

## COVID-19: Exacerbating Educational Inequalities?

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### Introduction

In an effort to contain the spread of coronavirus (COVID-19), on the 12<sup>th</sup> March 2020 the Irish Government announced the closure of all preschools, schools, and higher education institutions until the 29<sup>th</sup> March and later extended until the 19<sup>th</sup> April. School closure is a non-pharmaceutical measure used in many countries experiencing pandemics, such as in Hong Kong and certain areas of Australia and Canada during the H1N1 pandemic in 2009 (Cauchemez *et al.*, 2009). A systematic review of 45 simulation studies modelling the effect of school closures on influenza pandemics finds that such a response can be effective in mitigating the transmission of the virus (Jackson *et al.*, 2014), although there is little consensus on the magnitude of the effects or the subsequent social and economic implications.

### Educational Inequalities

One potential consequence of the current school closures is a widening of inequalities in education and skills. Evidence from the infant and child cohorts from the nationally representative Growing Up in Ireland study demonstrate that children from lower socio-economic status (SES) households have, on average, poorer outcomes. For example, by age 3, there is a 15-point gap in the verbal ability scores of children of mothers with no secondary school education compared to the children of mothers with a postgraduate degree, and by age 13, this gap widens to 30-points (Quigley and Nixon, 2016).

Inequalities in children's outcomes may arise when a family's ability to invest in their children is hampered by monetary (Becker, 1965) or cognitive (Mani *et al.* 2013) constraints, or the stress that accompanies poverty (Lupien *et al.* 2001). These models are often referred to as the Family Investment Model (Bradley and Corwyn, 2002) and the Family Stress Model (Conger *et al.* 1994). Families from disadvantaged backgrounds face financial constraints (Carneiro and Heckman, 2003), however the stress of living in chronic poverty in combination with poorer parental education in lower SES households, means that parents from such backgrounds often spend less time investing in their children's education (Del Bono *et al.*, 2016; Guryan *et al.*, 2008), they provide less stimulating learning materials and learning experiences to their children (Bradley *et al.*, 1989; Miller *et al.*, 2014), and they often engage in more permissive or harsh parenting (Cunha . 2015;

Bradley and Corwyn, 2002). Although schools do not fully close socioeconomic gaps in children's skills, they are effective in reducing the magnitude.

### **Schooling during COVID-19**

As a result of COVID-19, school closures have shifted education from the classroom to the home, and for the immediate future, the burden of education now falls largely on parents. While some children are regularly home schooled in Ireland, the numbers are few (1,495 in December 2019) and the protracted nature of the closures means that home schooling is now a reality for the close to 1 million children who are currently enrolled in primary and secondary schools (CSO, 2020). The Department of Education and Skills (DES) has made resources available on their website for both teachers and parents, and individual schools are providing varying levels of supports to families including the use of apps such as Edmodo/Showbie/Aladdin to communicate with students and post assignments, homework, and pre-recorded material, presentations, and voice memos. Some schools are also providing virtual classes using video platforms such as Zoom/Google Hangout, as well as regularly communicating with parents through text messaging and email, and as of 30<sup>th</sup> March, RTE has launched the 'Home School Hub' from 11-12am on weekdays to provide classes to 1<sup>st</sup> through 6<sup>th</sup> primary school children.

However, there is likely to be a high level of variability in both the school's and parent's capacity to provide and effectively use these resources. Some households may lack the physical resources necessary to support children's learning (e.g. overcrowding, desk space, computers), while others may have time constraints, particularly if parents are engaged in essential services (e.g. retail, supply chain, healthcare workers). Parents with literacy issues may also struggle to engage with the curriculum, while the heightened stress and health problems arising from COVID-19 may make it difficult for both parents and children to engage in schoolwork. In all cases, these issues may be more salient in lower SES households.

At this time, the immediate well-being and mental health of families should be prioritized (a separate paper on this will be shortly released on [publicpolicy.ie](http://publicpolicy.ie)), however, in the event that school closures are in place until the next academic year, the consequences of six months of school closure should be considered, particularly for children who are already at risk. Indeed, the concept of summer drift, or the decline in academic skills experienced among lower SES children during the summer break (Alexander *et al.*, 2007; Cooper *et al.*, 1996), is likely to be further exacerbated the longer schools are closed.

