

Society NOW

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ENERGY AND
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Getting the facts straight

Full Fact's quest for truth

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Earnings:
The effects
of higher
education



Crime: How
globalisation
changes the
landscape



Microplastics:
Revealing the
worldwide
contamination

Welcome

to the Spring issue of *Society Now*, the ESRC's regular magazine which showcases the impact of the social science research we fund.

In this issue Full Fact's Director, Will Moy, explains why the charity's work is so important in a world of misinformation and a casual attitude to the truth.

Features look at the effect of higher education on earnings, and the misconceptions around the rights of 'common law' couples.

Dr Tristram Riley-Smith, research integrator for the ESRC-led initiative on Transnational Organised Crime, explains the impact of globalisation on transnational crime.

Research by Dr Andrew Mayes at the University of East Anglia is revealing the extent of microplastic contamination worldwide, and has earned him an ESRC Impact Accelerator Award.

We also examine new research that finds that men and women who are married are stronger and quicker than their unmarried counterparts.

Finally, we showcase the winning photographs in the ESRC's Better Lives photographic competition for young people, plus the finalists in our Better Lives early career writing competition.

Nick Stevens, Editor - nick.stevens@esrc.ukri.org



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CONTRIBUTORS

Anne Barlow is Professor of Family Law and Policy, University of Exeter

Arild Foss is ESRC senior communications manager

Peter Howley is Associate Professor in Economics at Leeds University

Martin Ince is a freelance science writer and media advisor and trainer

Fergus McNeill is Professor of Criminology and Social Work, University of Glasgow

Dr Neel Ocean is a Research Fellow in behavioural

economics at Leeds University

Laura van der Erve is a research economist at the Institute for Fiscal Studies

Simon Wesson is a journalist and freelance writer

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Pension reforms affect women's wellbeing

UK PENSION reforms that increased State Pension age (SPA) for women are affecting the mental and physical wellbeing of some women, potentially resulting in a widening health gap between those from different socioeconomic groups, says new research led by King's College London.

Since 2010, the SPA for women born after March 1950 has gradually increased from age 60 to 66. In keeping with most OECD countries, this reform aimed at improving the financial sustainability of the pension system. Yet a study into the impact of extending working lives suggests that the potential consequences of postponing the SPA for the wellbeing of older women, and potentially men, are being overlooked.

"Our findings show that the rise in SPA increased employment participation, but it had unanticipated, negative health consequences for women close to retirement in the UK," says researcher Dr Ludovico Carrino. Women aged 60-plus who could not claim a State Pension between 2009 and 2016 were up to 14% more likely to experience depressive

symptoms. Clinically diagnosed depression and worsening physical health also increased in this group. These negative effects were largely experienced among women from lower socioeconomic groups working

“The potential consequences for wellbeing of postponing the SPA are being overlooked”

in routine and manual occupations, thus increasing health inequality.

"Women exposed to routine and manual occupations face an increased risk of physical and mental illness as a result of pension postponement," says Dr Carrino. Further research is needed to establish whether a rise in pension age for men could have similar consequences as, clearly, the current one-size-fits-all approach to the SPA rise could have health implications for some employees which outweigh the potential benefits of later retirement.

"We need more research that evaluates the impact of programmes aimed at creating longer fulfilling working lives not only on employment outcomes, but also on critical aspects of wellbeing for older people such as mental and physical health, particularly

for those in lower occupational groups," say Professors Mauricio Avendano and Karen Glaser, co-authors of the study.

There are two possible policy implications from the study. First, the

fact that the negative health effects are confined to women from routine and manual jobs raises questions about fairness, and whether pension eligibility rules should consider occupation as a criterion. Second, national policies on SPA need to consider strategies to prevent negative health consequences for women in such occupations. "One such way would be to introduce inclusive labour market policies that facilitate a smooth transition to retirement," says Dr Carrino. ■

i Contact Dr Ludovico Carrino, King's College London
Email ludovico.carrino@kcl.ac.uk
Telephone 01865 270 551
Web www.wherl.ac.uk, www.worklong.eu
ESRC Grant Number ES/L002825/1
ES/P000487/1

IN BRIEF

ALCOHOL CONSUMPTION

Alcohol consumption in the UK remains high compared to historical drinking level estimates and consumption elsewhere in the world. Higher-risk consumption is estimated to cost the UK £21 billion annually. New research will consider the drivers of consumption by investigating the impact of watching or attending football matches on drinking practices. Researchers will study differences between England and Scotland and potential implications for regulatory change.

ESRC grant number ES/R008485/1

BEING AN ONLY CHILD

One-child families are becoming more common in many developed societies. In the UK 18% of women born around 1970 had only one child, in contrast to 13% born around 1945. Based on an innovative programme of research, a new study will use data from four UK longitudinal datasets to examine the effects of being an only child both in childhood and adulthood.

ESRC grant number ES/S002103/1

HEALTHCARE OUTCOMES

The quality of care provided to patients depends on both the availability and quality of individual staff and how they work together in teams. Using econometric techniques and rich administrative data, researchers will investigate the role of the healthcare workforce in patient outcomes, hospital utilisation and productivity. Findings will help improve workforce efficiency, patient care and future workforce planning.

ESRC grant number ES/S003118/1



Easy credit harms consumers

ACCCESS TO CREDIT via mobile devices like smartphones and laptops is changing consumer credit use and experience of indebtedness, says recent research.

“Our findings indicate that digital interfaces and devices produce significant changes in consumer behaviours, experiences and understandings of credit use which, in many cases, lead to financial, psychological and emotional harm for the consumer,” says Dr James Ash.

High-cost short-term credit (HCSTC) is increasingly accessible online. More than 80% of cash and payday loans (a key form of HCSTC) are now applied for and managed via digital interfaces on laptops, tablets and smartphones. The speed and ease of access to online borrowing is problematic, says Dr Ash. “It encourages people to see credit as money and not as debt, and reinforces financially harmful behaviour, such as impulsive borrowing and spending.”

In-depth interviews with 40 users of HCSTC reveal that 40% of them described their use of digital credit as impulsive. In addition, where and when consumers apply for and use credit matter, since product choice, loan amount and credit use are intimately tied to people’s circumstances at the time of applying for a loan. For example, arrears rates vary considerably, peaking on loans originating after midnight and on Fridays.

The study further indicates that digital access to credit increases instances of borrowing because it

gives consumers a heightened sense of anonymity, privacy and agency around money matters. This can reinforce secretive behaviours and lead consumers to keep borrowing activity hidden from friends and family. Moreover, digital access fails to address the root cause of borrowing by simply deferring consumer need for, or worries about, money to another time and place which can lead to unsustainable cycles of borrowing and credit use.

“Changes to the accessibility of credit are now causing consumer detriment that cannot be addressed through current regulation,” says Dr Ash. Future reform of the HCSTC market should consider further intervention, including design measures for websites and mobile applications that slow down consumer decision-making. “We recommend a minimum ‘dwell time’ on application pages and prompts that require active demonstrations of consumer understanding,” he says.

Mechanisms are also needed to mitigate impulse borrowing such as a night-time curfew (11pm to 7am) on credit access, a mandatory delay of four hours between application, approval and receipt of funds, and a scheme whereby consumers can request their exclusion from HCSTC products and services. ■



Contact Dr James Ash, University of Newcastle
Email james.ash@ncl.ac.uk
Telephone 0191 208 5804
Web www.debtinterfaces.org.uk
ESRC Grant Number ES/N012666/1

Voting divide on ethnic diversity

VIEWS ON ETHNIC diversity had a larger impact on the 2016 EU Referendum result than previously thought, says research into identity politics in Britain.

British Election Study 2016 data reveals that voters who thought that equal opportunity policies for ethnic minorities have gone too far voted heavily for Leave, while those who felt that equal opportunities have not gone far enough were more likely to vote Remain. Such thinking, on the rise since the 1980s and increasingly also correlated with political party preferences, is now an influential and under-appreciated political divide likely to impact future British politics.

While past surveys have not reliably measured attitudes towards ethnic diversity, a survey conducted in this study found a considerable minority to hold an attitude of racial resentment,

an attitude that has been shown to hugely impact on US politics for decades.

The referendum was not just about the EU, but about the voters' broader views concerning what kind of Britain they want to live in, researchers conclude. Brexit might reinforce these divisions by giving them a political expression, and future surveys need to include measures of racial attitudes to appreciate the full extent of this political division. ■

i Contact Dr Maria Sobolewska, University of Manchester
Email maria.sobolewska@manchester.ac.uk
Telephone 0161 275 4889
Web www.manchester.ac.uk/research/maria.sobolewska/
ESRC Grant Number ES/R000522/1

Scottish Referendum boost to party membership

THE SCOTTISH NATIONAL Party and the Scottish Green Party experienced an unprecedented surge in membership following the 2014 referendum on Scottish independence which tweaked rather than transformed the parties, suggests recent research from the Universities of Aberdeen, Edinburgh and Essex.

Following the referendum, the SNP's membership grew from 25,000 to 120,000, while Green membership went from 1,500 to 9,000. This surge created short-term organisational strain but longer-term benefits including more financial resources.

New members are 'remarkably pragmatic', says researcher Professor

James Mitchell, and have had little impact on party ideologies or policies. Findings indicate that most members are passive, or active only digitally, suggesting membership for many is a symbolic act. "Nevertheless, the sheer numbers mean that the parties now have far more members who can potentially be mobilised in the event of a second independence referendum," says researcher Dr Lynn Bennie. ■

i Contact Dr Lynn Bennie, University of Aberdeen
Email l.bennie@abdn.ac.uk
Telephone 01224 273312
Web www.abdn.ac.uk/socsci/disciplines/pir/recruited-by-referendum-party-membership-energised-524.php
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IN BRIEF



DEMENTIA PREVENTION

A programme designed to reduce older people's risk of getting dementia will be designed and tested by researchers working with Age UK, the Alzheimer's Society, care organisations, local authorities and Public Health England. The programme will help older people make changes that can prevent dementia such as eating more healthily, looking after their mental and physical health, and being more socially and mentally active.

ESRC grant number ES/S010408/1

DUAL APPRENTICESHIPS

Dual apprenticeships combine school-based education with work-based training in integrated learning plans leading to a formal qualification. They have proven successful in Germanic countries and are being introduced in India and Mexico to raise skills, improve labour market conditions and increase productivity levels. A new study will examine whether they can create better and more equitable social and economic outcomes.

ESRC grant number ES/S004297/1

POLITICAL TRUST

Citizens seem to be more distrustful of politicians, sceptical about political institutions and disillusioned with democratic processes. New research will examine how trust in agencies of national and global governance relates to their trustworthiness as measured by performance indicators. It will use data from multinational organisations and government agencies such as the UN, World Bank and NATO.

ESRC grant number ES/S009809/1

IN BRIEF



REFUGEE PROSPECTS

Lebanon has received the most refugees in the world relative to its population. A new study will analyse the paths from education to employment of young Palestinian and Syrian refugees and young Lebanese aged 15-29 in two regions of Lebanon. Researchers will explore the relationship between education and employment for young people in the context of protracted displacement and conflict.

