Centre for Science and Policy

Policy Workshop

How stress in the school environment affects development and learning

Summary report of the discussion held on 26 June 2023

Christ's College, Cambridge

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Introduction

In June 2023, the [Centre for Science and Policy](#) (CSaP), University of Cambridge organised a Policy Workshop in partnership with the [Cambridge Neuroscience Interdisciplinary Research Centre](#) (Cambridge Neuroscience IRC) and the Department for Education (DfE). The workshop addressed the following overarching question: How does stress in the school environment affects development and learning?

Purpose of the workshop

The workshop was used to:

- present the latest scientific evidence on determinants and impact of stress in children and adolescents in connection to the current school environments;
- explore policy implications of this scientific evidence;
- discuss evidence-informed approaches to managing stress in children and adolescents, including mental and physical health, economic disadvantage, inclusion and SEND, impacts on attainment, and the influence of school climates and cultures.

Desired outcomes:

- provide an opportunity productive knowledge exchange facilitated between researchers and policy makers around scientific evidence linked to stress in the school environment and policy priorities with improved understanding from both perspectives;
- map areas where research evidence or advice can be used to inform policy making and enable policy implementation;
- identify areas for further collaboration and potential partnerships;
- develop links between the research community and policy makers within this field.

This Policy Workshop was designed to present the latest evidence on the themes outlined below:

1. Sensitive Periods

- What can neuroscience tell us about key risk times for impact of stress in children's lives, including vulnerable children and young people with SEND? Should policy makers be more worried about particular predictable stressful times — starting school, Standard Assessment Tests (SATs), transition to secondary, GCSEs — or are experiences more important than developmental stage?

2. **Risk / Resilience**

    - What does neuroscience tell us about the concept of 'resilience' in terms of preventing stress from becoming toxic, whether/how far it can be specifically developed? Can evidence tell us anything about particular differences or provide insights on approaches specific for children and young people with SEND?

    - In particular, does experience of stress have an 'inoculation' effect against future experience and can it be safely encouraged?

3. **School Environment**

    - What role does a sense of connectedness/belonging at school, or other features of school environment, have in managing stress or preventing negative impacts of stressful periods?

    - How does stress impact on ability to learn, thus how important a factor is learning to manage stress in supporting children to achieve their academic potential?

Each theme was introduced by two researchers from the University of Cambridge and these research presentations set the scene for the subsequent discussions. This summary report will be structured according to the thematic strands outlined above and is based on the discussions that took place at the Policy Workshop itself. Each thematic section will open with a brief outline of the research presentations by two named researchers and this will be followed by an outline of the resulting discussion which adheres to the Chatham House Rule.

Thematic Section One: Sensitive Periods of Development

The Research Presentations

The First 1000 Days of Life

Dr Sarah Lloyd-Fox, UKRI Future Leaders Fellow, Department of Psychology, University of Cambridge, opened the conversation with a focus on the first 1000 days of life. Dr Lloyd-Fox highlighted two key themes. The first was the importance of engaging with research beyond the UK and thinking about what researchers and policy makers can learn from other cultures to enrich a baby's life. Pointing to the importance of the number of words that a baby hears in their environment and the opportunities for turn-taking as two important factors for cognitive and language development, Dr Lloyd-Fox noted that the optimal experience in these areas is provided by 3–6 caregivers. This number provides a level of diversity of interaction, but is not too much to inhibit turn-taking. Such caregiving contexts, which may be underrepresented in the UK, can provide important insights.

The second theme was how the experiences of the first 1000 days of life feed forward into early childhood development and school readiness. Dr Lloyd-Fox also explained that how the brain connects together and functions activity data at five months of age feeds forward into predicting executive function performance at 3–5 years and thus factors into school readiness (i.e. how they can control their own behaviour etc.). Dr Lloyd-Fox also pointed to the importance of understanding these sensitive periods in the context of the pandemic in the UK and across the world and how various facets of the pandemic experience (financial stability, access to outdoor spaces etc.) are being carried forward into toddlerhood and into school age.

