Celebrating outstanding social and economic impacts of ESRC-funded researchers

#ImpactPrize
Welcome

We encourage and support social scientists to maximise the impact of their work to ensure that excellent, independent research informs decisions across a wide range of policy areas, and helps to improve people’s lives in the UK and around the world.

Since it was established seven years ago the ESRC’s Celebrating Impact Prize has highlighted and recognised some of the ways in which ESRC-funded research impacts upon the economy and society. In that time there have been over 300 nominations for awards and 77 outstanding finalists from across the UK.

As in previous years, this year’s finalists illustrate the breadth and depth of the research we fund. Their research covers a wide range of subjects: safeguarding elections in new democracies; reducing incarceration and reoffending by informing the Scottish Parliament bill raising the age of criminal responsibility; developing an evidence-based approach to encouraging more young people to study science; making custody more ‘autism-friendly’; influencing Welsh government policy with research evidence; safeguarding children when parents are imprisoned; and research into MRI imaging which has changed NHS training and post-mortem care processes, and increased uptake of non-invasive infant post-mortems.

All our finalists have demonstrated the impact of their work and illustrated its relevance and importance to society. They are already contributing to policy debates in their specialist areas and hopefully their influence will continue for many years to come. Indeed, a key part of the success of our Impact Prize is how previous winners have become trusted sources of evidence, continuing to promote and further research topics that are vital to people and society.

Once again, we are delighted to have the support of SAGE Publishing – sponsor of the Outstanding Early Career Impact Prize.

And finally, many thanks to all of our applicants for their commitment and hard work, and of course congratulations to this year’s winners and finalists.

Professor Jennifer Rubin  
Executive Chair  
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About the ESRC

The Economic and Social Research Council (ESRC) funds research into the big social and economic issues facing us today. We are part of UK Research and Innovation and receive most of our funding through the Department for Business, Energy and Industrial Strategy (BEIS). We support independent, high-quality, relevant social science research, resources and training that have the maximum impact on people and society.

We help to tackle the biggest challenges society faces through partnerships, new ways of funding research, and involvement with some of the world’s most ambitious research programmes. Our research informs policymakers and practitioners, and helps make businesses, voluntary bodies and other organisations more effective.

About SAGE Publishing

Sara Miller McCune founded SAGE Publishing in 1965 to support the dissemination of usable knowledge and educate a global community. SAGE is a leading international provider of innovative, high-quality content publishing more than 1,000 journals and over 800 new books each year, spanning a wide range of subject areas. Our growing selection of library products includes archives, data, case studies and video. SAGE remains majority owned by our founder and after her lifetime will become owned by a charitable trust that secures the company’s continued independence. Principal offices are located in Los Angeles, London, New Delhi, Singapore, Washington DC and Melbourne.

www.sagepublishing.com

About the Celebrating Impact Prize

The annual ESRC Celebrating Impact Prize, now in its seventh year, is an opportunity to recognise and reward researchers whose work has made a real difference to society or the economy.

This year’s prize categories are:

- Outstanding Early Career Impact (in partnership with SAGE Publishing)
- Outstanding Public Policy Impact
- Outstanding Societal Impact
- Outstanding International Impact

A prize of £10,000 is awarded to the winner of each category.

This year the panel also chose to award two additional prizes – Panel’s Choice and Future Promise – to recognise high potential and quality in other finalists’ work.

Each prize is to be spent on furthering knowledge exchange, public engagement or other communications activities to promote the economic and social impact of the research.
Dr Shona Minson (University of Oxford)

Delivering guidance on the sentencing of mothers to safeguard children

An estimated 312,000 children annually lose a parent to imprisonment in England and Wales. Research on how the sentencing of mothers affects children has changed practice for judges, magistrates and Probation Officers, who now consider how children will be affected by their parents’ sentence.

Impacts

• Dr Shona Minson’s research led to changes in guidance from the National Probation Service on Pre-Sentence Reports. The March 2019 guidance states for the first time that probation officers must request an adjournment for a full Pre-Sentence Report in cases where the defendant has child dependants, to assess the impact on them and to ensure that plans are in place so children are cared for during imprisonment.

• Dr Minson produced a short film (made in four versions for different audiences) outlining the court’s duty to consider the impact of a mother’s prison sentence on a dependent child. The video was launched in January 2018, and is now embedded in criminal justice training.

• The Judicial College – responsible for all judicial training – hosts the film on their intranet, and the topic is now included in their sentencing seminars for Crown Court judges and recorders.

• The film has become part of ongoing, tracked training for all National Probation Service court staff in England and Wales.