ESRC grant number ES/S004742/1

SEVERE MENTAL ILLNESS

Despite many studies into severe mental illnesses (SMI), including schizophrenia, questions remain on which factors most strongly predict the course and outcomes of these conditions. To address these, researchers will link UK Census data with electronic clinical records from one of the largest secondary mental healthcare providers in Europe to follow 20,000 people with SMI over at least eight years.

ESRC grant number ES/S002715/1

BREXIT IN FAMILIES

New research will address questions concerning how Brexit, and the political debates and events that surround it, have been experienced within everyday personal relationships, particularly family relationships. Based on prolonged engagement with up to ten families from Manchester and Sheffield over a year, researchers aim to understand the everyday ways in which Brexit affects people's lives and relationships over time.

ESRC grant number ES/S006362/1

Online urban design possibilities

A NEW ONLINE design and crowdsourcing platform developed by a European-wide partnership including University College London demonstrates a way of enabling members of the public to participate in creating, sharing and voting on design ideas for the regeneration of public spaces.

The Incubators of Public Spaces project explored ways to encourage community input into the urban design of public spaces. In the project, residents of Pollards Hill housing estate, London Borough of Merton, were invited to redesign their courtyards using the newly

developed platform and a 3D interactive model.

The Incubators of Public Spaces initiative identified opportunities to make grassroots initiatives more accessible to a wider audience but researchers also noted challenges arising from, for example, IT literacy constraints. ■



Contact Professor Stephen Marshall, Bartlett School of Planning, UCL
Email s.marshall@ucl.ac.uk
Telephone 020 3108 9558
Web incubators-of-public-spaces.com
ESRC Grant Number ES/M008495/1

Social media hay fever benefits

TWITTER COULD HELP sufferers of hay fever to manage and minimise its adverse effects, says new research from the University of Exeter.

Hay fever affects one in five 16-44 year olds, and up to 35% of 13-14 year olds in the UK. Hay fever symptoms such as sneezing, runny nose, wheezing and itchy eyes are not only troublesome but can have severe health effects, especially if combined with other conditions such as asthma.

In an 18-month study, researchers explored the potential for improving pollen forecasting and monitoring through the systematic analysis of social media data ('social sensing') to track pollen and hay fever symptoms.

Forecasts of pollen levels in England and Wales are currently based on a sparse network of just 14 observation stations, which collect pollen at two-hourly intervals. Social media users could offer a rich alternative source of data on the spatial and temporal distribution of pollen in the UK. Moreover, social sensing

provides direct observations of the human impact of pollen and hay fever, something that must otherwise be inferred from pollen counts.

Researchers used data from Twitter to generate a dynamic spatial map of pollen levels based on user reports of hay fever symptoms. "The pollen measurements were remarkably similar to the measurements taken from the established pollen monitoring network," says researcher Dr Hywel Williams.

This correlation implies that social sensing could provide estimates of pollen levels in areas remote from current observation stations. "With more and better located social data (from, for example, Facebook and Instagram) we could further improve pollen predictions to aid healthcare planning and delivery as well as enable individual sufferers to better manage their condition," says Dr Williams. ■



Contact Dr Hywel Williams, University of Exeter
Email h.t.p.williams@exeter.ac.uk
Telephone 01392 723777
ESRC Grant Number ES/P011489/1





Personalised warnings encourage healthier choices

PERSONALISED HEALTH WARNINGS could prove more successful than generalised health information in helping people change their health behaviours and outcomes, suggests a new three-year study from the University of Essex.

High blood pressure (hypertension) is a common health condition that increases the risk of death due to heart disease and stroke. In this study, researchers set out to discover whether campaigns that delivered personalised information on blood pressure could improve health behaviours and outcomes.

Nurses collected and delivered information on blood pressure to 18,900 participants as part of the UK Longitudinal Household Survey. Based on this data, 17% of men and 16% of low earners who were not taking blood pressure medications were hypertensive. Findings show that providing a personalised warning did lead individuals to take a more realistic view of their own health. It also triggered more formal diagnoses of hypertension by a GP. Hence, of those receiving a high blood pressure warning, researchers found a 12% increase in the share formally diagnosed with hypertension by their GP six months later.

The sustained monitoring from the GP led to an improvement in some

health behaviours. “We found evidence of large reductions in smoking – nearly half of those who went on to be formally diagnosed as hypertensive made some change in their smoking behaviour – some weaker evidence of improvements in diet, but no change in exercise behaviours,” researcher Dr Paul Fisher points out.

Ultimately, the combined effects of GP monitoring and behavioural improvements appeared large enough to improve respondent health in terms of lower rates of coronary disease and congestive heart failure (a 6% reduction in the numbers reporting either of the conditions), although not in the prevalence of strokes.

NHS health checks cost an estimated £320 million a year. There is, however, little evidence regarding the success of such programmes in improving the wellbeing of the nation. At present the NHS health check programme, which provides a free health assessment for people aged 40 to 74, is thought to have had only a limited impact on disease reduction. “Our findings may help the health care sector to consider what could be done to enhance the impact of such a programme,” Dr Fisher concludes. ■

i Contact Dr Paul Fisher, University of Essex
Email pfishe@essex.ac.uk
Telephone 01206 873994
ESRC Grant Number ES/N012038/1

City responses to austerity

AUSTERITY SPARKED BY the 2008 financial crisis has bitten very unevenly over time and place, says recent research from De Montfort University's Centre for Urban Research on Austerity (CURA).

The three-year project examined how austerity governance (defined as a sustained agenda for reducing public spending) has impacted collaboration between government, business and citizens in Athens, Baltimore, Barcelona, Dublin, Leicester, Melbourne, Montreal and Nantes.

Researcher Professor Jonathan Davies says: “A key finding is that the perceived economic and political significance of 2008 crash varies widely. It hit cities very unevenly, even those at the European epicentre. Not all even recognise the language of ‘austerity’ as applicable.”

Cities affected by austerity have responded in varied ways with individual urban histories, economies, traditions, struggles, conflicts and geographies making a big difference to austerity politics. Some cities have adopted strategies that diverge from those of regional and national governments. “Crucially, we found emerging political alternatives to austerity, even in cities severely affected by spending cuts and fiscal centralisation,” says Professor Davies.

The lessons from CURA's comparison of the international urban experience of austerity were disseminated through a series of workshops and reports. CURA is also advising the UK Labour Party's Community Wealth Building Unit, where the research is informing the development of the new municipal socialist agenda. ■

i Contact Professor Jonathan Davies, De Montfort University
Email jsdavies@dmu.ac.uk
Telephone 0116 257 7818
Web www.cura.our.dmu.ac.uk
ESRC Grant Number ES/L012898/1



Transport in Global South overlooked

THE TRANSPORT NEEDS of socially disadvantaged and marginalised groups such as slum dwellers, children and women are too often overlooked, suggests a research network launched in 2017 to tackle mobility and accessibility issues in cities of the Global South.

Research by the International Network for Transport and Accessibility in Low Income Communities (INTALInC) in Cape Coast, Ghana; Dhaka, Bangladesh; Lagos, Nigeria; and Kampala, Uganda indicates that a lack of access to transport services and resources means that low-income populations are often excluded from key, life-supporting activities such as education, work, healthcare, social networking and leisure.

"Low-income populations in the Global South are overwhelmingly dependent on walking as their main form of transportation, but they are exposed to extremely dangerous and detrimental environments as a consequence of this dependency," says INTALInC director Professor Karen Lucas. "Currently, transport policies in developing cities generally focus on improving the travel environment for the 5-10% of high-income drivers, often to the further detriment of the majority (65-70%) of low-income citizens."

Comprising 20 partners from Africa, East Asia and Europe, INTALInC is currently working to develop national standards for meeting the needs of low-income populations in collaboration with international NGOs and governments. ■

i Contact Professor Karen Lucas,
University of Leeds
Email k.lucas@leeds.ac.uk
Telephone 0113 343 8086
Web www.intalinc.leeds.ac.uk
ESRC Grant Number ES/P006221/1



Parents need to persevere with reading to children

PARENTS MAY DELAY reading with babies and young children because they don't believe their children are enjoying the activity, suggests recent research.

"The research evidence for the effect of reading on children's early language and subsequent literacy development is strong," says Professor Caroline Rowland. "Shared reading with preschool-aged children is one of the most effective ways to boost their language development. It exposes children to a wider variety of words and sentence structures than they hear in everyday language, and instils important pre-literacy skills that are crucial for later literacy development at school."

A three-year study from the ESRC International Centre for Language and Communication Development (LuCiD) explored interventions designed to boost reading (0-5 years), as well as the barriers and motivations to shared reading.

The effectiveness of shared book reading is maximised, say researchers, when parents or carers start to read with their children early and often. A study of how parents feel about reading with children at home, however,

suggests parents enjoy a positive reaction from their children and want the activity to be child-led. Parents find negative feedback (eg, when their child pushes a book away), or feeling their child is not interested or does not understand the book as significant disincentives to shared reading. Hence, some parents may not read with their babies because they are not receiving 'positive' feedback and decide to delay reading until they are older.

Researchers suggest that shared reading interventions designed to address these barriers need to promote reading for pleasure as a viable motivation for reading. Parents need to be encouraged to read to their children in their 'own ways', supported to deal with perceived 'negative' feedback and helped to find ways to make the experience enjoyable for themselves and their children. Families who are struggling with difficulties such as poor health may require additional support. ■

i Contact Professor Caroline Rowland,
University of Liverpool
Email crowland@liverpool.ac.uk
Telephone 0151 794 2942
Web www.lucid.ac.uk
ESRC Grant Number ES/M003752

Corporate lawyers and ethics

CORPORATE LAWYERS ARE in the main ethically apathetic, suggests a three-year study of the relationships between corporate finance lawyers in English law firms and their elite clients.

Based on interviews with more than 50 corporate finance lawyers, the study found that they appeared to be largely unenthusiastic, uninterested and unconcerned about the ethics of what they and their clients were doing. Moreover, large law firms were not routinely engaging in training and dialogues on 'ethical lawyering'. The study also identified a significant shift over the last three decades

in the balance of power between large law firms and their clients – in the clients' favour. Hence, some corporate finance lawyers now see themselves as conduits for their clients' wishes, rather than as trusted advisors with professional obligations. ■

i Contact Dr Steven Vaughan, University College London
Email steven.vaughan@ucl.ac.uk
Telephone 0203 108 8312
Web www.limitsoflawyers.wordpress.com
ESRC Grant Number ES/K00834X/1

Jobseekers lack careers information

A SHORTFALL IN CAREERS information, guidance and encouragement during and immediately after secondary education is just one of the difficulties young people face on their pathway into work, says recent research.

Interviews with more than 200 young people from the Midlands identified a lack of adequate advice and guidance for school students as an issue for many of the graduate and virtually all of the non-graduate respondents. It was also noted in interviews with a range of employers. But young people with access to excellent careers guidance and from families able to advise and support them financially or through personal contacts had a great advantage.

