The Economics of Parenting: Children and Inequality in a Time of Shutdown

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I Introduction

Necessary responses to the COVID-19 pandemic raise potentially harmful consequences for children's development that can exacerbate inequality gaps and have long-reaching implications. This commentary will focus on what research can tell us about the key features of skill development and how the situations driving parental choices bear a significant role in development and inequality that are likely affected by the consequences of the pandemic. Further, effective support for parents and child development must also include intersecting factors from homes, neighbourhoods, and schools in both the research and development of policy. The primary message from the evidence base is that where inequality is high there is a much greater risk from shocks, such as the pandemic, to deepen inequality in skill development through factors in the home, neighbourhoods, and schools. It suggests that policy will not be effective through only a focus on what happens in schools but will require balancing multiple, and potentially competing, channels. Moreover, it suggests a renewed focus on reducing the prevalence of children living in low income households in order to improve attainment.

II What we know about skill development during childhood.

There is now a substantial body of research outlining the key features of children's skill development. First, skills are multiple and not entirely captured by test scores. Skills are often split into two major categories: cognitive – as a reference to aptitudes to perform mental tasks – and socio-emotional. Some examples that have been referred to as socio-emotional skills are grit, self-control, externalising and internalising behaviours, ability to get along with others, and

similar concepts. Cognitive skills are, of course, important for capabilities in education and the labour market, but socio-emotional skills have been found to be just as important for success in not only education and the labour market but also marriage, avoidance of criminal activity, and a range of other adult outcomes (Deming 2017; Heckman & Mosso 2014).

Second, skills are malleable in early life and respond to investments. While genetic endowments surely have a role, an extensive evidence base now documents that skills remain sensitive to a variety of inputs during early life (Attanasio 2015). These inputs include the "self-productivity of skills" (e.g. skills in the last period impact skills today leading to skill trajectories), environments (e.g. communities/neighbourhoods and schools), and parental investments and parental skill (Cunha, Heckman, and Schennach 2010). Moreover, it appears that cognitive skills may be somewhat malleable during one's very early life – best targeted by pre-school interventions – but socio-emotional skills display both a wider extent of malleability and time period to be adjusted (Heckman & Mosso 2014). Also, recent evidence suggests that socio-economic skills remain sensitive into adolescence (Hoeschler et al. 2018), and in this period, continue to respond to parental involvement (Norris & van Hasselt 2019).

Third, effective investments exhibit dynamic complementarities, meaning that investments build on each other over time, across multiple periods of childhood (Cunha, Heckman, & Schennach 2010). Put differently, a singular set of investments for pre-school aged children may boost their skill trajectories but if not followed by later investments other inputs (e.g. from bad neighbourhoods) may counteract the initial gains. Thus, successful interventions need to scaffold, rather than be one-off inputs.

As we will discuss later in more detail, evidence suggests that growing up in lower income households and neighbourhoods can be detrimental to development of socio-emotional skills. Whilst children receive some portion of these investments at school, the pandemic induced shutdown has removed most children from the school environment. The first lesson from the literature related to risks from the pandemic, then, is that disruptions to the investments children receive at school through the negative shock of the pandemic may lead to starker divides in skill investments and thereby starker divides in skill trajectories. In addition, long-term risk for lower

income children may run through potential pandemic induced hardships in their families that may exasperate long-term inequality.

III What do we know about the evidence and policy in Scotland?

In Scotland, the Attainment Challenge recognises that a) there is a poverty related attainment gap and b) the interventions to remedy this lie both within and beyond the school gates (Education Scotland website). Attainment itself is defined as:

"Attainment is the measurable progress which children and young people make as they advance through and beyond school, and the development of the range of skills, knowledge and attributes needed to succeed in learning, life and work" (Education Scotland website)

However, monitoring and evaluation of the key policies, such as the Attainment Challenge Fund focuses on literacy and numeracy (cognitive) skills plus a (somewhat undefined) reference to 'wellbeing' (Scottish Government 2019). Within policies, there does exist autonomy for headteachers to tailor approaches to the local context, and parental involvement features in most approaches. However, there appears to be a lack of 'joining up the dots' between the Scottish Government's efforts on the Attainment Challenge and wider efforts on reducing poverty and inequality. The raises questions over whether reducing deprivation is a core part of efforts to improve attainment for children, or whether it instead implies that tackling poverty is viewed as something for a different area of government to be concerned about

Even before the Coronavirus outbreak, poverty in Scotland was expected to rise over the next few years (Resolution Foundation 2019). Following on from the Child Poverty (Scotland) Act 2017, which set in place a series of statutory targets on poverty and material deprivation, there have been a number of policies developed to try and reverse this trend (Scottish Government 2018) but as yet there is no indication that the tide has turned. If poverty does increase as has been projected then this would imply that the drivers of the poverty related attainment gap will intensify. Put in simple terms, if poverty worsens, and poverty leads to lower attainment, then attainment will worsen. If the main focus of attainment policy is focused on what happens at school, rather than what is happening in the child's wider situation, then it is easy to see that

efforts can easily be undermined. That does not preclude efforts within schools to improve educational outcomes, only that it is unlikely to be sufficient, and that attainment efforts focused in school may be undone if the financial situation of the child's household or neighborhood worsens.

The current crises places the limitations of this apparently narrow approach into focus, given that many of the tools relied on, i.e. interventions driven by the education system rather than interventions focused on alleviating poverty, are obviously even less effective with so many children away from school. Whilst the Scottish Government identified and invited around 100,000 of Scotland's most vulnerable children to continue to attend school, very few are taking up the offer (Scottish Parliament's Information Centre 2020), thus for the time being, exposure to inputs for skill development in homes and neighbourhoods has dramatically shifted.

One thing we don't know is the quality of the resources provided by schools to parents during the pandemic related school closures. This article therefore is not a prediction of how children from different socio-economic backgrounds will fare, because this also depends on a number of other factors. It is instead an exploration of the evidence around how economic conditions can lead to different responses from parents to manage situations, and why this is of particular importance in light of the enormous shock from COVID-19. We will outline how inequality creates situations that can unwillingly force different parenting choices across the socio-economic divide with repercussions for children and consider the intersection of environments and parental decision-making. Moreover, we highlight the potential mechanisms whereby even short-run harm to skill development can create long-term consequences.

IV What we know about inequality, parenting choices, and risks from the pandemic.

We are now beginning to understand some of the mechanisms that push parents of different socio-economic status (SES) into different parenting choices; how this depends on economic factors; and the consequences this can have for children. Some of this work builds these processes into economic theory, and therefore, the empirical evidence base still needs further

development. However, recent work by Doepke & Zilibotti (2017) and Doepke, Sorrenti, & Zilibotti (2019) is instructional to the questions at hand and warrant some careful description here. These studies trace out factors that drive parents on the aggregate to sort into different types of parenting practices. Put another way, their question -- and ours too -- is that even when parents care equally about their children why is it that some sort into different types of parenting and how might this relate to inequality? Further, do economic factors mean that policy may be able to address impact this process?

A key feature in these authors' model is that where inequality is high wage returns for the children in adulthood can be vastly different, therefore parents have more cause for concern over their child's future well-being. Abstracting away from neglectful parenting, this can incentivise more intensive parenting, as parents endeavour to make sure their children are protected in the future. To be simple, parents may choose to be very restrictive on the choices their children can make (e.g. to protect them from bad neighbourhoods), or to engage in costly material and time investments for skill development. While surely parents may engage in a mix, an immediate implication here is that factors affecting the effort and material cost of these styles will push, or allow, parents to sort toward one style or the other. Parents, of course, face a wide range of factors that can impact this to include:

- their own skills;
- budgets constraints (*economic link: labour market conditions*);
- the neighbourhood (*economic link: rental costs*) which in an unsafe location may, for example, create greater stress and divert attention from skill building investments toward safeguarding;
- and the information available to them on the way skills develop in childhood.

This applies to any parent. So, how and why may this matter and how does it relate to inequality and economic shocks? In answering this, for now, we will omit neighbourhoods and return to it later.

First, in this high inequality society, there will be a larger share of lower income parents likely to be pushed toward a restrictive style. This occurs because (i) these parents likely have on average lower skill in skill building investments due to spending less time in education and hence

experiencing fewer inputs into their own skill development when they were children. To put this in the Scottish context, double the number of children living in poverty live with parents who have left school with only basic secondary qualifications i.e. the equivalent of Scottish Highers according to analysis of the Family Resources Survey published by DWP. (ii) Their budget constraints are tighter making monetary investments more difficult. And, (iii), a recent literature has documented that beliefs about how skills develop are subject to misinformation from environments and where distorted this can diminish parental investments (Attanasio et al 2019; Cunha 2015; Kiessling 2019). For example, this implies there is a lower likelihood that parents with less education will have the information to begin skill development in a child's very early life.

In summary, where inequality is high there are incentives for more intensive parenting, but disadvantaged families are more likely to be pushed toward restrictions over skill building investments. This is, in fact, consistent with patterns in Scotland based on the Growing Up in Scotland Survey, where parents who have either lower income, lower education levels, or live in a more deprived area, tend to report much higher authoritarian views of parenting (Bradshaw et al, 2013). To be clear, this does not mean restrictions are strictly a poor form of parenting. Indeed, the reason parents in poor circumstances may choose them is because they are needed to prevent worse outcomes; however, the implication we are highlighting is that this need can come in hand with a loss of skill building investments.

