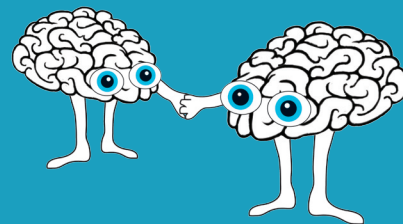


Neuroscience, Policy and Family Life

Results from a University of Edinburgh research project



Authors

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Background

Research on the brain is increasingly drawn upon in policy-making and family services, with consequences for parenting advice and parenting practices. Especially in the early years of children's lives, infant brains are said to grow rapidly, and this notion has informed policies around parenting and services for parents.

Our project investigated how (if at all) neuroscience is used in policy, parenting practices, and everyday life, and with what consequences. As sociologists (people who study society and social relationships), we were interested in tracking the increasing influence of neuroscience and examining its social implications. In particular, we looked at how policy actors and parents do (not) engage with neuroscientific concepts and ideas.

Key points

- Research on the brain affects policies and parenting, with many people positive about this influence.
- Parents especially spoke of how neuroscientific concepts and ideas have helped them to gain more understanding of, and be more patient with, their children.
- However, social policy and service actors, as well as parents, also apply advice related to neuroscience in cautious and selective ways to their work and lives.
- Whilst neuroscience is seen as important, our participants argue for holistic understandings of infants, in which research on the brain is but one source of information that can and should be used to think about development.

The study aims

This project aimed to investigate how research on the brain (i.e. neuroscience) impacts social policy and services. We wanted to know how policymakers and parents engage with neuroscience, and to explore people's diverse views, hopes and concerns relating to the uses of research on the brain. In doing so, we sought to produce a detailed picture of the place of brain research in policy and family life.

The study methods

Our research was primarily undertaken through semi-structured interviews. First, we conducted 11

interviews with a range of people involved in policy/service, who worked in areas relating to infancy/early childhood, adolescence, or older adulthood across a range of organisations (from local authorities to national policy levels). Then, we carried out a further 22 interviews with parents/carers of young children and an additional relative, friend or professional.

Alongside the interviews, we conducted a substantial analysis of key policy documents regarding infancy, adolescence, and older adulthood. We also analysed media articles concerning brain training and bilingualism, to get a better understanding of how neuroscience was discussed in popular culture.



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We ended the project by organising a Policy/Public Engagement Event, inviting those involved in policy, practitioners, parents, and the general public to discuss with us their hopes and concerns relating to the use of neuroscience in policy and in parenting programmes. This formed part of our dissemination, and simultaneously generated further valuable data.

Our work was funded by the Leverhulme Trust from November 2013 until October 2015. The full study name is: 'Neuroscience and Family Life: The Brain in Policy and Everyday Practice'. The project team was comprised of Dr Martyn Pickersgill (Principal Investigator), Professors Sarah Cunningham-Burley and Ian Deary (Co-Investigators), and Dr Tineke Broer (Research Fellow and Lead Researcher), all at The University of Edinburgh.

Key interview findings

Policy engagement with neuroscience

Our interviews with those involved in policy showed how neuroscientific research can influence social policies and services. Interviewees talked about using neuroscience to think through the effects of a policy, for example relating to the early years. Yet, the impacts of brain research might be subtle: for instance, drawing on neuroscience can be one way of getting (financial) support for a policy. Neuroscience was described by one interviewee as a way of uniting different politicians and other stakeholders:

"I suppose from the early years' perspective one of the strongest drivers for promoting early years and getting politicians of all parties on side was the evidence about the development of the child's brain from conception through the womb to birth. [...] The impact of stress related hormones and chemicals on the child's development. The impact of neglect, abuse on a child's brain development."

(Policy/service respondent interview 10)

However, although most of our respondents were generally positive about engaging with the neurosciences for social policy and services, some of them expressed caution. For example, one respondent was a little critical of how neuroscience is sometimes used as a "justification" for policy:

"What they're [those involved in policy] interested in and rightly, is what you can do in the early years and then this [i.e. neuroscience] is just used as a justification. I think there's other justifications that we could use about the importance of formulating relationships, about the importance of encouraging advice seeking behaviour, engagement with services and so on."