• The films’ content was referenced in the Government’s Female Offender Strategy – a programme of work launched in 2018 to improve outcomes for female offenders.

• Following Dr Minson’s briefing paper and petition to the parliamentary Joint Committee on Human Rights, it launched an inquiry into the right to family life of children whose mothers are imprisoned. The Committee’s final report will be published later this year.

• Dr Minson’s work provided key evidence for Lord Farmer’s Review on the importance of family and other relational ties for women in the criminal justice system.
About the research

An estimated 312,000 children annually lose a parent to imprisonment in England and Wales, and 17,000 are separated from their mother who is often their primary carer. Research by Dr Shona Minson has shown that children with mothers in prison are negatively affected in terms of health, education and wellbeing.

In her PhD research Dr Minson, at the University of Oxford’s Centre for Criminology, examined whether the impact on children is considered when a mother is sentenced in the criminal courts in England and Wales, and whether children’s rights under the United Nations Convention on the Rights of the Child are upheld. Children with mothers in prison, and people who cared for children of imprisoned mothers, were interviewed about their experiences, and Crown Court judges were interviewed about their practice when sentencing mothers of dependent children.

Dr Minson found that children of women sentenced in the criminal courts are treated without the concern given to children separated from their parents in the family courts, where the child’s wellbeing is the paramount consideration of the court. Judges and magistrates are inconsistent in how they consider dependent children, and do not understand how the children are affected when their primary carer is sentenced. Although guidance and mechanisms for considering the welfare of these children exist, they are not routinely used.

Funded by the University of Oxford’s ESRC Impact Acceleration Account, Dr Minson worked with a range of partners – the Judicial College, the Magistrates Association, HM Prisons and Probation Service, the Criminal Bar Association, The Law Society, the Prison Reform Trust and Franks Films – to produce the film series Safeguarding Children when Sentencing Mothers. The four films, which share children’s and carers’ experiences and explain the court’s duties towards the children, target different audiences: sentencing authorities, probation staff, solicitors and barristers, and mothers at risk of imprisonment.

“By ensuring that sentencing authorities consider the rights of children, they will no longer be invisible within maternal sentencing hearings,” says Dr Minson. “There have been cases already where the judge was referred to the case law and the evidence presented in the films, and subsequently decided that the child’s wellbeing meant an immediate custodial sentence for the mother was inappropriate, or should be for the shortest time possible.”
An estimated **312,000 children** annually lose a parent to imprisonment in England and Wales, and **17,000** are separated from their mother who is often their primary carer.

“The research papers and the film that Shona has provided have been enormously helpful to judges. What I admire about Shona’s work is that it’s very practical, and she has demonstrated to us in very stark terms the real implications for children if their primary carer goes into custody.”

HHJ Rosa Dean, Judge
Harrow Crown Court

**Further information**

Dr Shona Minson (University of Oxford) is a finalist for Outstanding Early Career Impact, in partnership with SAGE Publishing, in the ESRC Celebrating Impact Prize 2019.

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- Safeguarding Children when Sentencing Mothers (YouTube) [www.youtube.com/watch?v=L18nFBXzHII](https://www.youtube.com/watch?v=L18nFBXzHII)

- Addressing the Impact of Maternal Imprisonment: Developing Collaborative Training (University of Oxford) [www.law.ox.ac.uk/research-and-subject-groups/addressing-impact-maternal-imprisonment-developing-collaborative](https://www.law.ox.ac.uk/research-and-subject-groups/addressing-impact-maternal-imprisonment-developing-collaborative)

- Jailed mothers: The ‘terrible damage’ to children (BBC News) [www.bbc.co.uk/news/uk-48663833](https://www.bbc.co.uk/news/uk-48663833)
Research makes police custody more ‘autism-friendly’

Autistic individuals are estimated to be seven times more likely than the general population to come into contact with the Criminal Justice System. Research into how they are affected by police custody has led to new autism guidance for all police in the East Midlands, shaped the design of ‘autism-friendly’ custody cells, and changed police practice in supporting neurodivergent individuals in custody.

Impacts

- Research findings formed the basis of specialist autism training for over 80 police detention officers in Nottinghamshire, highlighting areas in the custody process where changes in practice were required. Following the training, police officers reported feeling better equipped to support autistic individuals, through changing practice such as asking direct, specific questions; avoiding physical touching during the custody process; and adapting the custody environment by adjusting lighting and reducing noise.

- Dr Holloway is assisting Nottinghamshire Police in designing a newly commissioned 50-cell custody suite, to ensure it meets the needs of neurodivergent detainees (including individuals with ADD, autism, dyslexia and dyspraxia) by reducing anxiety and stress. This includes a dimmable LED lighting system; a display screen so detainees can see custody staff when they communicate with them; and specially designed tiles for visual and tactile stimulation.