The First 10,000 Days of Life

[Professor Sarah-Jayne Blakemore](#), Professor of Psychology and Cognitive Neuroscience, Department of Psychology, University of Cambridge, moved the focus from sensitive development in the first 1000 days of life to the first 10,000 days of life, that is the first 25 years of life, particularly the period of adolescence and early adulthood (10–24 years). The belief that the human brain stops developing in childhood has been shown to be completely false: the brain continues to develop structurally and functionally throughout childhood and adolescence and into early adulthood. Adolescence is now acknowledged as a sensitive period but, as Professor Blakemore pointed out, it is a sensitive period for different processes, including executive functions like decision making, planning, and self- and social-awareness.

Sensitive periods are periods of heightened neuroplasticity, where the brain is particularly susceptible to environmental input. However, environmental inputs can be negative and if a developing child/adolescent is exposed to too much environmental stress, evidence shows that this produces negative mental health outcomes. The environment can contain many different types of stress for adolescents ranging from local stresses such as school/exam pressure or stress related to peer relations to more existential concerns around things like poverty, the climate crisis, and more recently the pandemic. All of these stresses have the potential to be amplified by social media. However, the environment can also be positive, which can lead to an increase in learning and creativity, especially in those areas that are undergoing pronounced development (self-awareness, social cognition etc.). Heightened neuroplasticity confers vulnerability, but it also creates opportunities for learning and creativity.

The takeaway from this is that it is necessary to identify and minimise stressors in the adolescent environment and it is also important to provide experiences that support brain development in adolescents. Adolescents are more creative than adults and are more able to make links between divergent subjects; from an education perspective this could suggest that a more integrated, less

siloed, curriculum could support brain development. Furthermore, adolescents put more emphasis on their peers and evidence suggests that peer-led learning can be more effective than adult learning interventions. Finally, linking to the second theme explored in the workshop, it is important to build self-esteem amongst adolescents: the how remains elusive, but perhaps a more individualised education system could be a start.

The Summary of the Discussion

Sensitive Periods and Key Transitions

The presentations by the two academic experts raised a number of questions. One participant asked whether the evidence-base is now strong enough for policy to focus particularly on these sensitive periods (i.e. early life and early adolescence), perhaps at the expense of other periods, or was it a case of doing things differently in these periods, but maintaining policy intervention throughout childhood? It was noted that sensitive periods should not be viewed as an all or nothing equation, but rather, it is important to recognise that sensitive periods are more important for certain developmental stages and this should direct how policy is targeted. Any added value won in this area is jeopardised if funding is not available throughout childhood. It is also the case that adolescent neuroplasticity presents an opportunity to support children who fell behind in early years and to create a 'second chance'.

A problem with focusing on sensitive periods is that it misses out key age ranges. Taking the middle period (ages 6–10), which is less about preparing for school readiness, there are still huge hormonal changes that take place in this period and it is during these ages that a lot of mental health issues emerge. These shifts take place alongside a school system that restricts opportunities for children to play (research testifies to the role of play for supporting socio-emotive development which in turn facilitates cognitive development) and places more focus on sitting still and listening. It was suggested that the focus should be on sensitive themes rather than sensitive periods. These 'sensitive themes' consist of specific risks and opportunities that run cross a range of different age groups. Different approaches, such as diverse and more creative ways of teaching, can mitigate stress and support development across the 10,000 days, instead of compartmentalising interventions at different ages.

The importance of key transitions was also raised, especially in terms of developing mental health support for young people and those that support them: such transitions include the move into primary school, then from primary school into secondary school, then into GCSE level education, and then the transition from GCSE to A Level education. It was noted that a focus on sensitive periods does not necessarily harness the potential for transition phases to promote 'resilience' building opportunities. These transitions involve multiple supporting actors: while education policy naturally tends to focus on the school, the interface between family, community, and school is significant, and where there is

join-up more positive outcomes can be observed. Ultimately, the question is whether to focus on sensitive periods or sensitive periods *relative* to social transitions?

A Systems-based Approach

Participants noted that policy questions and policy actions tend to be orientated towards institutions, for instance, questions around teaching strategies, and this can present problems for targeting policy towards early years development. One implication is that funding is easier to target at those children within schools and as such there has been a lack of serious strategic/structural investment in early years development before children enter educational institutions. It is important to map our understanding of children's development (such as sensitive periods) onto a deliverable system, but this creates tensions around a child focussed versus a system focussed approach.

