

2012 SIG 18 Theme: "From Theory to Theory. Empirical Analyses in Relation to Theoretical Models of Educational Effectiveness"

Title: Protecting the development of 5-11 year olds from the impacts of early disadvantage:
The Role of Primary School Academic Effectiveness

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Extended Abstract :

a) Objectives or purposes.

1. To determine whether attending a more academically effective primary school can protect children's self regulation and academic attainment between 6 to 11 years from prior early disadvantages that were experienced before school-entry at age 5.

2 . To better integrate the mutually-informative findings and approaches that come from the distinct but interrelated '*Educational Effectiveness Research (EER)*' and '*Risk and Resilience*' research traditions as both seek to differentiate the effects of a child's background from the impacts of day-to-day interactions and processes (Rutter & Sroufe, 2000; Sammons, 1999).

b) Perspective(s) or theoretical framework.

Whether or not more effective schools can successfully mitigate the impacts of early disadvantage on child development remains uncertain in both *EER* and the *Risk and Resilience* research. Here we integrate the notion of 'multiple disadvantage as *cumulative risk*' (though an equivalent notion can also be found in early *EER*; e.g. Sammons, *et al.*, 1983) within an *EER* study of primary school academic effectiveness. This integration comes from two observations. First, that *EER* has long-debated which sets of background factors are more important for educational attainment (Sammons, 1999). Second, that the *Risk and Resilience* research tradition commonly adopts an epidemiological approach to background factors by arguing that it is the *volume* of factors which must be considered.

c) Research question (maybe including hypothesis/hypotheses).

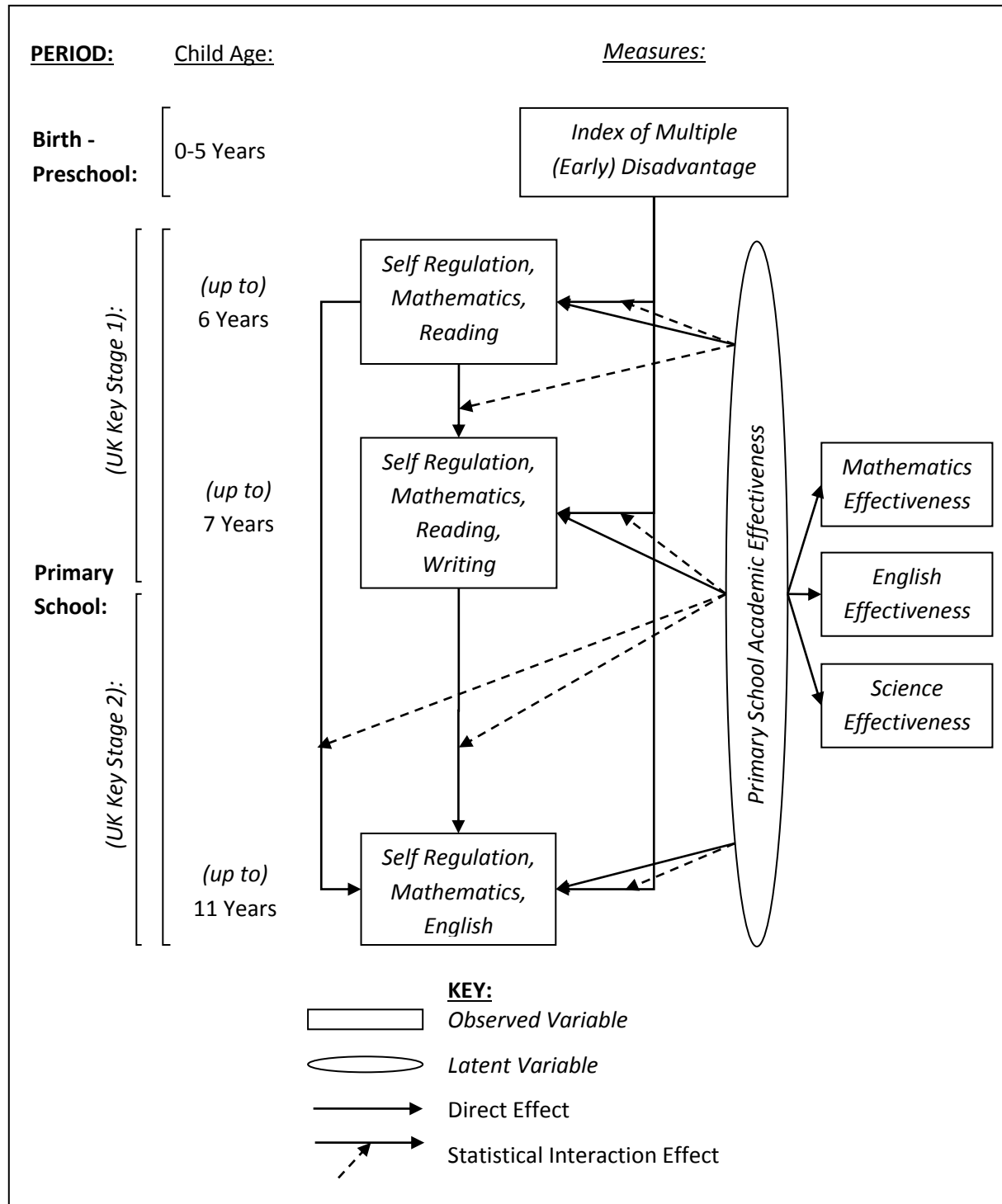
To what extent can the academic effectiveness of primary schools protect child development from adverse effects that come from experiencing multiple (early) disadvantages?