### **Long term implications of school closures**

As the scale and duration of the current school closures are unprecedented both in Ireland and internationally, there is a lack of evidence on the long-term consequences of school closures. A study of public school closures in Prince Edward County, Virginia in 1959, due to opposition to court-mandated integration of African-American and white children, found that children in the affected county did not experience poorer financial, health or criminal outcomes later in life compared to children in the surrounding counties, yet these findings may be a result of the affected children accessing substitute education elsewhere (Heaton, 2008). In a US study of unexpected school absences and closures due to bad weather i.e. 'snow days', Goodman (2014) finds that each student absence reduces math

achievement by 0.05 standard deviations, however lost instructional time due to school closures had no impact on children's test scores. He argues that teachers are better able to coordinate disruptions which affect all students e.g. school closures, compared to dealing with individual school absences. This study does not, however, test whether the effects vary for students from different social backgrounds. Another study by Lavy (2015) investigates the impact of differences in the number of hours of instructional time across countries using PISA data. For example, 15-year olds in France and Greece spend more than 1,000 hours per year in school compared to just 750 hours in England and Sweden. He finds that a one-hour increase per week of instruction in core subjects increases test scores by 0.06 of a standard deviation, and that the effects are even larger for children from lower SES backgrounds.

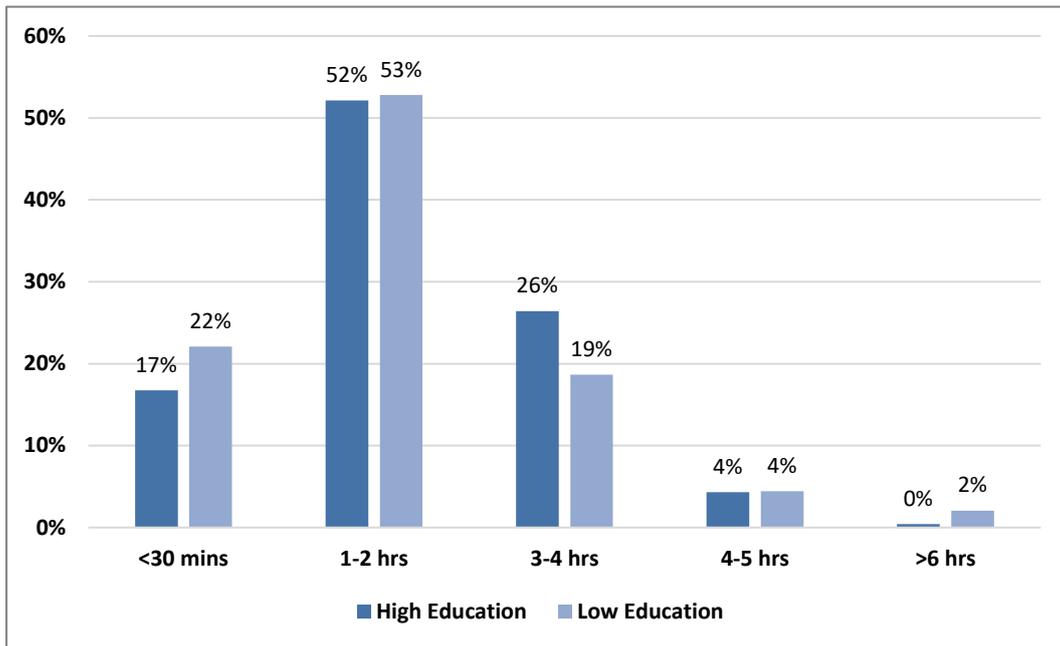
Although findings from this research are sparse, there is some evidence to suggest that lower SES children may be particularly impacted by school closures and the subsequent loss in instructional time that results. Thus, it is possible that lower SES children may be more adversely affected by COVID-19 compared to their higher SES peers, particularly if their schools provide less resources and/or their parents engage in less active home schooling. Indeed, it is possible that higher SES children may actually benefit from home schooling if their parents have higher levels of education and more motivation to invest in their child compared to teachers. A study by Doyle and McDonnell (2019) examining the relationship between maternal employment and childhood obesity, finds that children from higher SES backgrounds are more adversely affected by maternal employment than lower SES families, possibly as the quality of 'replacement' care is lower than parental care.