- Guidelines for interacting with autistic individuals have been added to the policy document for all police in the East Midlands.

- The improved practice has increased cost-effective use of resources.

- A network of autistic individuals, academics and police officers – the Nottinghamshire Autism Police Partnership – has been established and meets regularly to refine and develop autism training and resources for detention officers and custody sergeants.

- The research has also been used to assist other police forces in changing their custody practices and environments.
About the research

It is estimated that people with autism are seven times more likely than the general population to come into contact with the Criminal Justice System, due to the risk of miscommunication, misinterpretation and difficulties created by stress situations. They are particularly vulnerable in an unfamiliar custody environment – but although they are legally entitled to safeguards protecting their welfare and legal rights in police custody, there is no current UK policy about specialist autism training for the police.

For her ESRC-funded PhD research, Dr Chloe Holloway at the University of Nottingham investigated the difficulties that autistic individuals experience in police custody, the support they receive, and how the experience impacts on their lives afterwards. The project included a literature survey, interviews with autistic detainees, and a ‘participative walkthrough’ that simulated the custody process.

Autistic individuals in police custody reported negative experiences which affected their overall wellbeing and legal outcomes, compromising their right to access to justice on an equal basis with others. The experiences included confusion about what was happening during arrest and detention; high anxiety caused by sensory impacts such as bright lights and loud noises; and finding the custody environment so stressful overall that they waived their legal rights to a lawyer or signed an admission of guilt simply to speed up the process and be released.

“Following my PhD studies, it became apparent that there were a number of procedural and resource constraints that limited police officers’ ability to fully take on board our recommendations,” says Dr Holloway. In response, she conducted joint focus groups with police officers and autistic individuals to develop a training programme that would be effective within the day-to-day constraints of police work.

“I aim to work with the National College of Policing to achieve policy changes which will support not just autistic individuals, but all detainees – ensuring that all police forces in the UK adopt best practices for supporting neurodivergent individuals in police custody,” adds Chloe Holloway.
Dr Holloway is helping Nottinghamshire Police design a newly commissioned 50-cell custody suite, to ensure it meets the needs of neurodivergent individuals by reducing anxiety and stress.

“The research has provided better insight into the impact that being taken into custody has on people with autism, and what can be done to make the experience less traumatic and fairer.”

Inspector Duncan Collins
Manager, Nottingham Custody Project
Nottinghamshire Police

Further information

Dr Chloe Holloway (University of Nottingham) is a finalist for Outstanding Early Career Impact, in partnership with SAGE Publishing, in the ESRC Celebrating Impact Prize 2019.

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- Autism and Policing (project website)
  www.nottingham.ac.uk/research/groups/autismandpolicing/index.aspx

- University of Nottingham research on Autism and police custody (East Midlands Policing Academic Collaboration)
Shaping Welsh government policy with research evidence

The Wales Centre for Public Policy is helping to inform and shape policy decisions by presenting high-quality, independent research evidence directly to government ministers, producing over 120 studies in the last five years – supporting effective policymaking and benefiting public services across Wales.

Impacts

- The Wales Centre for Public Policy (WCPP) has developed a demand-led approach that enables ministers and senior officials to access independent high-quality research and expertise in a timely way – directly informing a range of policies.

- In the last five years, more than 120 studies involving over 200 experts have been undertaken to meet the need for evidence, spanning the range of policies that the Welsh Government is responsible for – including education, economy, health and social care, agriculture, environment, local government reform and a host of other topics.

- Examples where these studies have influenced policy include:
  - **Free childcare**: Ministers were considering funding universal childcare for all 3- to 4-year-olds to enable more women to enter paid work and to reduce household poverty. But analysis by the WCPP showed it would have no significant impact on household incomes or maternal employment. Ministers decided instead to target parents working 16+ hours per week, resulting in a saving of £80 million annually.
  - **Health service**: The Ministers for Finance and Health accepted the WCPP’s recommendation that the Welsh Government fund an ‘Innovate to Save’ programme – creating an annual £5-million programme to incentivise local government and health boards to develop new cost-effective service delivery models.
  - **Waste recycling**: A study of approaches to increase waste recycling directly informed the design and implementation of trials in South East Wales, targeting information to people who have just moved to a new residence.
About the research

Much of the research that social scientists produce is very relevant to tackling pressing societal challenges, but often it does not reach policymakers. Governments are frequently unaware of research that could be useful to them, and many academics are unsure how to make contact with ministers and civil servants.