"Our evidence shows that achievement and access to opportunities are related to social and educational advantages and disadvantages," says Professor Kate

Purcell. "Young people are particularly disadvantaged in the 'gig economy' and many lack information about options and the confidence to be proactive."

The researchers, in collaboration with young people and professionals, produced a video and information booklet: 'Working your way in: what young people need to know about the jobs market', downloadable from their website. Professor Purcell says: "Groups of Midlands school and college students have been enthusiastic about how useful the booklet and video are, and there is potential to extend their use more widely, if funding can be made available." ■

i Contact Professor Kate Purcell, University of Warwick
Email kate.purcell@warwick.ac.uk
Telephone 02476 523288
Web www.warwick.ac.uk/paths2work
ESRC Grant Number ES/M500604/1



IN BRIEF



CLIMATE ACTION

The Place-Based Climate Action Network (P-CAN) aims to strengthen links between national and international climate policy and local delivery through climate action focused on local places. The network will develop three city-level climate commissions in Belfast, Edinburgh and Leeds; two thematic platforms on business engagement and green finance; a flexible fund of 20-30 small grants and an active outreach strategy. ESRC grant number ES/S008381/1

ARTIFICIAL INTELLIGENCE

The stakes for implementing artificial intelligence (AI) in UK legal services are high. If executed effectively, it is an opportunity to improve legal services for citizens and domestic small businesses, and export. If mishandled, it could threaten both economic success and governance. A new study will explore the potential and limitations of using AI in legal services.

ESRC grant number ES/S010424/1

AGEING POPULATIONS

The UK-Japan Social Wellbeing across Ageing Nations (UK-Japan SWAN) initiative brings together existing research partnerships in the UK and Japan to advance current understanding of culturally sensitive measures of social relationships, social participation and wellbeing. The network aims to increase understanding of the interplay between culture, social relationships and wellbeing in ageing populations, and forecast the future trends and implications for younger generations.

ESRC grant number ES/S013830/1

The university earnings return

New research helps explain the impact on earnings of going to higher education and the effects of subject choice and institution. The decision of what and where to study can have significant consequences. By **Laura van der Erve**, Institute for Fiscal Studies

INFORMATION ON THE earnings returns to degrees is crucial for students deciding whether to go to university, and if so, what and where to study. Yet, mainly due to data limitations, evidence in the UK has so far been limited. Previous work has often relied on individuals who went to university in the 70s and 80s – which leads to questions about its relevance today – or has not been able to control comprehensively for the differences between those that do and do not attend higher education (HE).

Accounting for those differences is crucial when thinking about the value of a university degree. The typical student looks very different to the average individual who did not attend university, and a large fraction of the earnings gap between them is likely to be explained by differences in pre-university characteristics: a typical HE student has higher prior attainment and is more likely to have come from a richer family, and would therefore be likely to earn more, independently of having gone to university.

“For women, studying medicine increases earnings by 75%, compared with around 9% for creative arts”

Recent research carried out by the Institute for Fiscal Studies attempts to fill this evidence gap, and estimates the average earnings impact of university, adjusting for differences in prior attainment and background between individuals, based on those who went to HE in the mid- to late 2000s. The research paper uses the extremely rich

new ‘Longitudinal Educational Outcomes’ (LEO) dataset that links school, university and tax records for the population of people who went to secondary school in England. This dataset makes it possible to for the first time to estimate how this impact varies across specific institutions and degree subjects, and across students with different prior attainment. When interpreting the results, it needs to be kept in mind that the estimates focus on the monetary returns to university, which may not fully reflect the wider societal benefits of these degrees.

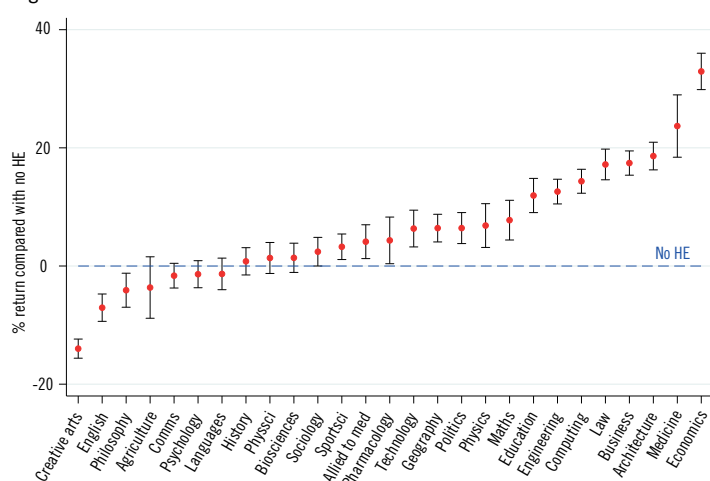
The paper confirms that individuals who attend HE on average earn a lot more than those that do not. Even conditioning on having 5 A*-C grades at GCSE, men who go to HE have earnings 25% higher than those who did not attend by age 29. For women the difference is even larger, with HE-educated women earning 60% more than their non-HE counterparts at the same age. Once we account for differences in background characteristics and prior attainment, the gap in earnings is reduced to 26% for women and 6% for men.

For men, these returns are disappointingly low, and below previous estimates from the UK. But it should be noted that these returns are likely to increase over the lifecycle. Age 29 is relatively early in an individual’s career, and there is strong evidence that the earnings of male graduates will continue to grow faster than those of male non-graduates. This low return for men is also not universal, and the returns vary considerably across the different types of higher education men are able to do.

Subject choice appears to be particularly important in determining returns. For men, a handful of subjects, such as creative arts, English or philosophy, actually result in lower average earnings than that of similar people who did not go to HE at all, as can be seen in Figure 1 (left). By contrast, studying medicine or economics increases male earnings by more than 20% on average. For women there are no subjects with negative returns, but the ranking across subjects is similar. Studying medicine increases earnings by 75%, compared with only around 9% for creative arts.

We also find considerable variation in returns across institutions. While we find statistically significant negative returns for men at age 29 in 12 out of approximately 115 institutions (accounting for around 4% of male students), 18 institutions have returns of more than 20%. For women, in line with their higher average returns, only two institutions (0.4% of female students) have

Figure 1





statistically significant negative returns, while 66 institutions have average returns above 20%.

Graduates of Russell Group and pre-1992 universities on average have very high earnings, but also overwhelmingly have high prior attainment and come from better-off families. Accounting for these differences in pre-university characteristics reduces the raw gap in earnings between their graduates and those that did not attend HE by around half. As we can see in Figure 2 though, even once we account for this, Russell Group and pre-1992 universities seem to deliver very good outcomes for their students, and the universities with the highest returns are overwhelmingly from those groups.

We have shown that subject and institution choice are key determinants of the return to HE. Choosing the right subject or institution is nevertheless not a guarantee of high returns. Even conditional on subject choice, the university you go to is extremely important. Studying business leads to high returns on average, but across institutions this ranges from doubling individuals' earnings, to not increasing earnings at all. We find similarly large variation within institutions. While Cambridge has on average some of the highest returns for both men and women, this varies widely across specific subjects. Economics at Cambridge is one of the courses that increases earnings most, with a return of more than 125% for both genders, but creative arts actually appears to result in lower earnings at age 29 than not going to university at all.



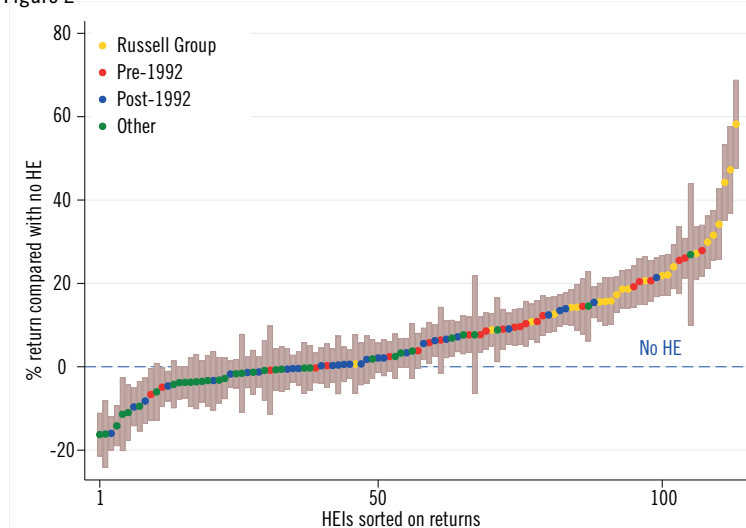
While Cambridge has on average some of the highest returns for both men and women, this varies widely across specific subjects.

to study subjects with low returns such as creative arts and sports science, and being more likely to attend lower-returning universities. However, even when they do attend the same institution and study the same subject as their higher prior attainment peers, they experience lower returns. There are nevertheless courses – such as business and computing – which add at least 10% to the earnings of this group. Among women, the differences by prior attainment are less stark, with overall returns to HE high for all groups.

Understanding the impact of HE on individuals with lower prior attainment is particularly important when considering the impacts of a further increase in the HE participation rate. In our period of study, 70% of all students with five A*-C GCSEs that did not attend university fell within this lower third of prior attainment group without a STEM A-level; and hence it is likely that were HE participation to increase further, a significant proportion of the additional students would come from this group. This suggests the government should pay close attention to the courses that individuals with low prior attainment are studying.

This new research significantly improves the information on the earnings returns to university available to students, and is a considerable step towards helping students to make well-informed decisions. Even if this will only be one of many factors influencing students' choices, one thing is clear: the decision of what and where to study can have significant consequences for future earnings. ■

Figure 2



The returns to HE also differ considerably for different types of students. For men in the bottom third of GCSE grades (conditional on having at least 5 A*-C grades) who don't have a STEM A-level, attending HE only increases earnings at age 29 by 4%. This compares to 20% for their peers who do not have a STEM A-level but are in the top third of GCSE grades. Part of this low return is explained by lower prior attainment students being more likely



Laura van der Erve is a research economist at the IFS and a PhD student at University College London. Her research focuses on education and intergenerational mobility.
Email: laura_v@ifs.org.uk

Lettuce be happy

New research has found that eating fruit and veg may not only be good for your body, it could also increase mental wellbeing. By **Neel Ocean** and **Peter Howley**

IT IS WELL known that eating lots of fruit and vegetables is good for your physical health, but our latest research suggests that it might be good for your mental health too.

A study from Australia in 2016 found improvements in psychological wellbeing after increases in fruit and vegetable consumption. We wanted to know if this finding held true using a larger sample (more than 40,000 participants) from the UK Household Longitudinal Study.

Our analysis showed that increases in the consumption of fruit and vegetables are linked to increases in self-reported mental wellbeing and life satisfaction in data that spans a five-year period, even after accounting for other determinants of mental wellbeing such as physical health, income and consumption of other foods.

The benefits of physical activity for mental health are well established. The estimates from our work suggest that adding one portion to your diet per day could be as beneficial to mental wellbeing as going for a walk on an extra seven to eight days a month. One portion is equal to one cup of raw vegetables (the size of a fist), half a cup of cooked vegetables or chopped fruit, or one piece of whole fruit. This result is encouraging as it means that one possible way to improve your mental health could be something as simple as eating an extra piece of fruit every day or having a salad with a meal.

