Great Expectations: Spatial and socio-economic differences in the development of parent and teacher academic expectations and links with student's academic achievement and choices

Caoimhe Dempsey, Keyu Ye, Selina McCoy

Economic and Social Research Institute

Study Objectives

The pursuit of equity in higher education (HE) participation is central to education policy internationally, with efforts mostly focused on narrowing social class differentials. However, there is an increasing acknowledgement of spatial differences, and in particular, interactions between spatial and social class differences, that act as a barrier to HE participation. Early studies in 1980s and 1990s show rural students have relatively lower family socio-economic status (SES) and, consequently, limited educational progression (e.g., McDonough, 1997). However, more recent research indicates changing patterns between rural and non-rural families (Li & Qiu, 2018) which necessitates an up-to-date analysis of student's HE participation. This longitudinal study examines spatial and social class differences in student's academic achievement and self-concepts and subsequent HE choices in Ireland and aims to identify malleable social influences on observed educational trajectories that can be used to inform policy. This study is conducted in the context of recent HE reforms in Ireland (for details, see Walsh et al., 2017), and the expansion of digital technology use in education, a potential resource for learning and HE information (Morris & Rohs, 2021).

Expectations regarding academic performance and HE choices is a salient contributor to student's education. Previous findings show that if parents expect their children to attend HE, children are more likely to plan for HE (Agger et al., 2018). Outside of the family, teacher's expectations can also support student's academic development and increase the probability of HE participation (Byun et al., 2012). Studies that capture Irish students' voices confirm the contribution of these social and cultural capital effects; MyCoy and Byrne (2011) report access to information, experiences with school staff, encouragement and financial restrains as barriers to higher education access in Ireland. Parents play an important role in shaping student's decisions, and significant variation exists in the access and quality of career guidance students receive across Irish schools (Smyth, 2011). These parent and teacher expectations contribute to student's achievement as well as their own academic aspirations. A recent randomised intervention highlighted both the significant role of student's self-confidence for HE choices, and the responsiveness of self-confidence to simple intervention

design (Hakimov et al., 2023). Building on this recent work, this study looks back to trace the origins and development of parents, teachers, and student's educational expectations and how they contribute to HE inequalities.

The relative salience of academic expectations may be different across rural/non-rural regions and levels of social class. Previous studies have reported close parent-child relationships in rural settings (Nelson, 2016), and through these relationships students may be more heavily influenced by family factors, such that it amplifies the effects of parental academic expectations (Byun et al., 2015). Conversely, other findings indicate that family SES has a weaker effect on school dropout rates among rural students compared with their non-rural counterparts (Howley, 2014). In a Chinese sample, Li and Qiu (2018) found family SES has a larger impact on academic achievement for urban students than their rural counterparts, as this economic advantage facilitates the purchase of additional education. By contrast, the same study shows the achievement of rural students relies more heavily on their own learning behaviours compared with urban students. Further, studies to date have not differentiated between families with high income and those with high education, which may shed light on important differences particularly in rural areas.

Overall, there is limited international research that adopts a longitudinal approach to understanding spatial and socio-economic patterns of association between social expectations and student's academic trajectories. Addressing this gap, this study draws on four waves of a nationally representative cohort study in Ireland (data collected at 9, 13, 17 and 20 years), and has three aims:

1: Track the development of parent and teacher academic expectations and examine differences in mean levels and temporal changes across levels of family income, parent education and spatial regions.

2: Examine concurrent and longitudinal associations between parent and teacher academic expectations and student's academic achievement, self-concepts and HE choices. Compare differences in the relative salience of these effects across levels of family income, parent education and spatial regions.

3: Examine the importance of exposure to information from online educational resources and school guidance counsellors plays for student's HE choices across levels of family income, parent education and spatial regions.

Materials and Methods

The current study draws on Growing Up in Ireland (GUI), a nationally representative cohort study of children in Ireland, and uses data collected at 9 years, 13 years, 17-18 years, and 20 years. At 9, 13 and 17-18 years, parent and teacher academic expectations, child academic self-concepts, use of the internet for education, and direct assessments of academic achievement are collected. Sources of HE information are collected at 17-18 years and HE choices are collected at 20 years. Inter-weight attrition was related to family social class, income, and parental education. Thus, the data were statistically re-weighted prior to analysis, using standard procedure sampling weights for GUI data that ensure data are representative of the population in Ireland.

We used structural equation modelling in R Studio to analyse the data. We applied cross-lagged autoregressive models, with a robust maximum likelihood estimator, to examine the nature of associations between parent and teacher academic expectations and student achievement at 9, 13, 17 and 20 years. Model fit was evaluated using four criteria: non-significant $\chi2$, Comparative Fit Index (CFI) > 0.90, Tucker Lewis Index (TLI) > 0.90, Root Mean Square Error of Approximation (RMSEA) < 0.08 (Brown, 2015). We had sufficient sample size (N = XX) to compare results for urban and rural students and across levels of family SES, as well as the interaction between these two (i.e., urban high SES, urban low SES, rural high SES, rural low SES). As a robust maximum likelihood estimator was used in the analyses, the $\chi2$ difference between each nested model and the comparison model was calculated using the Satorra-Bentler $\chi2$ difference test (Satorra & Bentler, 2010). A full information approach was adopted so all eligible families were analysed (Enders, 2001).

Results

We expect rural students and lower SES students to have lower parent academic expectations, lower student academic achievement and academic self-concepts, and be less likely to pursue HE.

We expect parent and teacher academic expectations to show concurrent and prospective links with student's achievement, academic self-concept and HE choice.

We expect the magnitude of links with parent expectations to be larger for rural students, and the magnitude of links with teacher expectations to be larger for lower SES students.

We expect children who use the internet for educational purposes to have higher academic achievement, self-concepts and be more likely to pursue HE, particularly among rural students.

Conclusions

Our findings are discussed in relation to several avenues for informing policy. Firstly, our study provides an up-to-date overview of groups of students who face the greatest spatial and SES barriers to HE. Secondly, our findings provide insight into the role that teacher expectations play in the development of student's educational outcomes and identify groups who are particularly susceptible to the effects of teacher expectations, both directly and in combination with the influence of parental expectations. This information can be used by both primary and secondary schools aiming to target the origins of inequalities in HE. Thirdly, our study shows how exposure to information in school and online can support students who lack this informational exposure from other social sources. While set in the Irish context, the study had relevance internationally in understanding the interplay of parental and teacher expectations, resources and information in shaping educational outcomes like higher education entry and in identifying policy mechanisms to address spatial and socio-economic inequalities in such educational opportunities.