The Wales Centre for Public Policy, led by Professor Steve Martin, has gained high-level access to present evidence directly to ministers. The research team does this by planning its work programme in consultation with ministers and senior officials to ensure that evidence is available when it is most needed for policy decisions. Working in partnership with leading researchers and policy experts from the UK and internationally, they seek out existing evidence, identifying the most robust and relevant work, and bringing it together in an easily accessible format for policymakers.

Drawing on existing expertise harnesses the value of the UK’s investment in research and enables the swift turnaround of robust and reliable evidence. At the end of each project ministers are provided with written briefings supported by face-to-face meetings with experts, to discuss findings and the policy implications.

“We safeguard the rigour of our research through peer review by experts and oversight by an independent advisory group. We publish reports within six weeks of presenting them to ministers so that the evidence is available to everyone. This combines a ‘no surprises’ approach for ministers with assurance for researchers that their work will not be subjected to undue political influence,” explains Professor Martin.

By encouraging better informed policy and delivery WCPP’s work is having a positive impact on public service users across a range of policy areas. Over the last year the centre has extended this approach to local authorities and other public services, ensuring easy access to social science expertise and evidence.
In the last five years, more than **120 studies involving over 200 experts** have been undertaken to meet the need for evidence, spanning the range of policies that the Welsh Government is responsible for.

“**The work of the Wales Centre for Public Policy greatly strengthens our policymaking in Wales. It gives us high-quality, independent evidence to challenge current assumptions and improve our decisions.**”

Rt Hon Mark Drakeford
First Minister of Wales

**Further information**

Professor Steve Martin, Dan Bristow and Professor James Downe of the Wales Centre for Public Policy are finalists for Outstanding Public Policy Impact in the ESRC Celebrating Impact Prize 2019.

The Wales Centre for Public Policy is funded by the ESRC and Welsh Government, based at Cardiff University, and is a member of the UK’s What Works Network.

www.wcpp.org.uk

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Research underpins new minimum age of criminal responsibility in Scotland

The 20-year Edinburgh study of 4,300 young people shaped the Scottish Parliament bill to raise the age of criminal responsibility from eight to 12 years, and underpins a radical change in policy to counter youth offending.

Impacts

- Research findings shaped the ‘Age of Criminal Responsibility (Scotland) Bill’ which was passed by the Scottish Parliament in May 2019, raising the age of criminal responsibility (ACR) from eight to 12 years of age. The accompanying policy memorandum directly referred to the Edinburgh Study of Youth Transitions and Crime (ESYTC), which was the only academic research cited.

- ESYTC has over the last decade changed political debate from emphasising a punitive approach that criminalises youth offending, to a ‘Whole System Approach’ that seeks to keep young people out of the justice system and prioritise other services and support – and is associated with significant reductions in youth offending and incarceration.

- The Scottish Government-appointed Minimum Age of Criminal Responsibility Advisory Group extensively used ESYTC findings to inform debate and support its recommendation to raise the ACR to age 12 as a minimum.

- ESYTC was a key source of evidence for the 2018 Kilbrandon Again independent enquiry into Scotland’s support for children and young people in trouble, which also recommended raising the ACR.
About the research

In May 2019 the Age of Criminal Responsibility (Scotland) Bill was passed in the Scottish Parliament, raising the age limit from 8 to 12 years. The Edinburgh Study of Youth Transitions and Crime (ESYTC) provided key evidence for the Bill – showing that criminalisation of vulnerable children at a young age increases the risk of repeat offending, ongoing involvement with the youth justice system and, eventually, transition into adult criminality.

Over the last two decades the ESYTC study, led by Professor Lesley McAra and Professor Susan McVie at the University of Edinburgh Law School, has been following the lives of 4,300 12-year-olds who started secondary education in Edinburgh in 1998. By linking data from the survey, interviews and administrative data, the researchers explored young people’s pathways in and out of youth offending. They tracked individuals’ development over their life course, interactions with agencies such as the police and courts, and the impact of the physical and social structure of the neighbourhoods where young people lived.

Evidence from the study underpinned the Scottish Government’s ‘Whole System Approach’ to working with young people who offend, which was piloted in 2008 and rolled out as a national programme in 2011 to all 32 unitary authorities. This was followed by dramatic reductions in youth offending and in the number of young people convicted in court and sent to custody.

The ESYTC’s impact on raising the age of criminal responsibility is the culmination of a longstanding engagement programme. Compared to 2006, annual figures now show that:

- 23,000 fewer people under 21 are convicted in the Scottish courts
- 14,000 fewer children are referred on offence crimes to the juvenile justice system
- 3,000 fewer people under 21 are sent to custody.