Participants commented on the importance of setting these programmes alongside school to counteract the overbearing focus on school-aged children as the subjects of intervention, although it was noted that such supplementary systems tend to fall away in terms of investment and expertise. One participant questioned if policy makers should be thinking in terms of two systems: one focused on educational outcomes (educational institutions) and the other focussed more broadly on 'development', with both systems running parallel and feeding into each other, or, alternatively, should the education system be set up around development.

One participant emphasised the importance of thinking in terms of defined outcomes and working out how to achieve these. For instance, the Levelling Up missions include a goal that by 2030, 90% of children will attain the expected standard in reading, writing, and maths and the policy levers envisaged to achieved this goal are mapped on to primary school education. However, neurodevelopment in these areas starts in the pre-primary period. It is, therefore, useful, from a policy making perspective, to be able to orientate research-based recommendations around defined goals and to make the case for a greater focus on early years development. This approach supports researchers to say that a child-focused, rather than a systems-focused, approach is needed, because the levers to achieve this outcome are not within the system and such levers may rest with another Government department.

Comparator Countries

Participants were asked to highlight useful international examples of countries acting on evidence related to these developmental periods to inform relevant policies. The following examples were provided by participants:

- **New Zealand** was raised as a case study for evidence guided policy development in these areas. One example provided was the [B4 School Check](), a nationwide programme that offers a free across

the board health and development check for 4-year-olds. New Zealand's education system has a middle school structure, which avoids a situation where children move from being 'big' in primary school to 'small' in secondary school. The middle school system supports the period through when 11-year-olds sit SATs which are the culmination of primary school. A system that sets the transition at age 11 instead of 9 therefore places emphasis on English and Maths and restricts the range of subjects that young people can engage with. It was also noted that children may have greater access to resources and facilities for development within the middle school environment, for instance, art rooms are less common in primary schools but can be available in middle and secondary schools as subject choices expand.

- **Wales** maintains devolved education and the [Healthy Child Wales Programme](#) provides nine specified contacts with health professionals at set points for children in Wales aged 0–7. These contacts cover three areas: screening, immunisation, and surveillance (i.e. monitoring and supporting child development). The programme brings system elements to work together.

- **The Netherlands** has a system where students are allocated a stream after elementary school according to educational level. They are ranked as being significantly higher than the OECD average and they have good adolescent well-being. Participants noted that the Netherlands success in these areas is hard to explain and may be attributed to 'cultural differences. One participant mooted a comparative study between the UK and the Netherlands to identify timing effects of when cross national differences in wellbeing emerge. They recommended that such a study should look at various different factors to identify divergence and to elucidate mechanisms that could be actionable. One difference that was noted is how success and failure are judged in terms of educational outcomes in the UK versus the Netherlands. Participants commented upon the fact that value is attached to the different educational streams and career paths in the Netherlands. They compared this to the UK, where high stakes exams and University level education is considered the path to success while alternative paths were not well communicated to children and young people.

Thematic Section Two: Risk / Resilience

The Research Presentations

A Multifaceted Approach to Resilience

[Professor Gordon Harold](#), Professor of the Psychology of Education and Mental Health, Faculty of Education, University of Cambridge, highlighted that the word 'resilience' can be risky if it not properly unpacked. He explained that the one thing a pupil takes into school every day is their domestic or family experience: to understand how stress impacts the school environment and its effects on development and learning, it is necessary to grasp the family level influences upon a young person's

school-based stress and experience and to accept that these impact one another. As such, Professor Harold emphasised that academics need to be brought out of their disciplinary silos to better support policy makers on these wide-ranging issues. The idea of resilience, in relation to stress, is multi-layered: it is resource capability informed by an interplay between environmental, biological, and neurological processes combined with interpersonal and social factors that work together over time to inform positive versus adaptive responses to stress. It is true that we need stress to develop skills that allow us to be resilient to stress effects, but it is not a simple balance to strike. From an education policy standpoint, it is important to equip frontline educators with the evidence-base and training in this space: deterministic models of resilience ('you have it or you don't') can be incredibly dangerous for young people, especially those who are classed as high risk. As such, it is important to understand what factors can come together to support adaptive responses in the context of stress and how to build resilience capacity to support young people in a period where stress and challenge are recognised as becoming more prominent.

