Reviewer's report

Title: Continuous admission to primary school and mental health problems

Version: Date: 22 February 2006

Reviewer: Gus Thompson

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General
The fact that age of entry for the first two grades ("continuous") differs from entry into the third grade and beyond (at "one moment"), sets up an interesting natural experiment. However, in addition to timing of entry effects, there are a number of confounds inherent to any comparison of the two groupings (age, number of months in the first two years, and other factors which might produce different experiences in the higher grades). Plus, the RCT data exist for the younger group only. Differences might well be due to the absence of such data in the older group. These issues might not be completely addressable, but they should be noted and placed in context and identified as limitations, if appropriate. Further, there are some methodological problems/questions which might be addressable in a satisfactory manner - if not, the paper is not publishable in my opinion.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
1. The 2nd purpose of the study was to determine whether any relative age effect persisted after the age of six years. The confounds noted above need to be addressed before conclusions are drawn.
2. The data from the RCT should not ordinarily be included in the comparison of the 5 & 6 year-olds with those seven and older (i.e. there are no comparable older children in the RCT study!). To include both implies that the two studies had no overlapping children, and were essentially of equivalent methodology. Data from the two studies should at least be presented separately with a good case being made to justify the assumption of the equivalency of the two approaches.
3. Some explanation is needed for the way in which children are assigned to age-groupings. Since entry is continuous for the first two grades, it does not appear that the birth-month assignments noted in the Analysis section can be taken to represent relative age (which is age in relation to one's classmates) even at a point in time. Further, a child's position at any point is different than at any other month because of the continuous addition of new, younger, students. To complicate matters, the older ones do not leave the sample continuously, but at one time per year. What does this mean for relative age? For the older children (ages seven and up), month of birth is not the best measure, since it does not accurately convey a child's age relative to his or her classmates. Is it relative to the age of starting grade three? Does it take into account the very long length of time that some will spend in the first two grades? Are some children held back or accelerated? In either case, the relative age measure has to be defined clearly and operationally.
4. The Discussion section could be strengthened. The entirety of the first paragraph contains results, and should be thus moved to that section. Very little is said about the implications for relative age theory nor for application.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. Page 10, Reference 3. An "n" should probably be added to the word "withi"
2. Table 2. It looks as if the bottom line should be preceded by three asterisks.
Discretionary Revisions (which the author can choose to ignore)
1. Page 3, Introduction, Paragraph 1 - last 2 lines. That particular application of relative age theory did not refer to athletic performance, just to academic performance.
2. Under measurements (page 5), the implication is that the child health professional made a dichotomous rating on the presence or absence of a psychosocial problem. However, in the Analysis section, the implication is that the CHPs rated problems as moderate or severe. Clarification would help the reader.
3. It might be more informative to use a trend analysis over the three age levels. Mantels test for a progressive increase could be used for the categorical data (clinical ratings).
4. In two places on page 6, findings were explained briefly, but the data were "not shown". Witholding means, etc. is fine, but it is traditional (and helpful to the reader) to include, within parentheses, the results of the statistical test used. e.g (t = 2.66, df=1, p<.01 or F = 1.11, df = 2/1200, N.S.)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests.