
A MODEL OF THE INTER-GENERATIONAL EFFECTS OF PARENTAL EDUCATION

*Leon Feinstein, Kathryn Duckworth and Ricardo Sabates
Centre for Research on the Wider Benefits of Learning*

Introduction

We have undertaken a literature review of theory and evidence on the effect of parents' education on the development of children in order to create a conceptual model of the reasons for the inter-generational transmission of educational success.

A framework adopted from developmental psychology enabled an assessment of the relative importance of very diverse but important factors such as parental income, family structure, attitudes and parenting. It provides a basis for summarising the research evidence from economics, demography and social policy that focuses on socio-economic and demographic factors alongside evidence from psychology that has focussed on transmission through parenting. It also highlights the importance of, and interaction between, other contexts, such as the neighbourhood, childcare, and schools.

Key findings on the important influences on attainment

- The most important socio-demographic, family-level, *distal* influences on children's attainments are parental education and income. Occupational status is also important, although the channels for the effect of occupation are less clear-cut. Family size is another important factor.
- Other much-studied risk factors such as family structure and teen motherhood can have important indirect effects if occurring in combination with other factors but are not major influences in themselves on the overall distribution of attainment in the general population. Similarly, maternal employment is not a key factor provided quality childcare is available.
- Besides childcare, other important contexts for influences on attainment are provided by neighbourhoods and schools. These can mitigate or offset the impact of family-level factors in a substantial way.
- The *characteristics* of families either have independent effects on attainment or are the mechanism for the effect of the socio-demographic factors. Parental beliefs, values, aspirations and attitudes (termed here cognitions) are very important, as is parental well-being.
- In turn, *proximal* interactions between parents and children mediate the effects of the factors mentioned so far. Parenting skills in terms of warmth, discipline and educational behaviours are all major factors in the formation of school success. These factors are mechanisms for the effects of the family and can offset or exacerbate the influences of family characteristics and circumstances.
- We find strong theoretical and empirical support for the view that education influences most of the factors that have been found to affect children's attainments. Thus, the role of education is extremely substantial. As well as having a direct influence on most of the key characteristics and parent-child interactions, parental education can also moderate the effects of risk factors and ease the effect of them on interactions between parents and children.
- Although there is good evidence of the role of education in individual links in the complex picture of causality described, there are two particular evidence gaps in terms of: (i) simultaneous assessment of the role of education in the whole framework, and, (ii) the identification of causality in the relationships observed.

A theoretical framework

To structure our presentation of the theory and evidence we draw on the multi-level ecological model of developmental psychology. This provides a framework for presenting ideas not just from psychology but also from economics and other social sciences. It also enables a focus on the interaction between factors.

The framework has at its centre interactions between parents and children, in which dynamic processes support, sustain or hinder successful development. These processes are termed "proximal" in the ecological model.

These processes are constrained and influenced by the characteristics of the family. Factors such as mental health, parents' beliefs and the availability of resources influence the more proximal interactions between parents and children.

These characteristics are themselves influenced by more distal social, economic and demographic features such as parental income, family structure and the education of parents. These factors are termed "distal" in the ecological model.

Other contexts beside the family are also important. Contexts such as schools, childcare and neighbourhoods provide channels for effects of family background and so contribute to the intergenerational transmission of educational success.

Therefore, this framework sets up three essential categories for effects of families on children's development, namely proximal processes, characteristics of contexts and distal factors.

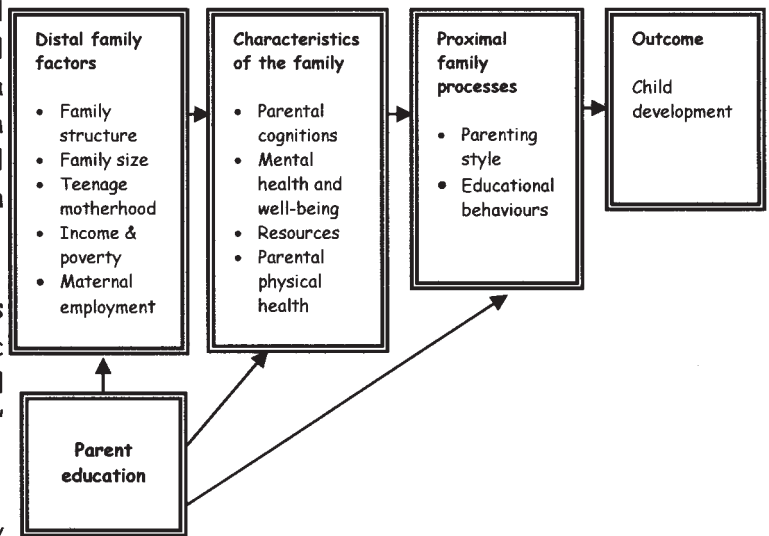
For each set of factors we present and evaluate the evidence suggesting:

- i. An effect of parental education on the factor;
- ii. An effect of the factor on children's development.

In this way we lay out the evidence to ascertain:

- i. which factors are most important;
- ii. how such factors are in part a channel for the effect of education;
- iii. how the different factors interact.

