

# Early Reading Development Study

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The excerpt below, comes from an article that appeared in *Twin Research and Human Genetics*, Volume 12. The research uses data from our Early Reading Development Study twin sample. Please let us know if you would like a copy of this publication and we will be happy to mail it to you.



## Does Classroom Separation Affect Twins' Reading Ability in the Early Years of School?

The question of whether to place members of twin pairs in the same or different classrooms in school is one that their parents often face. In some educational jurisdictions, policy dictates that twins be separated, in others, kept together, and in yet others, parents have the choice, often in consultation with teachers (Segal & Russell, 1992; Tully et al., 2004; Webbink et al., 2007). Alternatively, individual schools may have the authority to define a policy or they may be allowed to leave the decision to the parents (Hay et al., 2004). School policy can vary across countries, with, for example, Scandinavian countries keeping multiples together in most cases and the Netherlands more often tending to separate twins. In view of the wide range of practices and of the need for parents to make informed decisions, evidence on academic achievements of twins as a function of classroom placement is of value. In this paper, we report data on the early literacy development of twins in same versus different classrooms from kindergarten to second grade. The samples come from Australia and the United States, and are from a larger longitudinal study that also includes twins from Norway and Sweden. The Scandinavian children are not part of this report because almost all pairs are assigned to the same class, as per the policy described earlier. We feel it is important to point out from the outset that our data do not come from a randomized controlled trial (RCT) of twin placement. As far as we are aware, no such study has ever been conducted, and ethical considerations make it unlikely that it ever will be. Because an RCT offers the best prospects for imputing causality, conclusions from this study must be constrained. But our data do at least have the advantage of including observations taken prior to the start of formal schooling, and so we are in a position to indicate if any pre-existing characteristics of the children themselves might influence the decision to separate them or not and to take any such characteristics into account in evaluating school-based data.

In this article we report on reading ability of twin children in kindergarten to Grade 2 as a function of whether members of the pairs are assigned to the same or different classrooms. All analyses were run using mixed model regressions to account for the interdependence between twin pairs. The samples, total  $N = 1505$ , are from Australia and the United States. We found a close-to-significant difference in favor of same-class children in kindergarten and Grade 1. However, when results were adjusted to take account of pre-existing differences in disruptive behavior and in preliteracy ability, the class assignment effects disappeared. We suggest that these pre-existing differences, particularly disruptive behavior, are influencing decisions about whether to separate twins or not and also affecting early reading performance, a conclusion supported by significant correlations between the behavioral measures, preliteracy, and school-based reading. We conclude that, on average, early literacy in twins is not directly affected by their assignment to the same or different classrooms.

If our interpretation is correct, parents need not be concerned that separation will, of itself, impede early reading development when they are deciding about twin placement in school. Naturally, we limit ourselves to reading as we assessed it, as against other school subjects. However, our test does correlate highly with other measures of literacy, including reading comprehension in the early grades, and the available research does not point to any consistent, unambiguous effects of separation on academic achievement in general, advantageous or otherwise. We recognize that particular pairs of twins being separated, or kept together for that matter, may cause distress, and anecdotally parents have described such effects to us. Thus, we concur with van Leeuwen et al. (2005, p. 390) when they recommend 'that the decision about classroom separation of twins should be based on what parents think is best for their twins and for themselves.

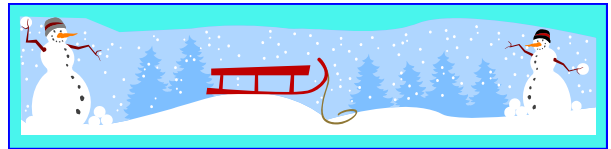
## Meet the Researchers

Richard Olson is a Professor of Psychology at the University of Colorado. He currently serves as the Director of the Colorado Learning Disabilities Research Center and Principal Investigator of the Colorado component of the International Longitudinal Twin Study. He has studied reading and related skills in identical and fraternal twins since 1983 to better understand the genetic and environmental influences on reading ability and disability (dyslexia). He has also explored the use of computer programs in the schools to help children who have difficulty learning to read.

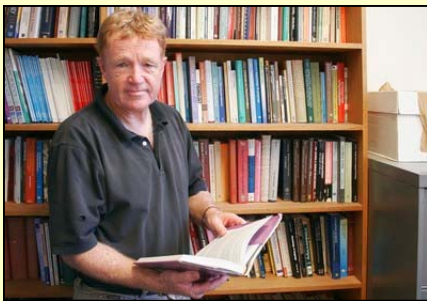


Update on future testing!

- We are in the process of seeking funding to visit the twins after they have completed ninth grade. We are hopeful that this will become a reality. We are very grateful for your continued support of the reading study. If you are planning a move in the future, please let us know by contacting us by phone: 303-492-3705 or email: [corleyk@colorado.edu](mailto:corleyk@colorado.edu). We do not want to lose contact with you so that when funding is renewed we can reach you. We don't want to lose any families from the study!



My interest in the behavior genetics of reading stemmed from earlier work with children whose families histories put them at risk for reading disability. We found that with appropriate and early intervention they could be brought up to grade level, or most of them. It was a natural step to think about how genes and environment interacted in causing these problems, and why some children were much harder to treat than others.



Brian Byrne  
Professor of Psychology  
University of New England  
Armidale NSW 2351  
Australia

Prof. Stefan Samuelsson is the principal investigator for the Norwegian and Swedish parts of the longitudinal international twin study. He is an educational psychologist with special interest in early reading and spelling development and reading and writing difficulties among children and adolescents.



Stefan Samuelsson  
Department of Behavioral Sciences and Learning  
Linköping University  
581 83 Linköping  
Sweden

Kim Corley  
Campus Box 447  
Boulder, CO 80309  
Phone: 303-492-3705  
Fax: 303-492-8063  
Email: [corleyk@colorado.edu](mailto:corleyk@colorado.edu)



Once again, we have had a great response to our request for **CSAP** scores this year. Thank you for taking the time to copy and send the scores. If you haven't sent in the scores yet we would still love to receive them.