### Home schooling during COVID-19

The educational implications of COVID-19, if any, may not be evident for some time. However, using survey data collected by the market research company Amárach on the 6<sup>th</sup> April, we can test for differential levels of home schooling across social groups. Of the 1,200 respondents surveyed, 458 were parents. 'High' parental education is defined as having a postgraduate degree or a third level degree (48%) and 'Low' parental education is defined as having less than a third level degree e.g. a third level non-degree, upper or lower secondary education, primary education or no formal education (52%). Parental education is a useful metric to consider as it is associated with child outcomes and engagement in schooling (e.g. Dickson *et al.*, 2016; Lundborg *et al.*, 2014).

Figure 1 documents the amount of time per day parents are currently engaged in home schooling their children. It shows that there is little difference by parents' education. Parents with both higher and lower levels of education are typically spending between 1-2 hours per day home schooling their children, while about one-fifth are spending less than 30 minutes on home schooling. These figures are substantially less than a typical school day, although they must be considered in light of the dual role of many parents as educators and workers at this time. In our sample, a greater proportion of higher educated parents (40%) report that they are now less productive in their jobs compared to lower educated parents (30%), a difference which is statistically significant ( $p=0.019$ ).

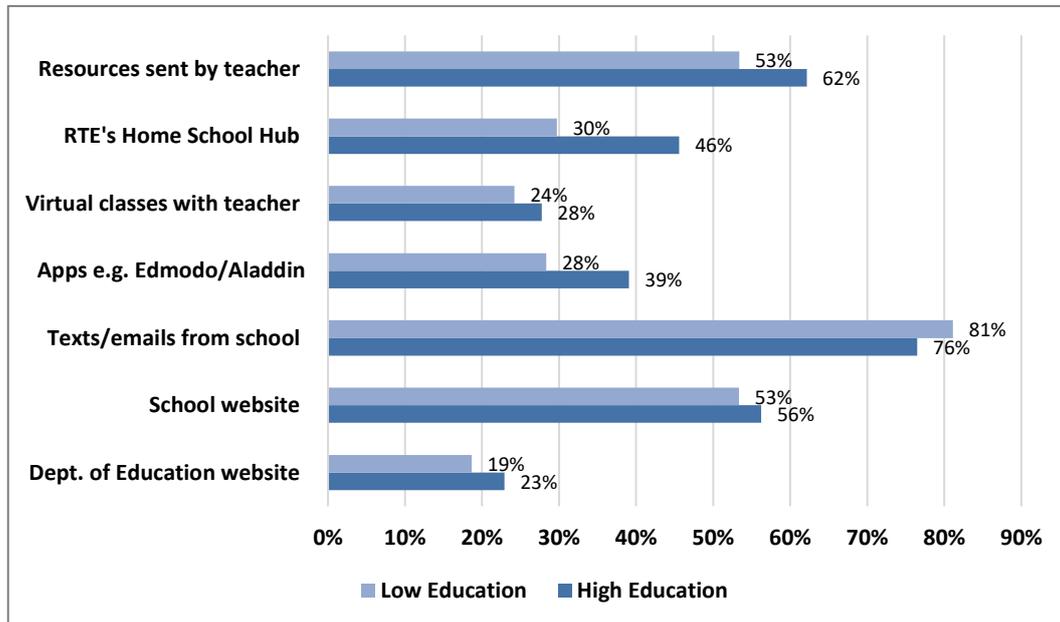
**Figure 1: % Time Spent Per Day Home Schooling Children by Parent's Educational Level**



For parents who are engaged in home schooling, Figure 2 shows their use and availability of educational resources. The majority of parents are receiving text messages or emails (80%) from their child’s school, and more than a half are receiving resources directly from the teacher. However, only about a quarter of children are accessing virtual classes and one-third are communicating with their teachers through educational apps such as Edmodo.