It is important to stress that our findings alone cannot reveal a causal link from fruit and vegetable consumption to increased psychological wellbeing. And we can't rule out so-called 'substitution effects'. People can only eat so much in a day, so someone who eats more fruits and vegetables might just have less room in their diet for unhealthy foods. Although we accounted for bread and dairy in our study, ideally future research should track all other foods consumed to rule out alternative explanations.

But when taken in combination with other studies in this area, the evidence is encouraging. For example, a randomised trial conducted in New Zealand found that various measures of mental wellbeing, such as motivation and vitality, improved in a treatment group where young adults were asked to eat two extra portions of fruit and vegetables a day for two weeks, although no changes were found for depressive symptoms, anxiety or mood.

Though our own study cannot rule out that people with higher levels of mental wellbeing might be eating more fruits and vegetables as a result, a recent commentary on our work by the authors of the 2016 Australian study sheds further light on this. The authors show that the



number of fruit and vegetable portions eaten in a day can predict whether someone is diagnosed with depression or anxiety two years later. But the reverse does not seem to be true. Being diagnosed with depression does not appear to be a strong predictor of fruit and vegetable consumption two years later. This suggests that it is perhaps more likely that eating fruits and vegetables is influencing mood and not the other way around.

Although several studies, including our own, have found a link between fruit and vegetable consumption and mental wellbeing, we need large trials to provide robust evidence that the link is causal. But randomised controlled trials are expensive, so another way to identify causation is to focus on the biological mechanisms that link the chemicals commonly found in fruit and vegetables to physical changes in the body. For example, vitamins C and E have been shown to lower inflammatory markers linked to depressive mood.

More research is needed, but our work adds to a growing body of evidence that eating fruits and vegetables and having higher levels of mental wellbeing are positively related, and the signs of a causal link from other recent studies are encouraging. We are not suggesting eating fruits and vegetables is a substitute for medical treatment, but a simple way to improve your mental health could be to add a little more fruit and veg to your daily diet. ■



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Web www.sciencedirect.com/science/article/pii/S0277953618306907?via%3Dihub

Telephone 0113 34 39208
Email n.ocean@leeds.ac.uk

Picturing better lives

Winners of the ESRC Better Lives photographic competition impressed judges with their skill and creativity, while exploring how social science improves lives

THE 2019 BETTER Lives Photographic competition challenged young people for their take on society and the social sciences by asking them to take a picture of how they see society and the world around them. The competition asked for entries that explore the relevance of social science to improving lives through five categories: Better health, Better education, Better economy, Better environment, and Better relationships.

These categories cover a range of subjects such as family, economy, politics, culture, health, technology, climate change, migration and sustainability. This year 506 young people from 160 towns or cities took

part across 109 UK schools, sixth forms and further education colleges, entering 792 images in the competition.

The winners were announced at a prizegiving ceremony at the Espacio Gallery, Shoreditch, London, hosted by Paul Nightingale, ESRC Director of Strategy and Operations.

The winning and shortlisted entries were then exhibited for a week at the gallery.

The category winners are shown on the following pages. For more information and to see all the shortlisted entries, runners-up and judge's favourites, see: esrc.ukri.org/public-engagement/photographic-competition ■



Category winner – Better Relationships and overall competition winner
Sandy grins

Annwen Butler-Chattell, Lancaster Girls' Grammar School



Category winner – Better Economy and judge's favourite
Ginger factory
 Florence Noon, Twyford Church of England High School, Ealing



Category winner – Better Education
Addition and subtraction
 Elizabeth Revell, Sheringham Sixth Form



Category winner – Better Health

Antioxidant

Emma Peacock, St Mary's School, Cambridge



Category winner – Better Environment

Pashmina

Saiesha Gupta, Benenden School, Cranbrook

The paradox of punishment

Fergus McNeill argues that our criminal justice system needs a more complex response to rehabilitation that accounts for the effects of society on the individual

AS SOMEONE WHO worked in criminal justice before studying it, I've long been aware of punishment's paradoxical and tragic character. All over the western world, criminal justice systems sweep up mainly socially marginalised people. The sanctions that are then applied often add to their social disintegration, for example by locking them away or confining and controlling them in their homes.

The UK's penal populations are at historically high levels; over 90,000 people are in prison, and almost 300,000 are under supervision in the community. Overcrowding prisons and overloading probation hampers their ability to undertake the complex and challenging work of rehabilitation, contributing to another tragic paradox; trapping people in the system while making communities less safe.

Both sides of the border, politicians of different political persuasions are arguing for reductions in the prison population, focusing their arguments on expensive and ineffective short sentences. The UK Government former Prisons minister Rory Stewart last year suggested we should have a "massive reduction" in the number of people sent to prison for 12 months or less. The Scottish Government has already brought forward legislation to create a presumption against such sentences in Scottish courts. These reforms are both overdue and welcome, but they won't reduce the growing long-term prison population, and they will further inflate probation caseloads at a time when services in England and Wales are struggling with the chaos caused by the ill-fated privatisation experiment.

Reducing both the prison and the probation population requires a more radical shift in approach. Broadly speaking, there are two main kinds of responses to wrongdoing. We can take a 'retribution-based' approach, denouncing the wrong by punishing it and, at the same time, trying to deter people from committing similar acts in the future. Alternatively, we can take a 'reparation-based' approach, where we take the wrong seriously but first seek ways to repair the harm, for example by inviting the wrong-doer to make amends to the person and/or the community. Our system defaults to the former approach; I argue that this is the wrong place to start, even if we sometimes need retributive punishment.

Rehabilitation is important in both approaches, but for slightly different reasons. In a retributive system, rehabilitation is about making sure that punishment ends when debts have been settled. In a reparative system, it is about supporting people

to make amends. Either way, the aim must be to reintegrate the person as a fully restored citizen.

Criminal justice has focused myopically on personal rehabilitation which aims to develop new or existing motivation to change and skills for living differently. Clearly this is often an important part of rehabilitation but, on its own, it can't resolve problems of disintegration that are social rather than individual. The model developed with my colleagues Lol Burke and Steve Collett insists that we must consider three other forms or aspects of rehabilitation, all of which compel us to address the damaged relationships between disintegrated people and wider society.

- Judicial rehabilitation is a process of formal, legal 'de-labelling' where the status of the citizen is reinstated. This is a duty that the punishing state owes to those citizens who have settled their debts; it signifies and secures the end of punishment.
- Moral and political rehabilitation is more informal and focuses on the negotiation between citizen, civil society and state – a civic and civil conversation that looks back not just at the offence but at what lies behind it, that explores harm, repair and renegotiation of social integration.
- Social rehabilitation concerns the individual's social position and their social identity. It is about their connections and resources, their social capital; the help and welcome that they require along the path from other citizens.

The kinds of wrongdoing that we typically criminalise are often associated with other collective social wrongs. Think, for example, of the fact that people who were 'looked after' by the state as children are 13 times more likely to end up in prison as adults; and of the profound and enduring inequalities which lie behind that statistic. Offending breaks relationships and tears at the social fabric, but the fabric is torn because it is weak and worn thin by these other wrongs. Like the tear, the repair must be relational – between the people directly involved; and between citizen, civil society and state. None of us can duck these wider social and political issues; it makes no sense to work on only 'one side of the tear'. If we want to build a safer and fairer society, we need to look far beyond rehabilitation – at least as we currently conceptualise it. ■



Contact Professor Fergus McNeill, University of Glasgow
Telephone 0113 34 39208
Email fergus.mcneill@glasgow.ac.uk
Fergus McNeill: Rehabilitations, corrections and society
Web eprints.gla.ac.uk/159625/7/159625.pdf

The common law myth

Almost half of people in England and Wales think that an unmarried cohabiting couple have a 'common law' marriage and the same legal rights as a married couple. But cohabitants currently have no legal status and few automatic rights. By Professor **Anne Barlow**

THERE IS NO longer just one way of 'doing' family in modern Britain. With much greater gender equality and social acceptance of different family forms, how we organise family life and our personal relationships has changed considerably in recent times. In some ways, the law in England and Wales has kept pace with change – same-sex civil partnerships in 2004 and same-sex marriage in 2013 are shining examples of progressive legislative landmarks. Yet we have witnessed clear policy reluctance to offer legal protection to opposite-

“Family law should be able to provide a range of options for those who are 'doing family'”

sex couples who reject marriage, despite Law Commission recommendations in 2007 and despite many other countries including Scotland, Ireland, Australia and New Zealand having reformed their cohabitation law.

Cohabiting couples are now the fastest growing type of family in the UK, more than doubling from 1.5 million families in 1996 to 3.3 million families in 2017, with 15% of dependent children living in cohabiting couple families. Successive governments have refused to legislate to recognise opposite-sex cohabitants as deserving of cohesive family law remedies when relationships break down or a partner dies. However, recent research undertaken by



the University of Exeter in conjunction with the National Centre for Social Research in 2018 has been used to inform Parliamentary debates in two separate Private Member's Bills – one advocating extending civil partnerships as an option for opposite-sex (rather than exclusively for same-sex) couples and the other seeking remedies for cohabitants on relationship breakdown or death of partner. However, these offer quite different types of solutions to unmarried cohabiting couples – one involves opting into a civil partnership whilst the other offers qualifying cohabitants automatic legal rights and remedies unless they opt out. Which approach is most fitting for modern society has divided opinion in Parliament, yet do we really have to make a choice? Does the research evidence show that one option necessarily precludes the other?

Equal Civil Partnerships

On 15th March 2019, the Civil Partnerships, Marriages and Deaths (Registration Etc.) Bill 2017-2019 passed and will become law by the end of 2019. This will allow opposite-sex couples (not only same-sex couples) to enter into civil partnerships. Even though the Supreme Court had ruled in June 2018 that to preclude opposite-sex couples from registering civil partnerships was discriminatory, the government initially wanted to delay legislating to undertake a survey to gauge public opinion. However, Tim Loughton MP, the Bill's sponsor was able to draw on the research, assert its credibility and progress the Bill speedily to its third reading and into law. As he explained: “I can help the Minister on that score, thanks to Professor Anne Barlow... at the University of Exeter. She has surveyed extensively



**Do unmarried couples have a common law marriage?
2000-2018, England and Wales**

Base: respondents in England and Wales	2000	2005	2006	2018
Definitely/probably do	56%	47%	51%	46%
Definitely/probably do not	37%	45%	37%	41%
Unweighted base	2699	3207	2514	2105
Weighted base	2731	3201	2513	2111

Source: NatCen's British Social Attitudes survey 2018

Question wording: *As far as you know, do unmarried couples who live together for some time have a 'common law marriage' which gives them the same legal rights as married couples?*

using the NatCen panel survey technique, which is a probability-based online and telephone survey that robustly selects its panel to ensure that it is as nationally representative as possible.