Second, this matters for children because the socio-economic sorting of parents on these parenting behaviours implies a socio-economic sorting of investments into skill development. Further, because skills and investments build on each other in producing tomorrow's skills – i.e. "self-productivity" and "dynamic complementarity" – the consequences of this sorting become exasperated over time. This can then create large gaps in skill trajectories, and thus capabilities, as children move into adulthood. As these children have their children, they then parent with the skills they developed in their childhood and absent further intervention a cycle related to poverty traps can be established.

Third, the first two implications then suggest that adverse events and economic shocks will widen the gaps in skill trajectories. An immediate impact of the lockdown in response to the

pandemic, is that home-schooling increases the time children spend exposed to the inputs for skill development they receive at home. Existing studies provide an evidence base for why this may be a risk for skills, especially for disadvantaged children. To list some examples: (i) more in-school instructional time is linked with better test scores (Lavy 2015). (ii) Absence from school during elementary school, even for short absences, is detrimental to a student's school performance (Cattan 2017). And, (iii) high and low SES children experience different learning opportunities over summer periods and this contributes to lower achievement by low SES children (Alexander et al. 2007). Thus, that disadvantaged children are missing school time, even for a short period, will likely hinder their growth.

With in-school investments removed, the consequences from sorting by SES into parenting types may become more drastic. In the longer-term, ensuing economic shocks may then further widen the gap. Absent interventions, disadvantaged families with already limited budgets will likely see their budgets further constrained. This can then translate into fewer investments in the long-term.

During the last recession, earnings fell proportionally more towards the bottom of the earnings distribution as shown in Table 1. The social security system did provide some replacement income as they are designed to do but earnings, in real terms, for children at the 25th percentile took until 2013/14 – 2015/16 to recover to pre-recession levels (DWP 2019)

Despite the recent increases for some allowances in Universal Credit, seen at the start of the CoVid-19 crisis, the social security system as a whole is less generous than it was going into the last recession, and the employment shock is likely to be greater.

Table 1: Net weekly earnings for families with children in Scotland (2018/19 prices)

	25th percentile	50th percentile	75th percentile
2006/07 - 2008/09	180	500	820
2010/11 - 2012/13	160	480	790
Cumulative Fall	-11%	-4%	-4%

Source: Author's calculations using Household Below Average Income data (DWP)

The fear is that lost investment today – from school absence – will be compounded by lost investments tomorrow – from constrained budgets. Given that skill investments build on each other over time – dynamic complementarity – this represents a channel through which harm to skill development may accumulate and in turn lead to serious long-term consequences. In addition to this, gaps in the quality of neighbourhoods that parents can afford will widen, leading to a stronger incentive for these parents to impose restrictions and miss investments.

V What we know about the intersection of parenting and neighbourhoods.

First, there is a substantial evidence base supporting a causal link between the neighbourhood people grow up in and their outcomes later in life. Some of the key findings are that: (i) the neighbourhoods children grow up in have a significant link with their later earnings in the labour market, attendance to university, and in general upward mobility (Chetty & Hendren 2018a; Chetty et al. 2014; Cutler & Glaeser 1997); (ii) moving to a better quality neighbourhood at an earlier age has a substantially larger impact on children's adult outcomes than moving at a later age (Chetty & Hendren 2018a; Chetty, Hendren, & Katz 2016); and (iii) key indicators of quality within locations include the quality of schools, lower poverty and income inequality, and crime rates (Chetty & Hendren 2018b). In general, these results are consistent with the idea that the

sources of input to skill development during childhood are highly important to the capabilities and opportunity children have upon reaching adulthood.

Second, where a family is able to live becomes an important part of the parenting puzzle. Agostinelli et al. (2020) and Dopeke et al. (2019) raise some key features to consider. In simplified form, parents may choose the neighbourhood based on their preferences, it's quality, and their budget relative to the cost. As inequality increases, we expect to see more disparity in family budgets and therefore more disparities in quality and segregation across neighbourhoods. One mechanism that may drive this is that, with greater inequality, the stakes are higher for children to achieve higher education, thus there are stronger incentives for parents to buy quality inputs through, in-part, selecting into neighbourhoods with better quality measures. The result is that where quality measures in neighbourhoods are higher, sorting by wealthier families will bid up the rental price and poor families will be priced out. Efforts to improve a neighbourhood for a disadvantaged community may then be thwarted by this follow-on sorting mechanism.