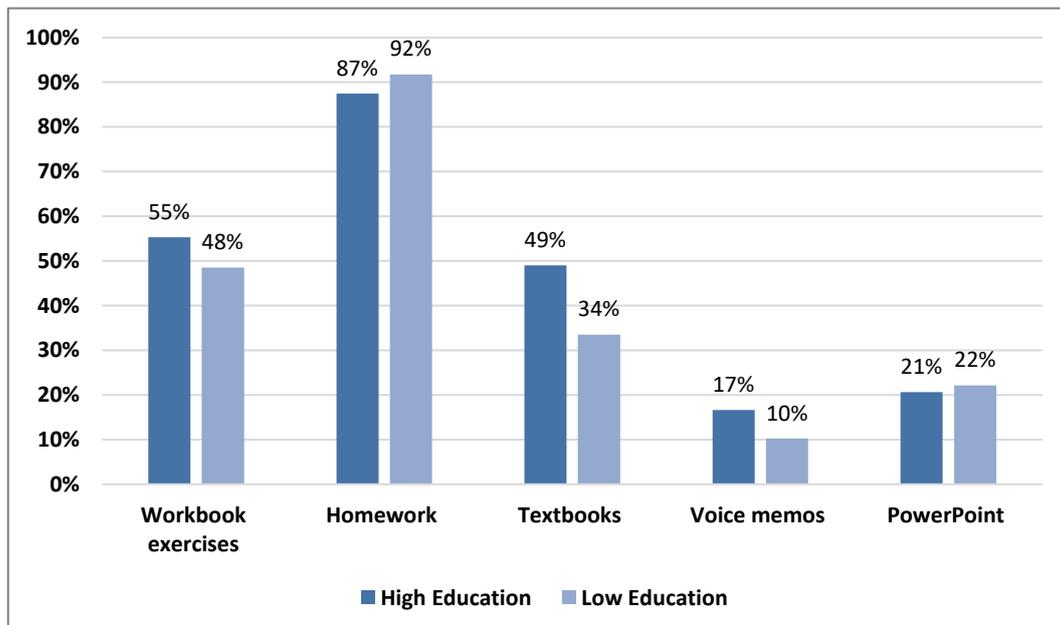
The figure also reveals some differences by parental education. Children of parents with lower levels of education are statistically significantly less likely to receive resources from their teacher ( $p=0.061$ ), use educational apps ( $p=0.015$ ), and to use RTE’s Home School Hub ( $p<.01$ ).

**Figure 2: Use and Availability of Educational Resources by Parent's Educational Level**



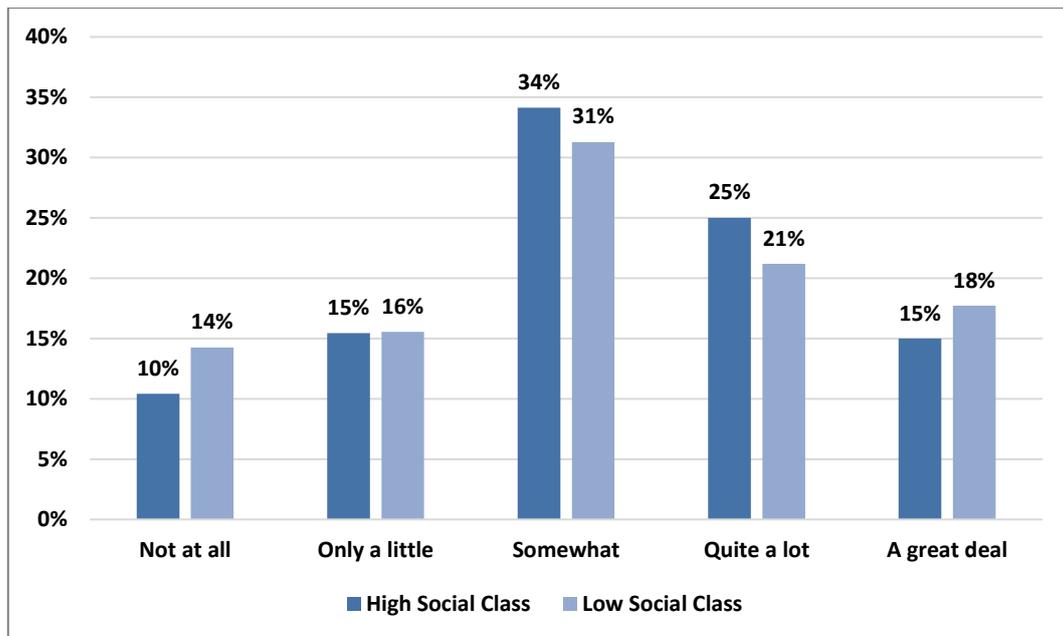
However, as demonstrated in Figure 3, among parents who do report that the child's teacher is sending them resources, there are few differences in the type of resources being disseminated, however lower SES children are significantly less likely to receive textbooks ( $p=0.010$ ).