"[It] had a sample of more than 2,000, which I gather is double the amount the Government intended to survey, and which they were to take at least 10 months to do. ... Her survey posed the question, 'How much do you agree or disagree that a man and woman should be able to form a civil partnership as an alternative to getting married?' ... More than 70% – even better than the Brexit referendum – of those 2,000 people absolutely thought that civil partnerships should be made available to all."

Whilst the introduction of civil partnerships for heterosexual couples is very welcome and will offer an alternative to couples who wish to form a legal union without entering a traditional marriage, this will only assist couples who are aware that they lack legal status.

Cohabitation and the common law marriage myth

In England and Wales, cohabitants currently have no legal status and, therefore, no automatic rights in most circumstances – especially if the relationship comes to an end. For example, if one partner dies without making a will there's no right for the other to inherit part of their estate – regardless of how long they have lived together and even if they had children together. Equally, there is no legal duty to support the partner financially should the relationship break down, even if family life had been organised so that one partner was the main earner and the other the main carer of their children.

Yet almost half of us (46%) living in England and Wales are unaware that this is the case and think that an unmarried cohabiting couple have a 'common law marriage' with the same legal rights as a married couple, according to the latest British Social Attitudes Survey. This figure is largely unchanged since 2005, despite public awareness campaigns, showing how difficult it is to shift this myth.

The data also show that people living in households with children are significantly more likely to think that common law marriage exists than those in households with no children (55% vs 41%)

and singles (39%). Worryingly, cohabitants (48%) are no more clued up than married people (49%).

Misperceptions like this can have very real negative implications for people's lives and the decisions they take. Cohabitants may face financial hardship and even losing their home if the relationship breaks down. Additionally, we know that the lack of legal rights for cohabitants affects particular groups disproportionately, particularly women and children, as women remain more likely to put careers on hold while raising children and become financially dependent on their partners.

One possibility would be granting them automatic rights as put forward in Lord Marks' Cohabitation Rights Bill, the second Private Member's Bill debated on the 15th March, this time in the House of Lords. Its proposals are similar to those introduced in Scotland in 2006, providing a set of limited rights for cohabitants who separate, or in cases where one partner dies. Yet the Lords' debate revealed that there are concerns that this would be inappropriate for those deliberately choosing to cohabit to avoid such legal constraints. Lord Marks, in countering these arguments, was able to use the widespread nature of the common law marriage myth to question whether this was indeed the rationale for such a choice. The Bill passed its second reading and now goes into committee stage.

Whilst the public as a whole need to have a better understanding of their legal status, empowering each of them to take informed decisions that suit their family's circumstances, family law should also be able to provide a range of options for those who are 'doing family' in the way that suits them best, including something of an automatic safety net which avoids one partner being able to exploit the other financially if things go wrong or inadvertently leave them destitute, should one of them die. ■



Anne Barlow (FACSS) is Professor of Family Law and Policy: Associate Dean Research and Knowledge Transfer, Exeter Law School, University of Exeter
Email a.e.barlow@exeter.ac.uk
Telephone 01392 723159

THE UK BY NUMBERS

ENERGY AND EMISSIONS

We present an at-a-glance overview of key topics. This issue's focus is on energy and fuel supply and consumption, and greenhouse gas emissions. Statistics are from Eurostat, the Office for National Statistics, and the Department for Business, Energy and Industrial Strategy

THE ENERGY INDUSTRIES' CONTRIBUTION TO THE UK ECONOMY IN 2017



2.9% of total GDP.



9.8% of total investment.



33.6% of industrial investment.

1.9%

annual expenditure on research & development 2016.



Renewables share of electricity generation increased to a record **33.1%**, up from 30.0% in the third quarter of 2017. Renewable electricity capacity was 43.2 GW at the end of the third quarter of 2018, a 10% increase (3.9 GW) on a year earlier.

Domestic energy bills increased by 5.8 % in current prices and by 3.7% in real terms.



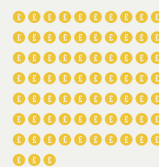
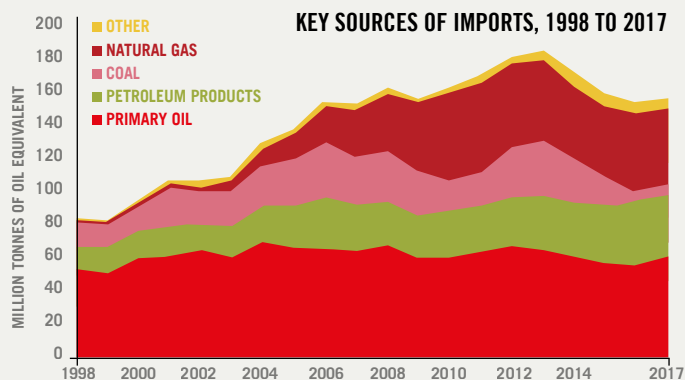
For fixed consumption levels of gas of 15,000 kWh per annum, bills increased by £16 to £646.

For fixed consumption levels of electricity of 3,800 kWh per annum, bills increased by £57 to £676

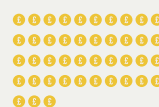


181,000

People directly employed (6.3% of industrial employment) and more indirectly (eg, an estimated 142,000 in support of UK Continental Shelf production).



The combined average **domestic bill increased by £73** from £1,249 in 2017 to £1,322 in 2018.



Average bills for those using prepayment **meters increased by £43** (3.4%) following the revisions of the price cap earlier this year, a slower rate compared to the other payment methods.

IMPORTS ARE SOURCED FROM A WIDE VARIETY OF COUNTRIES



CRUDE OIL: The key source of imports has historically been Norway. Norway remained the primary source of crude in 2017, but its share of UK imports fell from 62% to 48%.



PETROLEUM PRODUCTS: The Netherlands, which acts as a major trading hub, has been the largest source of imports and is the largest supplier of transport fuels.

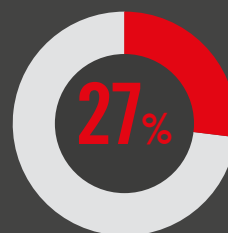


GAS: Norway accounted for 75% of UK gas imports in 2017, with pipelines from the Netherlands and Belgium supplying 6% and 4% respectively. The remaining 15% arrived as Liquefied Natural Gas (LNG), of which 84% was from Qatar.

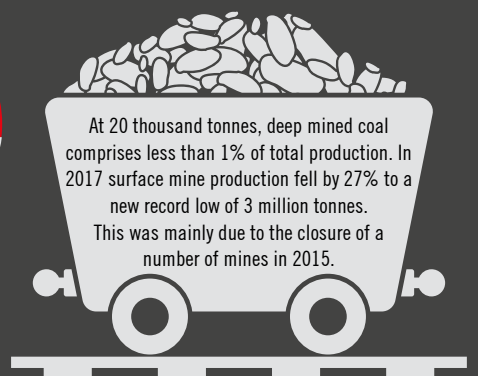
9 MILLION TONNES

In 2017 coal use in UK electricity generation fell to a record low of 9 million tonnes. The decline was due to reduced capacity, with the closure of Longannet and Ferrybridge C in 2016.

In addition, production favoured gas over coal, partly due to the carbon price per GWh being higher for coal. In 2017, coal use in electricity generation accounted for **62% OF TOTAL COAL DEMAND**

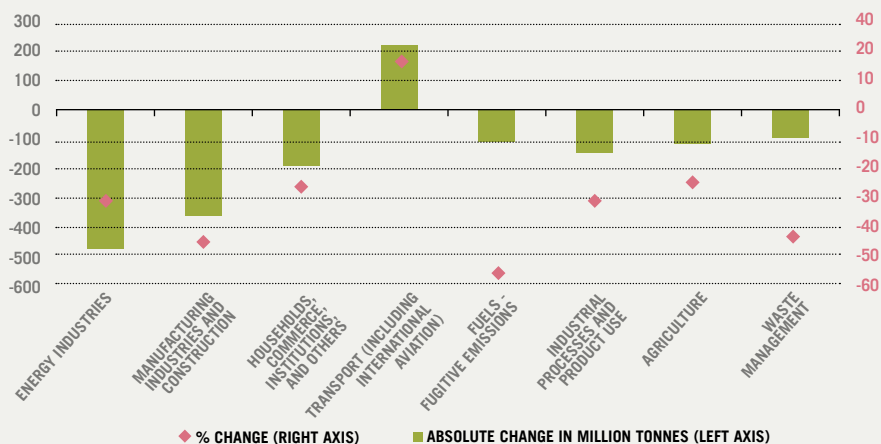


In 2017 UK coal production fell to an all-time low of 3 million tonnes, 27% lower than in 2016.



GREENHOUSE GAS EMISSIONS BY IPCC SOURCE SECTOR, EU-28, 1990 TO 2016

(MILLION TONNES OF CO2 EQUIVALENT AND % CHANGE)



GREENHOUSE GAS CO2 EMISSIONS, 1990 TO 2017

455.9
MILLION TONNES



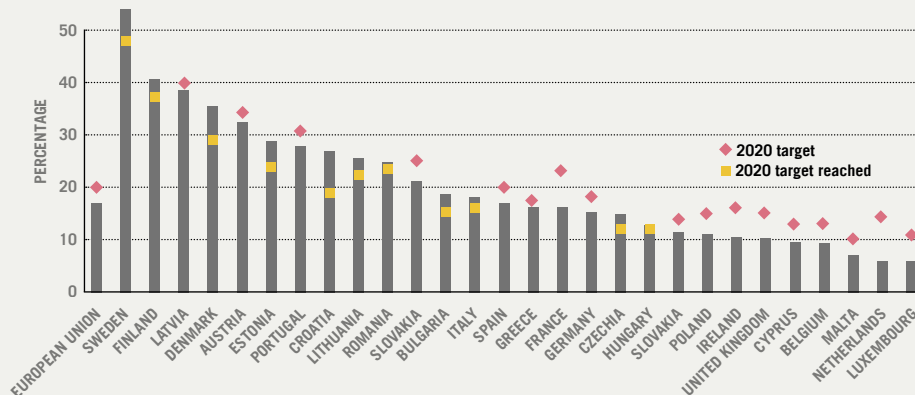
2017

794.2
MILLION TONNES

1990

In 2017 UK emissions were provisionally estimated to be 455.9 million tonnes of carbon dioxide equivalent. This was 2.6% lower than the 2016 figure of 467.9 million tonnes and 43% lower than the 1990 figure of 794.2 million tonnes.