International, and increasingly UK-based, evidence illustrates that supporting adult relationships in the context of household economic disadvantage can have positive mental health and educational outcomes for young people. A recent Department for Work and Pensions (DWP) initiative supported by the Department for Education (DfE) is increasingly showing that targeting family relationships at an early stage in the context of exposure to stress produces positive mental health and education outcomes including increased school attendance. Professor Harold ended his presentation by stating that it is necessary to better understand how resilience processes can be enhanced so that we can better equip the young people of today and the adults of tomorrow.

Access to Data in Schools and Evidence Review

[Professor Pasco Fearon](#), Professor of Family Research and Director of the Centre for Family Research, University of Cambridge, explained how his research focused on large scale epidemiological studies. He posed the question, how do we galvanise and use evidence from these studies to inform policy? Policy makers are eager for the data and keen to put it to use, but there are constraints around what policy makers can do and what policy levers are available for Government departments to pull. As such, Professor Fearon raised the question as to how do we make sure that learning around known risk factors can inform the delivery end of the system (i.e. schools) where these risk factors actually play out? He noted that a worthwhile piece of work that could be commissioned by DfE could focus on what they can do to help schools manage the well-established risk factors that we know are going to have clear impacts. This work could interrogate how schools can identify risk proactively; how far schools draw on local and national epidemiological evidence so that they know their community and can adjust policies/practices accordingly; how far they use their own internal data collection processes to inform policies/practices. Professor Fearon emphasised the importance of providing schools and relevant interlocutors with relevant data. He highlighted that, from his own experience working in the

area of London and the South East, access to even a small amount of information about children and about how they are coping can help teachers recognise students that are struggling. Professor Fearon pointed to the [#BeeWell project](#) in Manchester, which surveys pupils about aspects of their lives that influence wellbeing on an annual basis and provides information for schools, charities, policy makers, and other local actors. He emphasised the importance of equipping schools with better data: they want to help but they do not always have the necessary information.

Professor Fearon also highlighted the importance of evidence reviews, and stated that there was an interesting opportunity to review how well the process of evidence review is working in terms of translating evidence-based interventions for education and mental health into the school system — he called for a health-check on this system. He highlighted how bullying is a potent risk factor, but that it is a modifiable risk factor, as shown by numerous trials. Despite clear evidence that describes the problem, the real challenge is getting this into schools at a programmatic level as there is no evidence that individual school bullying processes do much at all to alleviate children's mental health and what is required are bullying programmes that take a whole-systems approach. In short, Professor Fearon asked for a reassessment of how evidence and data is used beyond the departmental level in schools, communities, and Local Authorities.

The Summary of the Discussion

Evidence and Implementation

One participant pointed to the [KiVa Programme](#), which is a Finnish anti-bullying programme for 7–15 year-old bracket that works to engender a whole-school approach to tackling bullying. It educates children on the signs of bullying so that they do not inadvertently perpetuate bullying and includes indicated actions to intervene in individual cases of bullying. They emphasised the importance of contextualising such international evidence in the context of the UK: a pilot of the KiVa Programme was undertaken in Wales but the sample size was not large enough to confirm its effectiveness and it is currently being rolled out across many schools in the UK. One participant pointed to their experience working on the [Learning Together Programme](#), an anti-bullying whole-school intervention aimed at 11–16 year-olds that focuses on restorative justice which has similarities to the KiVa Programme. The participant commented on implementation gaps and the importance of arm's length trials to ensure that an intervention actually works and that positive results are not simply the product of a particularly charismatic investigator.

It was observed by researchers that it can be difficult to judge when evidence is ready to present to policy makers, and participants asked for more clarification on the level of evidence policy makers want from researchers: for instance, does research have to be at the systematic review stage to be

useful to policy makers? It was noted that academics tend to be conservative and generally unwilling to present unpolished evidence; this is in contrast to commercial programmes that actively target schools with solutions that may not have a strong evidence-base. It was noted that schools and Local Authorities are not necessarily very critical users of evidence and many programmes/interventions are selling themselves as 'evidence-based' when this is not the case. One participant asked how can researchers support schools and Local Authorities to become critical users of evidence and to be more aware of what is being sold to them in terms of interventions?