“Not only have the ESYTC findings been drawn on directly to inform the ACR Bill, they have also impacted on a wider range of justice policies and practice over many years,” says Professor McVie.
Further information

Professor Susan McVie and Professor Lesley McAra of the University of Edinburgh are finalists for Outstanding Public Policy Impact in the ESRC Celebrating Impact Prize 2019.

Initially funded for four years by the ESRC, the Edinburgh Study of Youth Transitions and Crime has subsequently been supported by the Scottish Executive and has long-term funding from the Nuffield Foundation.

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- Edinburgh Study of Youth Transitions and Crime (project website, Edinburgh Law School) www.esytc.ed.ac.uk
- The Age of Criminal Responsibility (Scotland) Bill (Scottish Parliament) www.parliament.scot/parliamentarybusiness/Bills/107986.aspx

“There’s no doubt that the study by McAra and McVie has been the most influential academic research into youth justice in the 30 years I’ve been working in this area. The findings influenced significantly the approach to working with young people in trouble.”

Paul Carberry
Action for Children Director for Scotland

23,000 fewer people under 21 are convicted in the Scottish courts

14,000 fewer children are referred on offence crimes to the juvenile justice system

3,000 fewer people under 21 are sent to custody
Changing practices and supporting parents for infant post-mortems

Medical and sociological research into non-invasive infant post-mortem using MRI imaging has changed NHS training and post-mortem care processes, increased uptake in post-mortem consent by parents, and initiated new bereavement support groups.

**Impacts**

- The research findings have been used to provide better information to parents about the post-mortem examination at Sheffield Teaching Hospitals NHS Foundation Trust, which now includes details of the personal care that hospital staff give to babies.
- Following the research project, take-up of minimally invasive post-mortem is increasing in the Sheffield area.
- As a result of this project, Northumbria Healthcare NHS Foundation Trust is setting up a minimally invasive service for infant post-mortem.
- The film *Matter of Fact*, which follows hospital staff through the post-mortem process, is being used in NHS staff training across the UK, including Northumbria, Yorkshire & Humber and East Midlands. The film is also being used by charities as a bereavement support tool for parents.
- The researchers collaborated with artists and graphic designers to create the ‘Remembering Baby’ exhibition based on the research, which was held in London, Sheffield, Gateshead and Nottingham.
- As part of the exhibition the research team also ran creative bereavement support workshops in the different locations. The workshops are being adopted by NHS Trusts and national bereavement support charities across the UK.
- The quilt created by parents as part of the ‘Remembering Baby’ exhibition is now being used as a bereavement support tool in the Sheffield Teaching Hospitals NHS Foundation Trust – a concept being adopted by other NHS trusts and charities across the UK.
- The research team is currently creating educational toolkits around baby-loss for the College of Paramedics.
- Building on this research project, Professor Kate Reed and colleagues have created innovative doctoral research training on sensitive and collaborative research which is being offered to new social science students.
About the research

The loss of a baby through miscarriage, stillbirth or neonatal death remains a taboo subject, although it’s something many parents experience: in 2016 over 5,500 babies in the UK were recorded as stillborn or died shortly after birth. Post-mortem examination can provide important information for bereaved parents about the cause of death, as well as crucial knowledge for medical research. However, parents’ consent rates for post-mortem remain low.

Professor Kate Reed and Dr Elspeth Whitby, University of Sheffield, and Dr Julie Ellis, University of Huddersfield, have explored the development of minimally invasive post-mortem using Magnetic Resonance Imaging (MRI). Using an innovative ethnographic approach, the team pioneered the use of ‘go-along ethnography’ to follow hospital staff in their day-to-day work, combined with interviews of bereaved parents and other family members.

The findings showed that hospital staff often felt inadequately trained for these situations and found it problematic to gain parents’ consent for post-mortem. Parents, on their side, felt overwhelmed by information, and expressed concerns over what would happen to their baby during post-mortem – particularly about how invasive the examination would be. Through the study, most parents who participated became positive about MRI-based post-mortem becoming more widely available in the future.

As revealed by the research, ‘hidden’ care practices that take place in the mortuary (such as bathing, dressing and talking to babies) were a key part of parents’ experience of the post-mortem process. These insights can be an important factor when bereaved parents decide whether to consent to post-mortem.
Further information

Professor Kate Reed (University of Sheffield), Dr Elspeth Whitby (University of Sheffield) and Dr Julie Ellis (University of Huddersfield) are finalists for Outstanding Societal Impact in the ESRC Celebrating Impact Prize 2019.