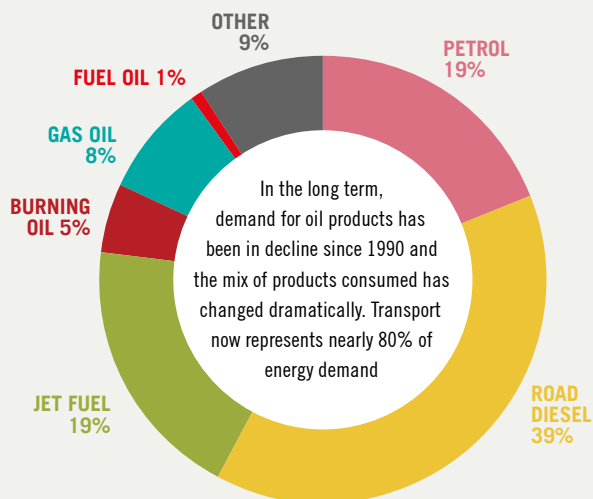
SHARE OF ENERGY FROM RENEWABLE SOURCES IN THE EU MEMBER STATES (2017, IN % OF GROSS FINAL ENERGY CONSUMPTION)



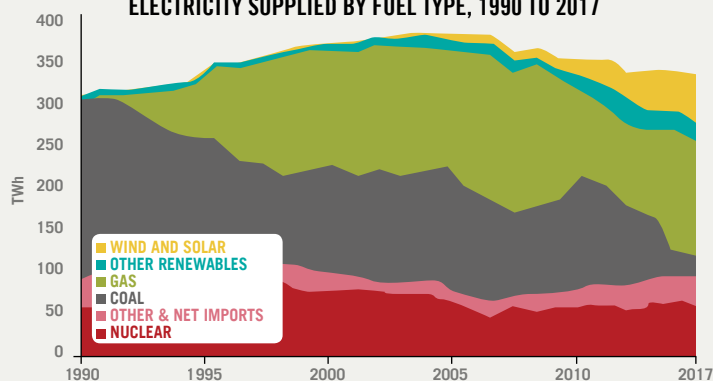
Carbon dioxide emissions, which are primarily created when fossil fuels are burned, were estimated to account for about **80% of total UK anthropogenic greenhouse gas emissions** in 2017.



PETROLEUM, DEMAND BY PRODUCT 2017



ELECTRICITY SUPPLIED BY FUEL TYPE, 1990 TO 2017

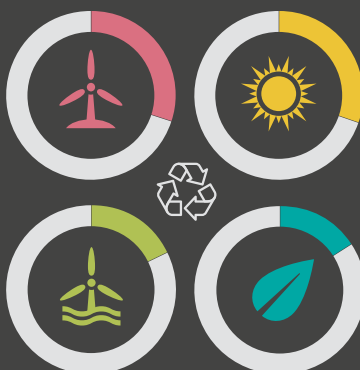


Supply from wind and solar has followed an upward trend since 2000 as generation capacity increased. In 2017, wind and solar supply increased significantly by 29.1% to reach 61.5 TWh, due to an increase in capacity of 22.6% in wind capacity and 7.3% in solar capacity, while average wind speeds were 0.4 knots higher.

At the end of 2018 Q3, the UK's renewable electricity capacity totalled 43.2 GW, an increase of 10% (3.9 GW) on that installed at the end of 2017 Q3, and 2.3% (1.0 GW) higher than the previous quarter.



At the end of 2018 Q3, onshore wind at 13.3 GW represented **30.8%** of all renewable capacity, the highest share of renewable technologies. This was followed by solar PV (**30.3%**), offshore wind (**18.4%**) and bioenergy (**16.1%**).



199 MILLION LITRES

Bioethanol consumption increased by 9.4% from 182 million litres in the third quarter of 2017 to 199 million litres.

Biodiesel consumption increased by 83%, from 175 million litres in Q3 2017 to 320 million litres in Q3 2018.

Biodiesel accounted for the remaining **62%** of biofuels consumption.



Getting the facts straight

In a world of fake news, misinformation, and a casual attitude to the truth, Full Fact checks and verifies claims made by individuals and institutions, and prevents bad information leading to bad decisions. Its director Will Moy explains why it is a force for good. By **Martin Ince**

PERHAPS NOW MORE than ever, Will Moy has no difficulty explaining why we need Full Fact. He was involved in setting up the UK's prime fact-checking charity in 2010, before 'fake news' was regarded as a global problem – but after the experience of working for a member of the House of Lords. There, he says, he was astounded that “big claims were being made that affected policymaking by serious people,” with all too little proof of their accuracy.

Moy remains director of Full Fact in its tenth year. He says that it is still confronting the truth that bad information leads to bad decisions, “ones that people would not have taken with better knowledge.” At the same time, “the evidence shows that there are high levels of distrust for the media, business, and people in public life. The ways we are getting information are changing and it is harder than ever to know what to trust. Part of our role is to help people know where to place or withhold trust.”

As head of a fact-checking organisation, Moy is cautious when asked whether the volume of false information is on the rise. He says: “We fact-check problem material, so we see an unrepresentative sample.” But he adds that “cock-up rather than conspiracy” is often to blame when false stories are promulgated, especially when so much news is written by “busy generalists with a deadline” rather than informed specialists.

In this setting, Moy says that the very existence of Full Fact is a force for good. “We do fact-checking all day and millions of people hear about our findings. MPs, prime ministers and businesses have issued corrections because of us, as have the news media. So there is a definite ‘they know we check’ effect at work” which encourages responsible behaviour. “We have heard of civil servants with ‘avoiding Full Fact checks’ as one of their Key Performance Indicators.”

However, Full Fact has a mission that goes far beyond correcting individual cases of inaccuracy. It submitted “a hundred pages of examples and evidence” to the Leveson inquiry into the behaviour of the UK press, and has worked on improving communications with bodies such as the Office of National Statistics and the Treasury.

Both of these have important but complex material to get across to the media and the public, and their message often involves detailed numbers. But Moy points out that the apparently definitive quality of numbers may sometimes conceal the

true story. “There is a gap between the story and the world that in many cases can be the real story.” For example, the crime survey used to have a cap on how often an individual could report being the victim of a given type of crime. There may have been good reason for this limit, but it had the effect of preventing women from reporting repeated domestic violence.

Beyond the ten tips

One way in which Full Fact has expanded its remit in recent years is by its involvement with Facebook. The connection has grown in importance as the company has become more aware of the danger posed by unreliable news in its massively influential feed.

“There are high levels of distrust for the media, business, and people in public life”

Moy explains: “We have been talking to Facebook for some years. In the 2017 election we helped support the ten tips for spotting false news which they used in an advertising campaign.” This collaboration has now been extended to make Full Fact part of Facebook's third-party fact-checking initiative. Moy says: “If you look at any Facebook post, there are three dots at the top that you can click on to report a post you don't like. We choose which of these to look at. It turns out to be a far wider range of material than our usual remit, which is mainly political. We publish our findings and Facebook act on them.” Once Full Fact have published their findings, Facebook users may be told if a post they've shared, or are about to share, has been checked, and are given the option to read the fact check, but they won't be stopped from sharing any content.

Full Fact's Facebook work focuses on misinformation that carries the most potential for harm, and there are three main areas in which they see this. One is the political arena. Full Fact helped identify misleading material on how to vote that was published in the runup to the UK's 2017 general election. Trusting it could have cost people their vote. Another relates to false stories spreading in the aftermath of terrorist attacks. After the 2017 Manchester bombing, pictures were put online of people who were supposedly missing and who were presented as possible victims of the attack. In fact, says Moy, it was possible to show that many





of the images had been online for years and were of people who could not possibly have been near Manchester at the time.

In addition, there is a massive quantity of more or less unreliable health content online, so much so that Macmillan Cancer Care has an online nurse whose job is to counter misleading cancer advice.

Moy says that the sheer speed at which things spread online complicates this task. Sometimes this speed is welcome, he thinks, as with the rapid global takeup of the #MeToo campaign. Some of Full Fact's Facebook cases can be resolved quickly, such as determining the authenticity of an image, while others take longer and may need other experts to be consulted.

Will Moy:
Misinformation is a problem, but so are the illiberal measures to prevent it which some countries have attempted."

“There’s nothing more satisfying than helping people use accurate information to make up their minds”

Full Fact's work with Facebook means that Moy is well-qualified to comment on the current controversy over the perceived power of major internet powers, including Facebook and Google. He thinks that legislation, and voluntary behaviour change on the part of these big companies, are both going to be needed. "My first worry is that when governments get involved, it is easy for them to overreact in a way that can harm free speech. There's certainly a danger that the cure will be worse than the disease. So I am impressed by the measured and proportionate response of the UK to these issues. Misinformation is a problem, but so are the illiberal measures to prevent it which some countries have attempted." He is impressed by the steps suggested by the House of Commons Digital, Culture, Media and Sport Committee in a recent report on disinformation.

One of the problems it stresses is how out of date British election law has become. It was written in the days when political advertising was in a newspaper or on a billboard. But Moy says: "Now this advertising has gone online and become

targeted and unaccountable. If different people are getting different messages, you undermine democracy." He adds that while Facebook and Google are showing sensitivity to this issue, it is really a matter for legislation. "We don't want the UK's electoral processes to be defined by the terms and conditions of technology companies."

Part of the problem as Moy sees it is the parlous state of UK local media, highlighted in the recent government report on sustainable journalism from a group led by Dame Frances Cairncross, former chair of ESRC. It highlighted the big reduction in resources for reporting in contemporary Britain. "There is now more news content, in more formats, than before. But there is sometimes a big trade-off in terms of reduced depth."

One possible solution, given the collapse of advertising and copy sales revenue that drove news publishing in the past, is for more journalism to be done by charities. Full Fact itself might provide a precedent. "Journalism can prove that it is a public benefit," Moy says. "But it might have trouble with political impartiality," a precondition for charitable status under UK law. In general, he is optimistic about the future of the UK media. "There is little incentive to prop up the old model, whose lack of diversity is demonstrated in the Cairncross report. It is hard to keep local media going, but the barriers to entry for new media are now very low."

It is perhaps no surprise that Full Fact has found Brexit an especially powerful source of dubious claims. And among Full Fact's allies in the search for Brexit truth, Moy reserves special praise for the ESRC's UKICE – UK in a Changing Europe – initiative. A member of the UKICE advisory board, he regards it as "one of the few organisations to have come through Brexit with its reputation for truth enhanced." In his view, UKICE has demonstrated the value of academic research evidence in creating "a shared reference point that is highly respected." The UKICE model, he says, should be replicated in other areas of debate that do not have a trusted source of objective facts that can get to the public in an understandable form.

Moy says: "UKICE started at the time of the [Brexit] referendum and has succeeded in showing academics themselves that it is rewarding to get involved in public debate." But as a frequent interviewee on TV and radio, he adds: "The political environment can be tough, especially for women and for anyone who stands out," for example in appearance. That means that public engagement can come at a cost, he says, and that academics who get involved need to be supported. But he adds: "There's nothing more satisfying than helping people use accurate information to make up their minds." ■

Full Fact is the UK's independent fact-checking charity, based in London, to check claims made by politicians, the media and other organisations.
Web fullfact.org
Twitter @FullFact

Explaining research for better lives

The ESRC Better Lives Writing Competition challenged ESRC-funded PHD students to explain in 800 words how their research makes a difference to people's lives

THE WINNERS OF the ESRC Better Lives national science writing competition were announced at an awards ceremony at the British Academy in London on 4 April.

The ESRC, in partnership with SAGE Publishing, was running its third student writing competition and ESRC-funded PhD students were asked to explain how their research has an impact on improving the lives of people. Two winners were picked from 12 finalists with 117 applicants entering the competition in total.