Another participant noted that there are a lot of interventions and evaluations and it is difficult for policy makers to have capacity to engage with new research and data so there is a gap in terms of translating this research for policy makers. They also noted that from the school perspective, there are a lot of actions ranging from small-scale to large-scale interventions and these require additional investment at a time when schools are already struggling. A programme like KiVa, which is large and whole-school focused, asks a school to do a lot of work on something that feels additional and it is important to consider how sustainable such interventions are on the ground. It is not simply a case of producing the relevant systematic reviews, but identifying the core component practices that need to happen as part of the school day to reduce risk factors like bullying: how do you embed principles on anti-bullying in the day-to-day running of the school so that it is not so onerous for institutions to take action? There was a call to move the evidence-base away from 'this type of intervention works / doesn't work according to X studies' to focus more on how practice is embedded over time.

Following on from this, another participant asked what forums were available for discussions around evidence review, synthesis, and implementation to take place and to put pressure on the system to take more account of evidence. They made a comparison to the health system where there is clearer messaging on embedding practice across the country in a sustainable way. In response, another participant discussed work that they have been involved in with the Early Intervention Foundation that adopts a common elements approach. Namely, this aims to identify common elements that work in marginalised programmes and to share them to encourage better understanding about effective practice or to strip away aspects that are harder to implement. To this end, the Early Years Library, which looks at what early year settings can do to support child development, was created.

'Outcomes' for Whom?

A participant emphasised that, in terms of crafting interventions, it is important to be able to identify and evidence outcomes and that this can be an extremely difficult process. It was noted that researchers and policy makers understand the word 'outcomes' quite differently and that researchers need to get better about understanding the levers that policy makers can pull and what outcomes mean to policy makers so that these can be better informed by research. Another participant suggested that policy makers need to be careful about how they label sought outcomes from

interventions: broad outcomes such as 'wellbeing' may be less useful in identifying the specific aspects that need to be changed to improve results. Instead, it was noted that the risk factors and the protective factors are already known and that outcomes should be targeted in relation to these, as schools are more able to shift the dial on these issues than on more abstract targets like wellbeing.

It was noted that in terms of designing interventions and seeking outcomes it is important to secure whole-school buy-in and this boils down to the 'feel' of the initiative. Another participant noted that they had used computational modelling to simulate tens of thousands of interventions and explained how they found a 1:1 correspondence between fidelity (how well an intervention is implemented) and effect size (which is used to indicate the practical significance of a research outcome). In other words, for every 1% lost in fidelity a corresponding 1% is lost in effect size. While a charismatic researcher may be able to convey the complexity of an intervention and get people on board, in terms of arm's length trials, people are more likely to buy into interventions that are intuitive and are thus more likely to adhere to the framework of an intervention: the more complicated the problem and the more complicated the intervention, the greater risk there is to fidelity when it moves beyond the researcher. Another participant noted that while the conversation had taken into account schools and policy makers, it is also important to acknowledge outcomes for parents and particularly how policy makers capture the imagination, and the real concerns, of parents when crafting interventions.

Unpacking and Contextualising 'Stress' and 'Mental Health'

As with the term 'resilience' above, various participants highlighted the complexities around terms like 'stress' and 'mental health'. One participant noted that some exposure to stress is necessary and asked how policy makers could build in mechanisms and processes to try and reduce harmful levels of stress while equipping young people to manage some stress in a supportive way. It is important to differentiate between different types of stress: the level of stress caused by experiences of abuse versus exam pressure are not the same. It was noted that it is important to distinguish between 'stress' and 'challenge'. Challenge can be stressful but must be overcome to progress, and it is necessary to think about how young people may be encouraged to engage with challenge and not to regard this as synonymous with unmanageable stress. At the same time, it is important to think about how to support young people who have had acutely stressful cumulative pressures, such as those with care experience, and how researchers and policy makers understand stress as experienced by those with SEND characteristics or those who are neurodiverse. By unpacking these terms, more nuance can be added to the conversation and by educating themselves on these issues, parents can feel supported and more able to support their children.