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- Remembering Baby: Life, Loss and Post-Mortem
  www.rememberingbaby.co.uk

- Baby loss exhibition encouraging parental consent to post-mortems (University of Sheffield) www.sheffield.ac.uk/faculty/social-sciences/research/stories/baby-loss-exhibition-parental-consent-post-mortems-1.824427

- ‘End Of’ or ‘Start Of’ Life? Visual Technology and The Transformation of Traditional Post-Mortem (University of Sheffield) www.sheffield.ac.uk/socstudies/research/endorstartoflife/home

“I feel this research project and exhibition has benefited both bereaved parents and professionals alike. It provided a valid, safe, dignified and respectful arena to display and talk about a highly emotive subject that otherwise is very secretive.”

Kerry Marston-Giroux
Bereavement Services Coordinator, Sheffield Teaching Hospitals NHS Foundation Trust

The quilt created by parents as part of the ‘Remembering Baby’ exhibition is now being used as a bereavement support tool in the Sheffield Teaching Hospitals NHS Foundation Trust.
Sparking science diversity and participation with science capital

Findings from the ASPIRES study have informed a new approach to science teaching which supports more young people, from more diverse backgrounds, to engage with science – reaching over 600,000 students and informing education policy in over 20 countries.

Impacts

• Findings from the ASPIRES project formed the basis of the Science Capital Teaching Approach, which has reached over 600,000 students worldwide via 4,000 teachers and is being taken up in 18 countries.

• Science capital is now a criterion within the Primary Science Quality Mark for science education in primary schools – reaching 240,000 pupils and 9,000 teachers across the UK annually.

• The concept of science capital has informed STEM (science, technology, engineering and mathematics) education policy in over 10 countries including Scotland, Australia, New Zealand, Norway and Malta, as well as the UK Department for Education’s Careers Strategy and ‘Your Life’ campaign.

• It has also influenced science programmes in Australia (STELR education programme) and the US (Amercorps STEM after-school programme), and UK initiatives including Education and Employers Taskforce initiatives, the Wellcome Trust’s primary science teacher training, the Natural History Museum’s ‘Generate: Scientists of the Future’ and others.

• Science capital has been adopted in strategic plans for organisations such as the Science Museum Group and Winchester Science Centre, and changed outreach practice in institutions such as the Glasgow Science Centre, Francis Crick Institute, Tom Tits Experiment (Sweden) and Copernicus Centre (Poland), reaching millions of visitors annually.

• Following on from the research, STEM outreach programmes for schools have been revised by the Institute of Physics, Royal Society of Chemistry, Science Council and numerous other institutions in the UK and worldwide.
About the research

Increasing young people’s participation in science, technology, engineering and mathematics (STEM) is a priority for the education sector, government and business sector in the UK and worldwide – not only to boost economic competitiveness, but also to support equality, social mobility and fairness. Currently women, lower-income groups and some minority ethnic communities are severely under-represented in STEM. For instance, approximately 75% of students taking A-level physics come from only 25% of schools; and only 20% of A-level physics students are girls.

The two ASPIRES projects (ASPIRES, 2009-2014 and ASPIRES2, 2014-present) form a ten-year longitudinal study that has tracked the same cohort of young people from age 10 to 19 – aiming to understand what influences their science and career aspirations. To date the research team, led by Professor Louise Archer at the UCL Institute of Education, has surveyed over 40,000 students and conducted more than 650 interviews with students and parents. The surveys revealed that despite most young people finding science interesting, only about 16% wanted to continue with science post-16 and progress to a science-based career.

“We found that the popular association of science with ‘cleverness’ and being ‘brainy’ plays a part in perpetuating inequalities in participation. These messages are conveyed not just through the media, but also through school science,” says Professor Archer.

The research team developed the concept of ‘science capital’ – identifying all the science-related resources (or ‘capital’) that a person might have – to explain the different patterns of science aspiration and participation. These include what you know (scientific literacy and knowledge), how you think about science (science-related dispositions), who you know (social contacts) and what you do (science-related behaviours). The research showed that the more science capital a young person has, the more likely they are to continue with science after age 16 – and that gender, ethnicity and social class inequalities affect the likelihood of having high science capital.

The ASPIRES research has significantly impacted STEM education policy and practice, changing the emphasis from ‘increasing interest’ to ‘building science capital’, where teachers can use pupils’ everyday experiences and demonstrate how science is relevant to all aspects of life and work. Evidence from schools implementing the Science Capital Teaching Approach showed significant increases in student science capital (particularly among the most disadvantaged students) and the percentage of young people planning to take 1+ science A levels.
Professor Louise Archer with ASPIRES colleagues Dr Julie Moote, Ms Emily Macleod, Dr Jennifer DeWitt and Professor Becky Francis are finalists for Outstanding Societal Impact in the ESRC Celebrating Impact Prize 2019.

