable generously illustrated and practical An indispensable resource for parents school staff administrators government officials and health professionals this book is for anyone who cares about the health of our schools **The Cambridge Primary Review Research Surveys** Cambridge Primary Review (Organization),2010 The

companion volume to *Children their World their Education* this book contains 28 surveys of published research which were specially commissioned for the Cambridge Primary Review all re edited and updated Excellence in Scholarship Sivakumar Alagumalai, Stephanie Burley, John P. Keeves, 2013-09-03 Teachers empower both the next generation of learners and educators Communities value the intricate roles and responsibilities of teachers many of whom who go beyond the tangibles to cater to the learning needs of their students The multidimensional and multifaceted relationship between teacher education providers and teachers is a complex one At one end of the spectrum sits the scholarship of teaching while at the enacted zone sits standards based praxis Teacher education and scholarship of teaching provides the avenue to demonstrate this interaction of knowledge pedagogy research and broadly scholarship Unfortunately there is no strong consensus about the value of pedagogical preparation for teachers This monograph highlights the broad focus on how education draws its knowledge base from various disciplines advancing that education itself can become a plethora for shared discourse and reflection The chapters provide fresh demonstrated understanding into practice enabled research directions and emphasise the position of research based praxis in both schools and in institutions entrusted with teacher education Importantly the monograph demonstrates the two way communication between the community and teacher educators about knowledge experiences values and diversity and to add value with the sole aim to enhance learning It highlights education is a collective endeavour in that education and teacher education are subsets of the community and deliberations in communities add important synergy to education s evolution and revolution Thus the process of inquiry is fundamental in education and implies transcending traditional discipline bound knowledge and processes This monograph provides the challenge to educators that no single or specific discipline directs educational development and enrichment nor does the latter exclude any

District of Columbia Appropriations, 1960 United States. Congress. House. Committee on Appropriations. Subcommittee on District of Columbia Appropriations, 1959 PREP Report, 1972

Primary Education: The Key Concepts Denis Hayes, 2006-05-11 Presenting a balance of theoretical insight and practical advice this text is a clear and accessible guide to the key issues relating to primary education Alphabetically arranged and fully cross referenced to ensure ease of use entries include both curriculum specific terms as well as those that are more generic such as assessment objectives coping strategies differentiation behaviour special needs time management Written by an experienced teacher and lecturer this is a concise yet comprehensive text that takes into account the everyday realities of teaching Readable and user friendly it is a first class resource for the primary practitioner at all levels International Guide to Student Achievement John Hattie, Eric M. Anderman, 2012 The International Guide to Student Achievement brings together and critically examines the major influences shaping student achievement today There are many often competing claims about how to enhance student achievement raising the questions of What works and What works best World renowned bestselling authors John Hattie and Eric M Anderman have invited an international group of scholars to write brief

empirically supported articles that examine predictors of academic achievement across a variety of topics and domains Rather than telling people what to do in their schools and classrooms this guide simply provides the first ever compendium of research that summarizes what is known about the major influences shaping students academic achievement around the world Readers can apply this knowledge base to their own school and classroom settings The 150 entries serve as intellectual building blocks to creatively mix into new or existing educational arrangements and aim for quick easy reference Chapter authors follow a common format that allows readers to more seamlessly compare and contrast information across entries guiding readers to apply this knowledge to their own classrooms their curriculums and teaching strategies and their teacher training programs

School Size Effects Revisited Hans Luyten, Maria Hendriks, Jaap Scheerens, 2014-06-26 This book provides a thorough review of the research literature on the effect of school size in primary and secondary education on three types of outcomes student achievement non cognitive outcomes and costs per student Based on 84 scientific publications and several prior reviews the book discusses four main areas the impact of school size on cognitive learning outcomes and non cognitive outcomes the state of the art of empirical research on economies of size the direct and indirect impact of school size conditioned by other school context variables on student performance and the specific position of the Netherlands in an international perspective The book presents summaries of the results and main conclusions found and discusses these with respect to their relevance for educational policy in general and for the Netherlands in particular The book concludes with suggestions for future research on school size

Handbook of Data-Based Decision Making in Education Theodore Kowalski, Thomas J. Lasley, 2010-04-15 Education has fought long and hard to gain acceptance as a profession and since professionals by definition use data to shape the decisions they make education has little choice but to continue moving in this direction This 3 part handbook represents a major contribution to the literature of education It is a unique compendium of the most original work currently available on how when and why evidence should be used to ground practice It is a comprehensive cross disciplinary research based and practice based resource that all educators can turn to as a guide to data based decision making The Handbook of Data Based Decision Making in Education is a must read for researchers who are just beginning to explore the scientifically based nature of educational practice It is also appropriate for policy makers and practitioners who are confronted with young people who need to be in classrooms where best practices are the norm and not the exception

Research Report, 1990

Educational Psychology EduGorilla Prep Experts, 2024-09-23 EduGorilla Publication is a trusted name in the education sector committed to empowering learners with high quality study materials and resources Specializing in competitive exams and academic support EduGorilla provides comprehensive and well structured content tailored to meet the needs of students across various streams and levels

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