Various participants discussed how to conceptualise and target outcomes related to mental health for young people. Participants advocated for a greater understanding of the term 'mental health' and noted the importance of drawing a distinction between mental health and mental ill health. Another

participant suggested a separation between symptoms and the mechanisms that drive these symptoms, with interventions focused on the mechanisms that can be acted upon. While young people have been given greater permission to talk about mental health, they have not necessarily been given the appropriate tools to manage it. As such, it was asked if it was possible to go beyond the idea of risk and protective factors to identify key skills that are not innate but can be learned by children: this is mental health competence or mental health skills. Mental health preparedness is not generally spoken about in this way and such a framework could provide something more concrete than a complex term such as 'resilience' and be something that could be more easily conveyed to politicians and policy makers. It was noted that children develop skills themselves and it is worth also thinking about the spaces and opportunities that schools give children to develop such skills (alongside how they actively embed such skills).

Thematic Section Three: The School Environment

The Research Presentation

Preparing Students for High Stakes Tests

Professor Michelle Ellefson, Professor of Cognitive Science, Faculty of Education, University of Cambridge, discussed the role of cognitive science in the classroom through a recent study lead by Dr Helen Barsham that focused on students undertaking high stakes tests (SATs). Professor Ellefson explained that the work aims to encourage ways of thinking about how practitioners can support the mental health of young people in unusual ways. The research focussed on test anxiety in Year 6 (aged 10–11) when students sit SATs and was interested in developments around cognitive science, specifically about how learning and memory developed. An intervention was designed for Year 6 students, where they were taught about the neuroscience of memory (linked to things that appear in the initial teacher training framework and the core content framework in terms of implementation of cognitive science into educational studies), such as the fact that the act of recalling something makes you more likely to remember something in the future. They were also introduced to complimentary learning techniques such as practice testing (low stakes practice testing in lead up to a higher stakes exam) and that 'learning a little but often' is more productive than cramming. The intention was to provide students with the background behind the neuroscience and to link this to tests and test preparation. One outcome was that students used their acquired knowledge of memory to help them alleviate some of their anxiety around high stakes testing and to improve self-efficacy; this was most pronounced in the most anxious students. Another outcome was that it helped students develop learning skills (for instance, 'well-oiled testing skills'). While this was a one-off study, it provided an example of how it is possible to equip students in mental health arenas without necessarily having to talk about mental health.

The Role of Social Support in Reducing Risk of Mental Health Problems

[Dr Sharon Neufeld](#), Senior Research Associate and Wellcome Trust Fellow, Department of Psychiatry, University of Cambridge, emphasised the role of social support in reducing the risk of mental health problems in young people, and, drawing on a systematic meta-analysis, she pointed out that both peers and teachers had a greater impact in this area than close friends. Dr Neufeld explained that close friends can co-ruminate and can entrench poor coping mechanisms while the broader peer group, who are less known to the individual, can have a more positive influence on behaviour. This underscores the importance of a whole-school approach: positive interactions within the school environment that people encounter routinely throughout the day can minimise stress and have been shown to decrease cortisol responses. Teachers can support this environment by providing coping resources such as providing advanced warning for tests and deadlines, setting expectations, and clear instructions on how these can be achieved so that students can feel armed with the skills to succeed. This has importance beyond the school environment, positive relationships and interactions within the school environment can help reduce stress that students may feel from living in unsafe home and community environments and thus can work to mitigate some of the daily stressors experienced by students. While Dr Neufeld focused primarily on school environments, she also noted that alongside peers and teachers, parents played an important role in supporting young people's mental health and echoed a sentiment that ran throughout the workshop that integrating parents into initiatives within the school environment can lead to better support for the young person.

The Summary of the Discussion

Communicating Stakes

While several participants advocated for less focus on high stakes testing, it was acknowledged that this was not likely to occur in the near future. Some participants commented on the importance of communicating stakes for young people and parents: SATs are designed to measure school performance, not individual attainment and as such they should not have a major impact on a child's future school choices (unlike, for instance, GCSEs and A Levels). One participant noted that if Government and schools could successfully communicate that SATs should not be considered high stake, it could provide a context for systemic whole-population interventions that could reduce stress related to this assessment. As such, understanding what is driving stressors that children/parents experience in relation to SATs is important. It was noted by participants that school in the Netherlands consists of repeat testing and this familiarity with test helps remove the 'high stakes' element from testing. This is comparable a focus on practice testing, although one participant noted that there was a key distinction between testing and learning.