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- Science Capital Research (UCL Institute of Education) www.ucl.ac.uk/ioe/Departments-and-centres/Departments/education-practice-and-society/Science-capital-research
- ASPIRES 2 project website (UCL Institute of Education) www.ucl.ac.uk/ioe/Departments-and-centres/Departments/education-practice-and-society/aspires-2
- Science Capital – an introduction (YouTube) www.youtube.com/watch?v=A0t70bwPD6Y
- The Science Capital Teaching Approach (YouTube) www.youtube.com/watch?v=XDCekYVTkws
- Science capital and the Informal learning sector (YouTube) www.youtube.com/watch?v=mzIJEBb6ETs

“There’s been a revolution in the UK in the quality of thinking and decision-making based on the findings of ASPIRES – this improved thinking is leading to better projects and positive impact on participation and attainment.”
Charles Tracy
Head of Education – Institute of Physics

The Science Capital Teaching Approach, has reached over 600,000 students worldwide via 4,000 teachers and is being taken up in 18 countries.
OUTSTANDING INTERNATIONAL IMPACT

Professor Nic Cheeseman (University of Birmingham)
with research team members Professor Gabrielle Lynch
(University of Warwick), Professor Justin Willis (University of
Durham) and Dr Susan Dodsworth (University of Birmingham)

Safeguarding elections and strengthening accountability
in new democracies

Research on legislatures and political parties has strengthened the Westminster
Foundation of Democracy’s work in over 30 developing countries
worldwide, while findings on vote manipulation are helping the Foreign and
Commonwealth Office and other organisations to safeguard elections.

Impacts

• Different aspects of the pioneering Deep
  Election Monitoring (DEM) model developed
  by the researchers have been adopted by
governments and international organisations
seeking to promote democracy around the
world, including in Kenya, Ethiopia and Nigeria.

• The DEM model is also being adopted by the
  Foreign and Commonwealth Office in several
countries in Africa, to better monitor, support
and improve the quality of elections.

• Research done collaboratively with
  Westminster Foundation for Democracy (WFD),
a publicly funded democracy promotion
organisation, means that WFD is now spending
its £7.5 million centrally funded budget more
effectively and with greater impact:
  – WFD followed recommendations to
    incorporate a mix of projects with different
    risk and scales, to become more flexible
    and effective in supporting democratic
development worldwide.
  – WFD also changed its approach to explicitly
    integrate civil society partners in its work,
    leading to stronger legislatures and civil
    society groups in 30 developing countries.
About the research

Although more elections are being held than ever before, electoral manipulation and violence is a major concern in many countries, with newly formed democracies being particularly vulnerable. "Electoral manipulation and violence can lead to political instability and even the collapse of political systems. It's essential to find ways to identify and reduce risks around elections, especially in new democracies," says Professor Nic Cheeseman at the University of Birmingham.

Over the last 10 years Professor Cheeseman and colleagues Professor Gabrielle Lynch, Professor Justin Willis and Dr Susan Dodsworth have conducted research on election rigging and manipulation strategies, working closely with colleagues at African research institutions – building a team with detailed knowledge and international expertise. The programme of research includes surveys of 8,500 citizens in Kenya, Ghana and Uganda; interviews with politicians and civil society leaders from countries across Africa, Asia and South America; and ‘field simulations’ of electoral manipulation with over 500 respondents in Kenya, Ghana and Uganda – providing a comprehensive view of the way that elections are run.

The research shows that the quality of elections in new democracies can be low, and subtle manipulation of elections for political advantage is increasing – for instance with leaders replacing overt political violence with less obvious strategies such as ‘low profile’ intimidation. Current techniques of election monitoring are often insufficient to expose fraud; observers tend to focus on the polling stations, whereas new manipulation strategies are carried out elsewhere, for example by manipulation of electronic voting and counting procedures.

Drawing on this evidence, the research team developed Deep Election Monitoring to not only cover the election itself, but also to track manipulation strategies at an earlier stage – identifying points where there is the greatest chance of electoral manipulation or violence. The UK team and partners in African universities worked together ahead of elections to produce voting risk reports and provide advice to senior policymakers about potential polling manipulation.

The research evidence also suggests that international democracy promotion is most likely to be successful using an ‘investment portfolio’ approach, incorporating a mixture of projects with different profiles in terms of risk and ambition. These findings have strengthened the way that the Westminster Foundation for Democracy designs its projects around the world, shaping its Strategic Plan 2018-2022 so that civil society partners are explicitly integrated for the first time.