d) Methods, techniques, or modes of inquiry.

We report on a prospective longitudinal investigation of 2,664 children aged 6-11 years who attended 767 UK primary schools. We analysed measures of development that were taken at child ages 6, 7, and 11 years. These measures included assessments of children's academic skills in *English (reading, writing)*,

maths, and *self regulation*. We used multilevel Structural Equation Modelling (SEM) to reveal the ‘total’ developmental impact of multiple early disadvantages that were experienced before school-entry in a *value-added* statistical examination of development between 6-11 years of age (see Figure 1).

Figure 1. Multilevel Structural Equation Model testing the developmental impacts of multiple disadvantages experienced before school-entry and primary school academic effectiveness



e) Data sources, evidence, objects, or materials.

The data analysed in this study comes from the Effective Provision of Pre-School and Primary Education (3-11) project - a longitudinal cohort study that has used an educational effectiveness design to study the impact of education on the development of over 3,000 children from age 3 years onwards (a detailed description can be found in Sammons, *et al.*, 2008).

Measures. Experiences of early disadvantage were summarised in an 'Index of Multiple (early) Disadvantage' (IMD) that mirrors Educational Priority Indices (EPI; see Sammons, *et al.*, 1983) and 'Indices of Cumulative Risk' (see Hall, *et al.*, 2010). Self regulation at 6, 7, and 11 years was assessed using the teacher-version of the Strengths and Difficulties Questionnaire. At age 6 years, reading, writing, and maths were measured with NFER-Nelson tests (respectively: Primary Reading Level 1 & Maths 6). At ages 7 and 11, EPPSE obtained assessments of English (reading and writing) and maths from UK national assessments. The academic effectiveness of primary schools was obtained from a separate analysis of 540,000 school children nested within 15,000 British primary schools while controlling for prior attainment and underlying disadvantage (see Melhuish, Sylva, *et al.*, 2008).

f) Results.

The study generated a wide range of results pertinent to both EER and Risk and Resilience researchers. First, experiencing a greater number of disadvantages before school-entry was found to strongly impair academic attainment and self regulation throughout primary school to age 11. However, attending a more *academically effective* primary school for just a single year was found to partially protect age 6 reading, maths, and self regulation. Second, more academically effective primary schools were found to lessen the extent to which age 6 and 7 abilities in reading, writing, and self regulation predicted these same abilities at age 11 years. Considered with the age 6 protective finding, this suggests a secondary and longer-term partially-protective effect: *that attending a more academically effective primary school may lessen the "internalisation of early disadvantage"*. Although early disadvantage may strongly hinder early cognitive and social abilities, attending a more academically effective primary school lessens the importance of this when estimating likely abilities at age 11 years.

g) Scientific or scholarly significance of the study or work with regard to theoretical development of educational effectiveness.

This study extends current knowledge about the links between equity and effectiveness that are a long-standing focus of much EER. The results illustrate that attending an academically effective primary school has benefits for all students but may have especial importance in boosting outcomes for *early* disadvantaged groups (i.e. facing disadvantages before school-entry). It also demonstrates the importance of both direct and indirect effects in shaping children's developmental and academic trajectories across their primary school career (age 6-11).

h) References.

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