**Figure 3: Type of resources sent home by the Child's Teacher by Parent's Education Level**



In another survey conducted by Amárach on 2<sup>nd</sup> April, parents were asked the extent to which they were worried about home schooling. Figure 4 compares the responses for parents from high and low social groups, as measured using standard occupational classifications. It shows that the majority of parents are somewhat worried about home schooling their child, and the level of worry is similar across different social classes.

**Figure 4: To What Extent Are You Worried About Home Schooling?**



### Implications & Possible Solutions

These results suggest that families are spending a relatively small proportion of their day engaged in home schooling. The majority of parents are receiving some type of communication and/or resources from their child’s school. However, it is clear that families with lower level of parental education are receiving less resources, both in terms of physical resources such as textbooks, as well as virtual resources such as the use of educational apps. While all families are somewhat worried about home schooling, higher educated parents are also experiencing a greater loss in productivity.

To ensure that COVID-19 does not exacerbate educational inequalities further, it is important that resources are in place to support all families, particularly children in DEIS schools (Delivering Equality of Opportunity in Schools). The DES, in conjunction with the Department of Employment Affairs and Social Protection, the Department of Children and Youth Affairs, and Tusla Education Support Service (TESS), have already initiated the delivery of food parcels to the 250,000 children who avail of the School Meals Programme. If school closures are to be further extended, similar initiatives targeting educational outcomes may be required. For example, one simple and feasible initiative is to include workbook exercises and educational activities along with the food parcels to ensure that children without access to online resources can engage with educational materials on a regular basis.

Insights from behavioural science are effectively being used to ensure compliance with public health messaging around physical distancing and coughing etiquette. Such insights could also be used to support home schooling. For example, several studies have demonstrated that sending text message reminder to parents can increase the amount of time parents spend reading to their children. Mayer *et al.* (2019) conducted a field experiment which provided parents with an electronic device preloaded with 500 children's books. Parents were then sent daily text messages reminding parents to read to their child and emphasising the importance of reading. Parents were also asked to commit in advance to how much time they planned to spend on reading to their child in the coming week and parents who met this goal received a congratulatory text message. Thus, the intervention utilised three common behavioural tools - a commitment device, reminders, and a social incentive. They found that the amount of time parents read to their child doubled during the six-week intervention. Another study by York *et al.* (2019) provided parents with three text messages per week which motivated parents to develop their children's academic skills, provided examples of specific activities to be incorporated into the family's existing routines, and encouraged and reinforced the parents behaviour. They found that the intervention increased parental engagement and improved children's literacy scores by 0.11 standard deviations.

These studies suggest that targeted text message reminders are a feasible and inexpensive way which schools could use to increase parental engagement in home schooling in the immediate term. Yet, such interventions would not address the significant barriers facing some families regarding, for example, access to online materials, unstable family environments, and literacy difficulties. More intensive supports therefore may be required for certain families. This could include opening schools on a very limited basis or having teacher guided video calls for the most vulnerable children. In addition, it may be possible for Special Needs Assistants who have not been deployed to continue working with the children they were supporting prior to the crisis. It is also important that DEIS schools are well resourced for online delivery and to build on the initiatives led by TESS through the Schools Completion Programme and Home School Community Liaison Coordinators and Educational Welfare Officers who already provide a range of supports to at risk families. It may also be possible to engage with the existing Home Schooling Network ([www.henireland.org/](http://www.henireland.org/)) in Ireland. While some schools are already providing such supports, yet it is imperative to ensure that children most at risk are provided for.

Although we have no specific evidence on whether these supports will be effective in reducing educational inequalities, there is some evidence within the Irish context that providing support to disadvantaged parents can improve children's outcomes. Evidence from the *Preparing for Life* trial, conducted in a disadvantaged Dublin community between 2008-2015, finds that early and sustained investment in parenting can reduce socioeconomic gaps in educational achievement (e.g. Doyle, 2020; Doyle 2018). The programme, led by the Northside Partnership, provides regular home visits to support and educate parents around child development and parenting over a five-year period. While home visits are not currently available, it is feasible that they are replaced with 'virtual' visits. Such one-to-one interventions are more costly than the text message interventions, yet are only required for the most vulnerable families. Thus, the idea of proportionate universalism may apply, whereby all families receive some level of support, but families with higher levels of need receive more support.

Parenting is hard, and in the current COVID-19 environment, it has become even harder. While the basic nutritional and mental health needs of the most vulnerable children in society should be prioritised at this time, with prolonged school closures, our attention should next turn to minimising further educational inequalities.

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