

Provide title of project here

An investigation into social capital, parental educational investment, and child cognitive development during childhood and adolescence

What is your first-choice institution to visit?

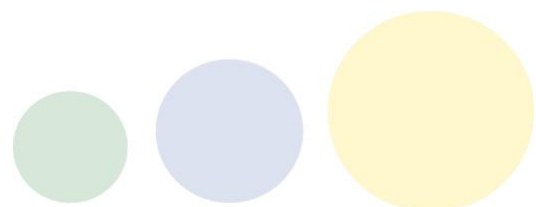
Manchester Metropolitan University

Name of the research infrastructure/dataset you wish to access.

Millennium Cohort Survey

Describe the objectives, context, and rationale of your project. (Word limit: 300 words)

Parental educational investment has been positively associated with child cognitive development in previous research using Millennium Cohort Study data (Hernández-Alava & Popli, 2017). Likewise, parental educational background and household wealth are also positively associated with cognitive ability (Moulton et al, 2020). However, little research has investigated the mechanisms by which these variables work together to confer cognitive advantage to some children, specifically during the challenging developmental period from primary education to post-primary schooling. This transitional period being a major age graded life event that brings many challenges for students, particularly when inadequately prepared for the change in institutions and curriculum (Jindal-Snape & Cantali, 2019). Parental trust in institutions influences parental educational investment at home and can greatly reduce the stress and reduce the individual resources required to cope during this developmental period. This can confer extra individual resources towards attending to richer engagement in education and the healthy developmental of cognitive faculties of children. The project will investigate these processes by applying concepts from sociology (social capital and cumulative disadvantage) and educational psychology (parental investment and engagement models), within the context of late childhood/ early adolescent development. Specifically, using longitudinal SEM techniques, the project will investigate the background educational factors, such as parental school experience and trust in school institutions, which lead to or prevent greater parental inputs and engagement with children between the ages 7, 11, and 14. Leading from this, the project will investigate how these social mechanisms influence the development of two separate domains of the Cattell-HornCarroll model of cognitive ability (processing speed (Gs) and crystallised intelligence (Gc)) . The project will seek to address three questions: How does previous parental educational experience, and other social factors, influence parental trust and engagement with schooling institutions? How does this trust influence parental investment and engagement in children's education? How do these processes moderate children's cognitive development?



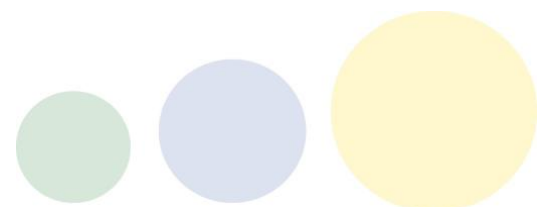
Describe the original and innovative aspects of your project, including the potential to inform policy where applicable. (Word limit: 150 words)

To date, few research outputs have narrowly focussed on the chain of variables linking parental socioeconomic and educational backgrounds, trust in institutions (principally schools), parental engagement, and child cognitive development within the context of the developmental period between primary and post primary schooling. This research will provide greater clarity and definition to those social and psychological mechanisms which assist the transition with little disruption and greatest benefit to developmental progress, specifically that of cognitive development. Additionally, the findings will help address research on those social factors which lower the probability of early post-primary school leaving among particularly at risk groups. Such valuable insights will be employed as part of EU and national policy and intervention measures designed to prevent early school leaving such as those designed by the EU working group on early school leaving.

Provide the proposed method, work plan and schedule for your project. Please be as specific as possible. (Word limit: 300 words)

Over the course of two weeks, I would conduct and complete all statistical analysis on the MCS dataset, having prepared the general layout of my literature review before my visit. Within the first week I will clean and plot the descriptive statistics and general distributions of all variables and covariates, using my preferred statistical programme, R Studio. The principal variables of interest will be parental education and socioeconomic background, parental social capital, and trust in institutions (measured through value in education and parental school engagement with the child's school), parental input/ home learning environment, and cognitive assessments of the child. The assessments representing crystallised intelligence (Gc) being word reading (BAS II) at age 7, verbal similarities (BAS II) at age 11, and vocabulary test (applied psychological unit test) at age 14. These tests will be correlated and standardised for the purpose of longitudinal analysis. The assessments representing processing speed (Gs) will be the Cambridge Gambling Test collected at 11 and 14. The second week I will model the cleaned data using the lavaan and SEM packages in R Studio. I will principally use longitudinal structural equation modelling techniques to test the research questions and the reliability and validity of the model parameters using standard model fit tests (Chi², RMSEA, CFI). Additionally, I will collaborate closely with the university researchers, always considering their recommendations and expertise for the purpose of refining both my research questions and model parameters.

Describe briefly the reason why you chose this host institution and/or dataset. For example, name potential researchers at the host institution who you would like to collaborate with. (Word limit: 150 words)



I have chosen Manchester Metropolitan University as it is the principal administrator for the Millennium Cohort Study, and as such has valuable knowledge of details of the study within the research faculty. Specifically, I wish to work with Professor Gary Pollock as he has direct experience both with the dataset, and also experience on adolescence research and social inequalities, as well as broader and more general expertise working with cohort datasets and longitudinal methodologies. His experience investigating age graded transitions in adolescence would also be highly valuable for my further development as an educational and social researcher.

Describe the potential risks and contingencies that might occur during the proposal and/or the project, and how you plan to avoid, mitigate, or resolve them. (Word limit: 150 words).

As the project is concerned with secondary datasets involving no experimental aspects, risk to participants is minimal. Nevertheless, all necessary precautions regarding data security with all datasets will be taken. Data will be stored on password protected, encrypted computers. Any sharing of data with other researchers at the University will be done using the HEA Net secure file sharer, so that data is not stored in an email account or in a cloud server.

Please describe what outcomes you would like from your visits (e.g. access to expertise in data, potential collaborators) (Word limit: 150 words).

The principal outcome I wish to attain from the visit is to work with the full Millennium Cohort Study, and the opportunity to collaborate with experts in the field of longitudinal methodologies. Specifically, the opportunity to work and seek guidance from Professor Gary Pollock, who has expertise in the longitudinal research of social development in adolescence cohorts.

Provide a short description of yourself. (Word limit: 150 words)

I gained a 1st class honours in Sociology and Social Policy from *University* and proceeded to complete a master's degree in Applied Social Research from *University*. I specialised in quantitative methods using random effects modelling to investigate the relationship between grand-parenting hours and mental and cognitive health. I then worked as a researcher in the *Longitudinal Study* for two years, where I developed an interest in the relationship between early and midlife educational and occupational experiences and rates of cognitive ageing. From this interest I collaborated with *Academic #1* and *Academic #2* on a successful government of *Country* research scholarship to investigate the relationship between engagement in both education and work and brain development across the life course. My other academic interests include applied statistics and longitudinal research methods, specifically as they provide excellent opportunities to document and assess change across time.