The winners were: Ian Ross, London School of Hygiene and Tropical Medicine (back row far right in photo), with his article *Better Lives with better toilets* and Rosie Cowan, Queen's University Belfast (front row far left) with her article *Notes on a G-string*.

Rosie Cowan's article outlines her research's attempt to improve the treatment of rape complainants by the criminal justice system through the use of mock juries to investigate attitudes to rape in Northern Ireland. The article draws its name from women's bloodstained underwear being brandished in courts to infer intention and in a manner where it can feel like the victim is the one on trial.

Ian Ross's article explores his research into improving the lives of 1.4 billion people who use a toilet that does not meet World Health Organisation standards for 'basic' toilets. Ian's research is based on developing a measure of sanitation-related quality of life that can be used to compare investment options when money is spent by governments. The research is part of the MapSan Trial supported by the Bill and Melinda Gates Foundation.

Miranda Nunhofer, Vice President, Editorial Journals SAGE Publishing said: "As both a publisher of the social sciences and a vocal advocate, dedicated to working with the academic community to champion the value of the social science disciplines, SAGE Publishing is delighted to be supporting the ESRC's writing competition—awards which both highlight creative thinking from emerging voices and underscore the important value that social science research holds."

Entrants were encouraged to use their imagination to write 800 words that would capture the interest of the public, engage people with their research and demonstrate their writing and communication skills.

Professor Shamit Saggat, Director, The University of Western Australia Public Policy Institute, and a judge for the competition said:



The Better Lives competition finalists received their prizes at the ceremony at the British Academy on 4 April.

"The judging panel of the 2019 Better Lives competition examined many excellent examples of work that showed the very best of ESRC-supported doctoral research that was both intellectually strong and highly focused on tackling real-world practical social problems. The finalists amply demonstrated that social science matters in shaping evidence-led solutions. Investment in doctoral research is therefore vital and reflects the seriousness in our ambitions as a society to drive prosperity and social cohesion."

The competition celebrates and fosters the writing skills of the next generation of social scientists, while engaging the public with the incredible breadth and depth of social science research taking place throughout the UK.

Professor Jennifer Rubin, Executive Chair of ESRC said: "The winners' entries are a celebration of the work and writing of researchers who have told their stories in a compelling and engaging way. Writing about research in language that connects with the general public is a vital skill for all researchers to develop today, and we saw much evidence of it in this competition. There were important findings on sensitive issues and experiences; and the writers employed a range of writing styles to discuss their research, humanising and personalising it in the process."

You can view all the finalists' essays and hear audio of the winning entries at: esrc.ukri.org/skills-and-careers/writing-competition ■

The dark side of globalisation

Martin Ince talks to Dr Tristram Riley-Smith, research integrator for TNOC, the ESRC-led initiative on Transnational Organised Crime, about how aspects of globalisation are equipping criminal actors with tools, infrastructure and culture that support their transnational operations

IN TRISTRAM RILEY-SMITH'S opinion, the world is becoming a more dangerous place. And he should know, as a veteran of several decades working on national security issues within the UK Government, and who now addresses these challenges in the very different setting of the Research Councils.

Educated at Cambridge as a social anthropologist, Riley-Smith is now 'research integrator' for TNOC, the ESRC-led initiative on Transnational Organised Crime. TNOC is one of three strands that make up UKRI's Partnership for Conflict, Crime and Security Research (PaCCS), alongside cyber security and conflict.

“The internet paves the way for new forms of crime such as romance scams”

In Riley-Smith's view, the growth in transnational crime is the unwelcome dark side of globalisation. As he sees it: “The unpleasant aspects of globalisation are wreaking havoc around the world and encouraging the sort of nationalism we see in [the election of Donald] Trump or in Brexit. Current trade patterns have left some people behind, creating conditions – especially in fragile states and peripheral communities – that favour criminal enterprises. Globalisation has also equipped criminal actors with tools, infrastructure and culture that support their transnational operations.” Examples include electronic and physical communications networks that can be used for money laundering, drug movements and people trafficking.

Nor is he in any doubt that transnational crime is on the rise. For example, the World Trade Organisation estimates that 7% of all global trade in goods is counterfeit (amounting to over \$1 trillion per year). “That may not matter if we are talking Gucci handbags,” he points out, “but it could be safety-critical components for cars and aircraft.”

He adds that the internet paves the way for new forms of crime such as ‘romance scams’, in which as Riley-Smith puts it, “men with bunches of flowers are standing at Heathrow waiting for the beautiful woman whose flight they have paid for to appear. In fact they were probably dealing with an ugly man in Ukraine.” Tragically, a quarter of the men this happens to are victimised again in the same way, some for six-figure sums.



Riley-Smith points out too that climate change adds to the incentives for exploitative international crime. “When I did my PhD fieldwork in the Kathmandu Valley in Nepal during the 1970s, there were 300,000 people living there. Now glacier-melting, deforestation and erosion (as well as conflict) have forced people to move there from the mountains, and it is a shanty town of three million.” This sort of change encourages crime, even more so when people move across borders. As a future concern he points to the availability of water and food supplies, with a reminder that the current war in Syria has preceded by several years of drought. He says: “Local conditions such as these can produce conflict, gang violence and new forms of crime.” These in turn can soon become transnational in scope.

TNOC's aim, says Riley-Smith, is to grow our understanding of these issues through broadening and deepening our knowledge base. It is now taking this ambition forward via five new research projects (see www.paccsresearch.org.uk/tnoc-deepening-and-broadening-our-understanding-2018-call-awarded-projects). One is looking at Tripoli in Lebanon, where two adjacent areas are dominated by Sunni and Alawite (Shia) residents respectively. “Here,” says Riley-Smith, “We are interested in how people are working to build collaboration, but also in the ways in which crime and terror can be created in this setting.”

A second project is looking at the complex issues raised by crime at sea. Riley-Smith says that in the western Indian Ocean, the familiar problem of piracy off Somalia has dwindled and been replaced by a new issue, smuggling between



Above: The WTO estimates that 7 per cent of all global trade in goods is counterfeit (amounting to over \$1 trillion per year); **Left:** In the western Indian Ocean, the familiar problem of piracy off Somalia has dwindled and been replaced by a new issue, smuggling between Yemen and Africa.

Yemen and Africa. A key issue is to ensure that the UN and the various national navies that get involved in fighting maritime crime here and in Asia are working together in an integrated way.

Inevitably perhaps, cyber crime is a further focus for TNOC. A TNOC project is looking at the emergence of new types of cyber crime, and at the ways in which cyber innovation is permitting new forms of transnational crime to emerge. This project itself uses advanced IT methodology such as web crawling to uncover new varieties of crime, and is linked to police forces, financial regulators and other stakeholders around the world.

A fourth TNOC project aims to use advanced technology to find out more about the continuing tragedy of widespread human trafficking. It uses a data analytics approach to look at the networks in which traffickers and their victims operate, and to spot points at which they might be disrupted.

TNOC's final current project takes a humanities approach to crime in West Africa, based on fieldwork in Nigeria and Niger. Riley-Smith says that it involves investigating cultural awareness of crimes such as drug and people-smuggling, and is intended to build our knowledge of regional attitudes to these complex processes.

As these projects suggest, PaCCS's TNOC theme is taking a general social-science approach to the issues. In the past, Riley-Smith explains, it has supported technological development such as funding the Cambridge Interdisciplinary Centre for Crime in the Cloud (www.paccsresearch.org.uk/interdisciplinary-centre-finding-understanding-counteracting-crime-cloud). Now the leading technological role in PaCCS is played by the Engineering and Physical Sciences Research Council in PaCCS's Cybersecurity Theme.

And Riley-Smith is clear that these research projects are only the start of the task he has taken on. His role as research integrator, he says, means that he is "a champion and ambassador" for this work. He explains that the five current projects, fewer than in the past, all take a multidisciplinary approach and involve non-academic partners ranging from accountants to police and security organisations. He is full of creative ideas for getting academic knowledge where it is needed. His own contacts book is well-stocked with important

names in UK government and business, and he was a 'knowledge management champion' in Government, promoting evidence-based policy and encouraging users to embrace the outputs of research and innovation.

Ideas that he is now pursuing include a 'Brains Trust' in which non-academic partners, possibly from government or the non-profit sector, would spend a week in universities, working with academic experts on the top 20 questions that concern them in their daily work, but which they would never have the time or skills to investigate. In the past, he says, this approach has yielded "a rich knowledge exchange experience."

In the opposite direction, he is keen on a placement scheme to deploy doctoral or postdoctoral researchers in government or elsewhere to answer "a key question that is at the edge of their attention now, but which it would be very desirable to answer." In the past, he has used this approach in partnership with the National Crime Agency, and he is sure that it would yield insights into transnational criminal behaviour.

Riley-Smith takes it as a sign of growing engagement between the academic and non-academic domains that the Home Office recently published 'Research Priorities' to coincide with its new Crime Strategy: www.gov.uk/government/publications/serious-and-organised-crime-home-office-research-priorities-april-2018-to-march-2021. "There is recognition that academics can make a transformative contribution to those working on these challenges in the modern world," he says. ■



i The Partnership for Conflict, Crime and Security Research (PaCCS) was established in 2008 as the Global Uncertainties Programme to deliver high quality and cutting edge research to help improve our understanding of current and future global security challenges. There will be no further research commissioning initiatives made under PaCCS but in the future grants on global security challenges will be funded through other channels.

Web www.paccsresearch.org.uk

The ESRC-led initiative on Transnational Organised Crime

Web www.paccsresearch.org.uk/paccs-policy-briefing-understanding-transnational-organised-crime-in-the-21st-century

www.paccsresearch.org.uk/tnoc-deepening-and-broadening-our-understanding-2018-call-awarded-projects

Micro plastic, macro impact

Pioneering work by Dr Andrew Mayes at the University of East Anglia is revealing the extent of microplastic contamination worldwide. The method of using fluorescent Nile Red dye created global headlines and earned him an ESRC Impact Accelerator Award. By **Arild Foss**

WITH MICROPLASTICS extending ever further into our ecosystem, we need effective ways of identifying plastic particles in our food and water. Enter Dr Andrew Mayes at the University of East Anglia (UEA) – in January he won the ESRC Impact Accelerator Award for his pioneering method to detect the presence of microplastics, using fluorescent Nile Red dye to reveal microplastic particles.

Recently this technique gained worldwide attention when it featured in a much-publicised American study of bottled water, which showed that most of the 259 bottles tested were contaminated with microplastics.

“It is very pleasing to see the method we pioneered here at UEA used to facilitate this type of large-scale study, which would have been hugely time-consuming and prohibitively expensive using conventional approaches. We were involved with independently reviewing the findings and methodology to ensure the study was robust and credible,” says Dr Mayes.