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“The findings have had a strong impact on the way the WFD designs its projects and spends its budget. We actively employ the trade-off matrix developed by Professor Cheeseman and Dr Dodsworth in order to better identify and overcome the risks involved in different policy interventions.”

Dr Graeme Ramshaw
Director of Research and Evaluation – Westminster Foundation for Democracy

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**Further information**

Professor Nic Cheeseman (University of Birmingham) with research team members Professor Gabrielle Lynch (University of Warwick), Professor Justin Willis (University of Durham) and Dr Susan Dodsworth (University of Birmingham) are finalists for Outstanding International Impact in the ESRC Celebrating Impact Prize 2019.

The Westminster Foundation for Democracy is the UK’s foremost democracy promotion organisation, funded directly by the UK government to support democracy around the world. It recruits international election observers and is leading the Commonwealth Partnership for Democracy programme.

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- Promoting democracy in Africa (University of Oxford) [www.ox.ac.uk/research/research-impact/promoting-democracy-africa](http://www.ox.ac.uk/research/research-impact/promoting-democracy-africa)
- Democracy in Africa website [democracyinafrica.org](http://democracyinafrica.org)
- Westminster Foundation for Democracy [www.wfd.org](http://www.wfd.org)
- Commonwealth Partnership for Democracy programme [www.wfd.org/programmes/cp4d](http://www.wfd.org/programmes/cp4d)
This year’s judges

Paul Nightingale (ESRC) (Chair)

Professor Paul Nightingale is ESRC Director of Strategy and Operations. Paul is Professor of Strategy at the University of Sussex and was Deputy Director of the Science Policy Research Unit (SPRU). He is one of the UK editors of Research Policy, the leading international innovation studies journal.

Originally trained as a chemist, he worked in industry before undertaking a PhD in Science Policy at SPRU. His main areas of research are science policy and the strategic management of technology, and he has researched extensively on innovation and its management and financing. Paul spent most of his career as a contract researcher and spent 10 years with the Complex Product Systems Innovation Centre, funded by the ESRC.

Diana Dalton (DFID)

Diana Dalton is Deputy Director in the Research and Evidence Division at DFID. She has strategic oversight of the Research Portfolio with particular responsibility for multi-sector social science research. Prior to this Diana was in a number of DFID roles, including Head of the UN and Commonwealth Department, Head of the Agriculture and Economic Inclusion Team, and Deputy Country Representative for DFID in Bangladesh. Prior to joining DFID in 2005 Diana was Country Director for VSO (Voluntary Service Overseas) covering their Thai/Burma programme from Bangkok. She was also the Communications and Advocacy Manager for the International Save the Children Alliance from 1998-2002. Her earlier career was with international NGOs working on international development, based in the UK.

Sue Dunkerton (Knowledge Transfer Network)

Sue Dunkerton OBE, BSc, CEng, is Interim CEO and Director at the Knowledge Transfer Network (KTN). In Sue’s capacity as KTN Director, she is responsible for priority themes within Health, Agri-Food, Materials, Chemistry and Industrial Biotechnology. KTN is the UK’s innovation network supporting the acceleration of innovation in UK businesses ultimately leading to economic and societal benefit to the UK. She is also a champion for diversity in innovation, having supported specific campaigns for women in innovation and young entrepreneurs, as well as having interest in bringing social science alongside innovation to help tackle some of grand challenges facing society today.

Linda McDowell (University of Oxford)

Linda McDowell is a human geographer interested in economic change, divisions of labour, youth and migration. She recently retired from a chair at Oxford University but remains as a Research Fellow at St John’s College, currently working on young men’s search for employment, funded by a Leverhulme Trust Emerita Fellowship. Her most recent book is Migrant Women’s Voices (Bloomsbury 2016). She is a Fellow of the British Academy and was appointed CBE in 2016 for services to geography and the social sciences.

Irene Hardill (Northumbria University)

Irene Hardill is Professor of Public Policy, Northumbria University. Over the years her research has explored the changing world of work through the many meanings of work, paid work, unpaid work in the home and in the community. Her current research includes a British Academy Infrastructure project on Digitising Voluntary and Community Sector Archives and an ESRC project, Discourses of Voluntary Action at two ‘Transformational Moments’ of the Welfare State, the 1940s and 2010s (ES/N018249/1). Recent publications include Enterprising Care: Unpaid Voluntary Action in the 21st century with Professor Sue Baines. She is a member of the ESRC Strategic Advisory Network.
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