Conceptual model for the mediating effects of parent education on child development



A brief note on terminology

Aspects of the framework are modelled in statistical analysis in terms of mediation and moderation. For clarity it may be helpful to offer brief definitions.

Let us take the example of the effect of income which as we describe is a distal factor, impacting on the outcome, child development. If the reason or channel for that effect is that income buys resources which are productive for child development, including good housing, nutrition, books and so on, then we can say that resources mediate the effect of income. The mediator is the channel or mechanism for the effect. There may be other important mediators.

Now if we hypothesise that education changes the nature of the effect of income in that those with more education might spend more of their income on developmentally enhancing resources then we say that education moderates the effect of income.

The key channels for education effects

Proximal family processes are very important as channels for the effects of parents' education on their children's outcomes. This is the direct mediated effect but there may also be important moderating effects. The benefits of proximal processes do not follow in a straightforward way directly from the appropriate behaviour of parents as recommended in the parenting literature without being accompanied by the understanding of parents about why they are doing what they are doing and how their child is responding. Therefore education in enhancing these capabilities also enhances the effectiveness of developmentally positive parenting behaviours.

The importance of context

In addition to the family context, the contexts of neighbourhood, schools and childcare are important for children's development and as channels for the intergenerational transmission of education. Education also has important protective capabilities in offsetting the negative effects of neighbourhoods, school and childcare settings with poor characteristics.

Characteristics of the family

Both cognitions and parental mental health and well-being are important influences on children's attainments and both are likely to be influenced by parental education. Cognitions seem like a particularly important mediator of the intergenerational education effect, parental mental health and well-being less so since much of the evidence here may be through effects on cognitions.

In the context of poor parental mental health and well-being, education may have particularly important moderating effects in diminishing impacts on childcare.

Distal factors

Income and family size are important mediators of the effects of parental education. In some sense teenage motherhood also mediates education effects if one defines education in terms of early school attainment and engagement. Although family structure and maternal employment are not strong mediators of education effects, education does importantly moderate their effects. For example, education may provide protective capability for families dealing with the income effects following family break-up or support them in assessing maternal employment rights, good work-life balance or quality childcare in order to moderate any effects of employment on child development. More research on these moderating benefits of education would be particularly valuable.

Conclusions

We conclude that the intergenerational transmission of educational success is a key element in equality of opportunity. There are substantial benefits of education that accrue to individuals and society in terms of what education enables parents to pass on to their children.

Understanding the way in which the features of the model interact can help in ensuring that policies run in

tandem with developmental processes and interactions between contexts rather than operating in opposition to these wider forces. The ecological model presented here is an example of the kind of holistic perspective that may help in these policy formulations.

Policy relevance

The discussion of the theory and evidence on the reasons for the intergenerational effects of education has been somewhat distant from issues of policy delivery. This is necessary when academic research is in an exploratory phase during which conceptual work and the search for replication of results dominate. This work is of value in laying out the foundations upon which future policy advice may be built. However, we do not wish to neglect current policy needs.

We would like to put the model forward as a prism through which policy makers might view policy proposals. Understanding the way in which the features of the model interact can help in ensuring that policies work with developmental processes and interactions between contexts rather than operating in opposition to them. We would invite those putting forward policies to explain how their programme will interact with the features of the model described here. This report does not lead to firm conclusions about the benefits of specific interventions, but describes the contexts within which interventions must work.

The contexts in which the intergenerational transmission of education takes place do not work in isolation. The model presented here describes some of the main interactions between contexts. Policy interventions are likely to cross boundaries between these contexts giving rise to important unintended consequences. These interactions can constrain policy success or enhance it but it is important that policy be developed within some kind of cross cutting model that recognises the interactions. The ecological model presented here is an example of the kind of holistic perspective that may help in these policy formulations.

There has been much discussion recently of the potential benefits of parenting programmes. These follow from the wide spread finding that families are more important than schools as influences of children's development. Analysis of this broader context suggests the limit on the ability of the DfES

to influence attainment and leads to the conclusion that engagement with parents will be very important. Yet parents themselves are engaged in multiple contexts that constrain or enhance their interactions with their children. Therefore in going beyond the school to the home in the search for enhancement to educational attainment the DfES finds itself necessarily engaged in far wider forces that cut across Departmental responsibilities. Other government departments play important roles. The Department for Work and Pensions, the Home Office, the Department of Health, the Social Exclusion Unit and the Deputy Prime Minister's Office, amongst others, all carry responsibility for elements of the interacting features described in this report. The primary call of this report, therefore, is in support of efforts to aid the integration of cross-departmental activities to enhance the effectiveness of educational support.

Future research

There is a clear need for research that uses large-sample longitudinal data and simple hypotheses that separate out particular aspects of the overall model and uses the lag structure of the data to identify elements of the overall causal picture with clarity.

It is also important to look at opportunities for random allocation in intervention to help establish causality and to use instrumental variables approaches to identify causal effects.

Finally, we need to continue to apply qualitative, biographical techniques which are crucial in shedding more light on the complex processes outlined in our report.

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