(Policy/service respondent interview 5)

Our findings show how different ways of thinking about and acting upon neuroscientific findings and

concepts exist in social policy and services (e.g., 'symbolic', 'instrumental' uses, and so on): there are various ways in which neuroscience is regarded as 'useful' (or not).

Increased understanding and patience

From our interviews with parents/carers, we found that one of the main consequences of the use of neuroscience in parenting programmes was that parents felt they had more understanding of their children's development. As a result, they said they were more patient with their children. In particular, most respondents thought information about children's slower processing speed was very useful. They talked about how they were more understanding of the time children took when getting ready for nursery or for school, as they now knew that it took children longer to 'process' requests (such as to put their shoes on):

"I found them [i.e. the parenting programme] very helpful, especially that part about how [the] brain works, from the very beginning, it was very helpful for me because it helped me to understand that you know sometimes when I ask them [children] to do something I repeat things, so now I know why it doesn't work, that you know they have to build the connections and it's a thing, it's a process and it will finish around their 20s; so it helped me a lot I think, that, um, it made me more patient."

(Parent interview 8)

Advice based on neuroscience (as well as that received by parents more generally) was often helpful for many of our respondents because it supported and encouraged them to try to understand the world from their children's perspective. The following excerpt is from an interview with a mother and a father of two children, who were talking about how the parenting programme in which they participated helped them to understand their children better:

Mother: *So we need to respect that [that children do not have the same knowledge and experiences adults have] and be aware of that and simultaneously listen to them and try to understand and try to imagine how they feel with their knowledge, with their experience. And that's the most difficult thing, that sometimes we forget that we need to respect their feelings, that we need to be aware that they don't have such knowledge and such experience and they don't know how to cope with their emotions like we do. Yes, so that's..."*

Father: *It's actually, actually like we are parents now but we were children as well, and we have memories from our childhood; so I would say: treat them just like you would like to be treated.*

Mother: *As a child.*

(Parent interview 8)

More parents talked about how the research on brain development in particular helped them to fully appreciate what it means to be a child, and to understand that certain tasks that many adults find easy (such as learning to sit) can require a lot more effort from children.

Negotiating expertise

Even though parents often seemed to appreciate knowing more in general about research on the brain, they sometimes questioned the extent to which the specific studies drawn upon in parenting programmes was relevant to their lives. In particular, many parents mentioned neuroscientific research with a group of Romanian orphans, which showed how very severe neglect had negative effects on infant development. However, whilst this was found to be interesting, some argued that it was not relevant for their situation in Scotland. They also said they already knew how to provide their children with love and interaction:

"I think [the parenting course] taught you quite a lot about how important showing love and affection to your kid was and stuff like that. Which obviously you do anyway, but it's it's quite intriguing, interesting to see the effect it does have if they don't have that. Like it showed you quite a lot about the Romanian orphans and stuff."

(Parent interview 4)

Other parents spoke about having to be careful in when and how to apply advice to their lives. They described, for instance, how it was important to take some advice on board while ignoring other kinds:

"But it's all very good on paper and it's all very good to teach people this, but [...] it's totally different in life. So it's basically taking a bit of that, but a bit of what your pal...really... [...] 'cause it says that, oh when a child does this, like, it's not that they're ignoring you. And that's fair enough, but there is going to be once in that day when that child's going to ignore you, so you can't put it always down to the fact that they're just taking longer to process it. There is at least five times a day that [my son] will ignore me. And if I put it down to just the fact that, oh he's just taking longer to process it, he'd be walking all over me. Do you know what I mean, so it's, like, taking everything they say which is good and it's great and it's nice to be able to understand it, but it's taking it all with a pinch of salt."

(Parent interview 3)

Parents, then, critically negotiate expertise (obtained not only from professionals, but other parents), and apply it in cautious and selective ways to their lives.