A Supportive Environment

Another participant noted that the context of *where* stress occurs is important. Being stressed in a safe and a small environment can make a difference; high stakes testing in primary schools, where there are only 30 children in a classroom, means that an abnormal stress response can be identified and followed up on: this is more difficult in larger secondary school environments. One participant asked about the physical school environment and its impact on stress. Participants pointed to the work of [Professor Helen Dodd](#), University of Exeter, whose work shows how teachers can unconsciously shape the play behaviour and environment of the school and discusses interventions that can more fairly distribute classroom and play spaces.

Participants drew on their personal experiences to highlight how parents could support their children in the context of high stakes exams. It was noted that having a better understanding of how such exams worked and what their children were going through, allowed them to provide better support. One question raised was how policy makers could better support parents to support their children. It was noted that parents and schools could help inculcate children against negative stress responses to testing by contextualising failure for children at an early age and also talking to them about issues such as stress and (neuro)diversity with the aim of normalising such discourses.

One participant highlighted the impact of social isolation on learning, citing an experiment where, following baseline cognitive tests, adolescents where put isolated for four hours on two occasions. In the first instance they were given access to virtual social interactions (phones and social media etc.) and in the second they were subject to total isolation. They observed strong effects on fear and reward learning. This was related back to mechanisms and it was noted that social support could help produce outcomes in learning and virtual interactions could help mediate some of the impacts of isolation and loneliness.

Closing Remarks

As the Policy Workshop was brought to a close, it was noted that while efforts are made to prompt the system into pursuing evidence-based interventions, the focus tends not to be on what the system needs to look like to achieve the best outcomes for children. It is important to engender evidence-based policy making that enables people to think about outcomes, the mechanisms for achieving those outcomes, and the policy levers available across Government departments, but this needs to be done in a way where young people are acknowledges as more than 'pupils'. This wider view looks beyond institutions, it acknowledges that behaviour in the classroom is a manifestation of other aspects of their lives and that the current institutionally focused approach promotes blind spots. For instance, one participant noted that the pandemic showed DfE's instinct was to make provision for

school age children, then for those children in early-years settings, however, those children not within institutional settings (such as babies aged 0–2) received less support. There is too much focus from departments on education setting and not on children: policy makers and researchers need to think about how government can work to enable us to unlock more for children. There is no cross-Government focus on children; a comparison could be made to the NHS Children and Young People Transformation Programme Board, which brings together partners across health, care, and education. It was noted that researchers and policy makers need to be ready to provide and to act upon research evidence at the right time as Ministers and senior decision-makers are often overburdened and they must be ready to seize on moments of interest and change to promote a cross-Government approach to children. In terms of thinking about future collaborations between researchers and policy makers, it was noted that DfE will be formally publishing its areas of research interest (ARI) in the near future and that this document will be updated annually.

Themes from the Policy Workshop

The Policy Workshop covered a lot of ground across the three key themes of sensitive periods, risk and resilience, and school environment. However, several overarching themes emerged throughout the discussion, these are outlined below:

- While it is important to acknowledge evidence around sensitive periods, it is also important that policy makers do not lose sight of childhood as a whole; gains won in the sensitive periods are maintained/facilitated by support provided across childhood and adolescence.
- A range of complex and value-laden terms and concepts underpin how researchers and policy makers talk about childhood and adolescence (such as 'resilience', 'stress', 'mental health', 'outcomes'). It is important that these concepts are properly unpacked to add nuance and distinction where necessary.
- Just as it is important for policy makers to engage with research evidence and to specify what level of evidence they want from researchers, so it is important that researchers are aware of the policy levers that Government departments can pull so that the research community can target engagement with policy makers accordingly.
- Policy interventions trend towards institutional contexts, however, to secure positive outcomes for children it is important to promote join-up between home, community, and school environments. Parents have an important role in supporting their children and it is worthwhile thinking about how policy makers can support parents in this aim.

Participants concluded by agreeing that it was important that Government works for children and that school environments promote wellbeing alongside attainment and that this goal is achievable.