Third, parents' investments likely respond to the important components of neighbourhood quality either as a complement or substitute. There is room for both processes but, given our previous discussion, a "bad" neighbourhood may raise the incentives for parents to sort toward a restrictive style. A better quality neighbourhood then can allow parents more scope to make material and time investments. For example, a safe community with low crime may allow parents to divert attention from safeguarding toward more educational activities. A better school in this context can then be enhanced through at-home investments. This may be particularly important to parents where inequality is high and the development of human capital very important for determining adult income. Incentives here are not only stronger for sorting into neighbourhoods but also for parental investments. To the extent that this is the case, the quality of schools, and other measures of neighbourhood quality, will act as complements with parental investments into skills. The implication, therefore, is that increased segregation will in turn act to exasperate the exposure of children to skill building investments through their neighbourhoods and homes.

Taken together, parental choices interact with neighbourhoods to encompass a range of measures that impact children's development and opportunities. Risks from the pandemic have

both short- and long-run features. In the short-run, where children are already exposed to deprived neighbourhoods the time they are losing from school adds greater weight to their home and neighbourhood environments for their skill development. In the long-run, economic shocks could lead to greater inequality, and through this a greater divide in the quality of neighbourhoods children experience. The end result, unchecked, is a deepening of inequality in skill development that can have generational consequences.

VI What may effective policy look like?

The channels for policy are numerous. We will briefly summarise some key points sorted into general implications and into implications for the response to CoVid-19 and the design of attainment policy. Within general implications, we might, one, begin by improving neighbourhoods. However, as discussed, this will likely increase rental prices and drive out disadvantaged residents. Two, we may aim to relieve family budgets via either cost savings or increasing income. Both these broad policy aims are already part of the Scottish Government's strategy to significantly reduce child poverty – although as already discussed the link to educational attainment is not always made clear.

The literature, however, also suggests that parental investments into skill building are partly a function of their own-skill and that parents from lower income backgrounds often lack information on how skills evolve. So, third, we may need to use targeted interventions to teach effective investments and supplement this with greater in-school investment and campaigns for information equality on skill development process. Some excellent examples of successful programs have been studied in the literature (e.g. see Avvisati et al (2014) for an in-school parenting program in disadvantaged Parisian schools; Attanasio et al. (2020) for an intervention in Colombia with disadvantaged mothers of very young children; and Doyle (2019) for an intensive program with new mothers in a deprived neighbourhood in Dublin). In sum, a body of evidence is building that suggests intensive interventions with parents directly at the home-level can be a tool for supporting children's skill development. These, of course, may be expensive, although improved future earnings from improved skills will improve the tax base and along with additional benefits – such as reductions in criminal activity – potentially offset the costs

(Heckman et al. 2010). Nevertheless, it is unlikely that these types of interventions can serve as the primary tool.

Thus, the current research base points toward a profile of policies that aim to take into account the environments children are exposed to, as well as the capability – budgets – of the families to live in improved neighbourhoods. Indeed, more direct programs, for example between schools and parental involvement, may struggle to succeed without very high levels of intensity when undertaken as lone initiatives. Disconnects in policy, then, that fail to act on the stressors families face within their own environments raise the risk of policy failures, even when those policies are targeted at appropriate mechanisms.

The impact of school closures due to the pandemic will not be fully known for some time. When children are able to return, the evidence we have presented highlights the importance of looking at both cognitive and socio-emotional skill development to help ensure that all children are getting the right support they need. For lower income children, a focus on socio-emotional needs will be of particular importance.

Going forward, this evidence provides an emphasis toward focusing Scottish attainment policy on both the socio-economic situation of households and the direct inputs to child development, such as what happens to children when they are in school. Or, put another way, towards directly joining the two in a cohesive policy rather than as disjointed agendas. Lone attempts to boost parental involvement at school or to intervene for children in school may provide some benefits; however, as far as they are absent a combined strategy to address the intersection of key environments they may be muted or even fail. Effective policy then will need to bridge these type programs together with efforts to address the key drivers of parental opportunity that support parents' ability to invest in their children over the long-run. The evidence we have discussed, highlights the risks and threats that a life on low income entails and that the environment can force parental decisions.

In closing, we summarise five key points. One, it is important for policy to consider the multiplicity of skills that develop in childhood. Two, action is needed sooner rather than later to reduce skill gaps, as skills are most sensitive while young. Three, because of dynamic complementarity, there needs to be follow-up to earlier investments with later investments. More

simply, successful efforts to boost skills must scaffold. Four, no single program will likely alleviate disadvantage. Profiles of policies that aim to balance multiple channels will be required. And, five, patience is required, as the process of skill development is long and the full impact of these type interventions may not accumulate for a generation.

CoVid1-19 has not changed the debate, but has thrown the issues into greater focus because of a key enabler of action on attainment - children physically attending schools – has been removed, and the home environment has become of substantially greater importance. With uncertainty over when schools will fully reopen, actions to support households financially should be seen as an optimal response to both wider aims on eradicating poverty and improving attainment.

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