Conclusion

Our interviews show how those involved in policy and service draw on neuroscience to think through a policy and to request (financial) support, and parents relate information about infant brain development to increasing empathy towards their children. However, both groups were critical about how, why and when neuroscience could be used to change parenting practices. For instance, they stated it did not always lead to the most constructive and doable advice for parents, and also noted that research on the brain was misused in some contexts.

Policy and practice implications

Drawing on the interviews and our wider research in this area, we outline three key implications for policy and practice:

Use of neuroscience

Parents seem generally positive about knowing more regarding how their children (and in particular their brains) develop. Moreover, those involved in policy and parents do not seem to uncritically adopt any research they come across, but apply it if and how they see fit. Where the use of neuroscience has sometimes been critiqued for causing parents anxiety and stress, these effects were not evident in our study. However, more evaluative ethnographic research would cast further light on these issues.

The weight of neuroscience

Some of our participants felt that neuroscience is at times drawn upon as a justification for policies, or that some people such as those involved in policymaking were convinced by neuroscientific ideas in ways they would not be by other established fields of research. Accordingly, it seems important to have a thoughtful dialogue about the place of neuroscience in current society, and what is regarded as 'proper' evidence.

The need for holistic understandings

Participants argued for the need to adopt holistic understandings of infant development and adult-child interactions, in which neuroscience plays a role - but one that is not necessarily dominant or the most important. This assertion raises further questions about what other research and information parents might find interesting and/or valuable. Further studies into how parents and policymakers and service providers source and assess different kinds of experts and expertise are likely to be fruitful.

Dr Tineke Broer

Tineke is a Research Fellow at the Centre for Population Health Sciences, University of Edinburgh. Her interest centres on the sociologies of mental health and social care. Having obtained her PhD at the University of Rotterdam in the Netherlands, she was Research Fellow on the Leverhulme Trust-funded project on 'Neuroscience and Family Life'. Tineke now works in Edinburgh on a Wellcome Trust-funded project on Genomics and Cancer Patienthood. She has published in journals such as BMC Health Services Research, Public Administration, and Social Science & Medicine.

Professor Sarah Cunningham-Burley

Sarah is Professor of Medical and Family Sociology and Dean of Molecular, Genetic and Population Health Sciences in Edinburgh Medical School. Her research in the sociology of health and illness spans the social aspects of genetics, stem cell research, and neuroscience, as well as families, health and illness across the life-course. Sarah's particular focus is on lay perspectives, understanding and experience, as well as on lay/professional relationships, particularly in relation to public involvement and engagement in science and medicine. She is an Academician of the Social Sciences, and a Fellow of the Royal Society of Edinburgh.

Professor Ian Deary

Ian is a graduate of Psychology and Medicine at the University of Edinburgh. He practised psychiatry in London and Edinburgh before moving to academic psychology. His principal research interests are: human mental abilities, the effects of ageing and medical conditions on mental skills, and the impact of cognitive differences on people's lives. He is Professor of Differential Psychology at the University of Edinburgh, and Director of the MRC/BBSRC-funded University of Edinburgh Centre for Cognitive Ageing and Cognitive Epidemiology. He is Director of the Lothian Birth Cohort studies. He is a Fellow of the British Academy, the Royal Society of Edinburgh, and the Academy of Medical Sciences.

Dr Martyn Pickersgill

Martyn is Wellcome Trust Reader in Social Studies of Biomedicine, Edinburgh Medical School. A sociologist of biomedicine and the health professions, he has held grants and fellowships from the AHRC, ESRC, Newby Trust and Wellcome Trust for his research on the social and ethical dimensions of epigenetics, neuroscience and mental health. Martyn's most recent study forms part of a 5-year Wellcome Trust University Award, and concerns the future of psychiatric diagnosis. He was previously a Public Engagement Ambassador for the Wellcome Trust's 27th Anniversary, and in 2015, he was awarded the Henry Duncan Medal from the Royal Society of Edinburgh.

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