The method, developed by researchers at UEA and the Centre for Environment, Fisheries and Aquaculture Science (CEFAS), spots the microplastic particles by staining them with the Nile Red dye. The dye sticks to plastic surfaces, making them fluorescent when irradiated with blue light. Image analysis reveals the glowing fluorescent particles so they can be rapidly



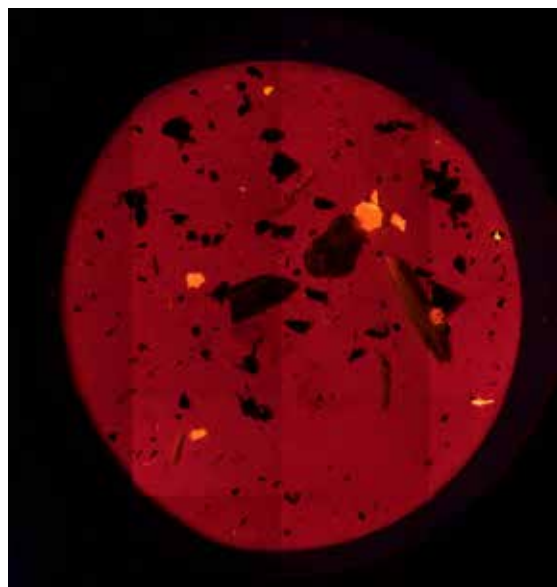
Above: Dr Andrew Mayes in his lab at the University of East Anglia.
Below left: The dye sticks to plastic surfaces, making the contaminating microplastics fluorescent when irradiated with blue light.

identified and counted, even including particles down to a few micrometres.

Microplastics are spread throughout oceans, sediments, lakes and rivers worldwide. Ultraviolet radiation, oxidation and physical ‘wear and tear’ breaks plastic items down into increasingly smaller microplastic fragments, below 5mm in diameter. In addition to this fragmentation, the environment is also exposed to the direct release of micro-sized fragments such as fibres from synthetic textiles, facial cleansers and other products.

Microplastics are ingested by a wide range of water-based organisms, creating a health hazard for marine life up through the food chain, and ultimately reaching humans. Getting a clear picture of the plastic concentrations, particle sizes and fragmentation dynamics are essential to understanding the impact of microplastics.

In 2018 Dr Mayes’ work created a media frenzy, when a study using his plastics-detecting method revealed the widespread plastic pollution of bottled drinking water. The study, by journalism organisation Orb Media and researchers at the State University of New York at Fredonia, revealed that almost all (93%) of 259 bottles from 11 different brands contained microplastics. Contamination levels were around twice as high as those discovered in the group’s earlier study on plastic contamination in tap water – averaging at



10.4 microplastic particles about the width of a human hair per litre of bottled water.

The story hit the media at the same time as TV audiences were shown disturbing images from BBC's Blue Planet II series and the documentary Drowning in Plastic, along with ongoing public campaigns focusing on the plastic waste hazard.

"It was a mad couple of weeks, where I did lots of TV and radio interviews and also corresponded and talked with many journalists from the print media, keen to fact-check or get a new angle on the story," says Dr Mayes. "I have always been interested in science outreach and public communication and won a UEA Engagement award last year in recognition of the wide spectrum of activities I have been involved in, so I guess I already had the right mindset to 'get out and communicate'. This allowed me to talk to the media about our research and the bottled water story, after it broke on BBC News at 10."

Funding from the ESRC Impact Accelerator Account has enabled him to increase the visibility and impact of the research. This has ranged from acquiring 'show and tell' props to demonstrate the microplastic detection method at public pub-based 'Pint of Science' lectures, to attending a Commonwealth Heads of Government meeting about plastic waste, and a high-level international technical meeting to discuss the pros and cons of different strategies for measuring microplastics.

“Microplastics are spread throughout oceans, sediments, lakes and rivers worldwide”

The support has also gone towards professional media training and the development of a website to promote the importance of measuring microplastics – a 'fascinating topic', Dr Mayes adds.

"There is now a clear groundswell of public opinion against plastic pollution, and there is definitely political will to change the way we do things – but it is often frustrating to see how long it takes to make these essential changes. One of the most urgent things we need to do is to stop exporting our waste management problems to other countries, which are less well equipped and resourced to deal with them properly. This 'out of sight, out of mind' approach is adding our waste to the massive environmental plastic waste problem in Asia and the Far East, and is completely unacceptable on ethical, moral and environmental grounds."

Plastic itself is not the villain, nor are the chemists and engineers who have manufactured this versatile material, emphasises Dr Mayes. Plastic waste is ultimately a societal issue, as it's all about our attitudes to plastic waste and how we choose to consume and dispose of plastics.

"We are knowledgeable enough and rich enough as a nation to take a different course, but that will require a lot of political will, resource and



education. One danger, though, is that plastics are universally labelled as 'bad' and we embark on a mission to eliminate them. While this might superficially seem like the right thing to do, a deeper analysis may reveal that such decisions damage the planet in other ways. For example, if we decide to replace plastic bottles with glass bottles wholesale, we will require much more energy to manufacture and transport glass, adding to CO₂ emissions and global warming."

Apart from the environmental impact, microplastics could also potentially affect public health – it's simply too early to tell. Following the bottled water story, the WHO announced a review of health effects of microplastics.

"The whole picture is complicated by the fact that it is not just the plastics themselves, but the often complex mixtures of chemical additives which they contain, coupled with their tendency to accumulate other toxic compounds, such as pesticides, from the environment. We really know very little about this currently, and data on human effects is very sparse. People are just waking up to the issue though, and preliminary studies are underway in a number of countries to try to find some starting points to address these hugely complex questions.

"Even if we stop environmental discharges of plastic waste immediately, it is certain that levels of microplastics and nanoplastics will continue to increase rapidly for decades to come as the existing material breaks down – so it is important that we start to investigate this now, to gain some understanding of the problem we have walked blindly towards for the last 20-30 years," concludes Andrew Mayes. ■



Dr Andrew Mayes is Senior Lecturer at the School of Chemistry, University of East Anglia. He received the ESRC Impact Accelerator Account Award at the University's Innovation and Impact Awards 2019, for his research on microplastic detection.

Email andrew.mayes@uea.ac.uk

Web portal portal.uea.ac.uk/rin/impact/awards

Married couples stronger and quicker

New research finds that men and women who are married are stronger and quicker than their unmarried counterparts and may retain greater physical capability into later life. Is it because married couples have accumulated greater wealth? By **Simon Wesson**

IN MODERN SOCIETY the lengths some of us go to as we look for the key to leading a long and healthy life can be vast, whether that's taking on new forms of exercise or trying the latest health kicks. In 2018, for example, there was a huge increase in people leading a vegan lifestyle.

Whilst no one can deny that plenty of exercise and having a balanced diet are probably key to these factors, a newly published ESRC-funded study has demonstrated some, perhaps surprising, results in something else which could be of benefit: being married.

Although marriage may not always be a bed of roses, the paper 'Marriage and physical capability at mid to later life in England and the USA' led by Dr Natasha Wood, at the UCL Institute of Education, suggests that the adage 'marriage makes you stronger' could now be taken literally.

Looking at more than 20,000 people who took part in studies in England (the English Longitudinal Study of Ageing) and the US (the US Health and Retirement Study), the report found that both married men and women over 50 have considerably better grip strength than their unmarried counterparts, while married men and women aged over 65 demonstrated faster walking speeds.

"Grip strength is a marker for overall health, specifically upper body strength, whilst walking speed indicates wider levels of health traits including balance and agility. Both of these factors are paramount for everyday activities and remaining independent. For example, people who have a weaker grip strength would have more difficulty opening a jar and turning a door handle; slower walkers will struggle to cross a road in time," Dr Wood said.



"The study, therefore, goes some way to suggest that married people have greater independence thanks due to their better physical capability than those who are unmarried. Physical capability can predict future social care use, and

“The best grip strength results produced by all of the groups were men who had remarried”

therefore people who are married would be less likely to have to rely on social care later in life than those who are unmarried."

The results of the study – published in PLOS One – produced clear, positive differences for both sexes. Analysing data collected in 2008 in England, and 2006 and 2008 in the USA, the figures were pulled apart by separating married people into those in their first marriage and those who had remarried; while unmarried people were divided into those who were divorced or separated, widowed or who had never married.

Strengthening grip

The grip strength of men who were in their first marriage was on average 3% stronger than unmarried men. In England men who were in their first marriage had a 0.39kg stronger grip than men who were unmarried; whilst men who were in their first marriage in the USA had a stronger grip of 0.79kg compared to unmarried men.

Overall, women who had remained in their first marriage demonstrated an average grip strength increase of 2% compared to those who were unmarried. Women in a first marriage in England had an average 0.37kg stronger grip than unmarried women, whilst women in a first marriage in the USA had a grip strength which was 0.40kg stronger than their unmarried counterparts.

Walking speeds were also undeniably quicker. For men those in a first marriage were 7% quicker on average than unmarried men, as they could cover 1.02 metres per second, compared to 0.94 metres per second.

In England specifically, married men walked 3.1 inches (8cm) per second faster than widowed men and 4.3 inches (11cm) faster than never married men.

Remarried men are stronger

Noticeably, the best grip strength results produced by all of the groups were men who had remarried. Remarried men demonstrated an



improved grip strength of 0.61kg in England, and 0.22kg in the USA compared to men who had remained in their first marriage, although there was no difference in walking speed between these two groups.

“Interestingly these findings were not replicated for remarried women, who had comparable grip strength to those women who were in their first marriage,” Dr Wood stated.

“So at the moment, there is no clear explanation as to exactly why remarried men are stronger. It could be that men who go on to remarry are stronger and healthier in the first instance than those who do not, but more research is needed to investigate this.”

The importance of wealth

Previous research has shown that married people live longer, and have both better physical and mental health, but this latest study is one of a few studies to develop an association between marriage and physical capability.

The findings reinforce those previously established on how health is impacted positively by the wealth which is accrued through marriage: with wealth being measured by sum of savings, investments, physical wealth and housing wealth after financial and mortgage debt have been subtracted, rather than just income. “Wealth creates an advantage which is particularly clear through marriage. Usually, people who are married have accumulated more wealth by later life. The majority of the differences we found in our study disappeared

once we accounted for wealth too. If you’re wealthy there are more opportunities for you, both in terms of security – you can live in a nicer area, afford healthcare, be less impacted by the stress of not having enough money – plus you can live a more enjoyable life, afford better quality food, and partake in leisure and social activities.

“In order to help create a level playing field in terms of physical capabilities and greater independent living in later life, this report suggests that unmarried people’s financial resources need to be improved.”

Those who never marry

Whilst there are no current plans to further this research, Dr Wood said she was particularly interested to discover more about people who never marry or never enter into a cohabitating partnership.

“We found that never married men had poorer physical capability than their married counterparts.

“Evidence suggests that more and more people are approaching older life without ever having been married or having a long-term cohabitating relationship, and it’s important that we learn more about the physical circumstances that these people can expect to face in the future, as at present we know very little about their health and wellbeing.” ■



Marriage and physical capability at mid to later life in England and the USA

Web www.ncbi.nlm.nih.gov/pubmed/30673714

@TashsterWood

Spreading the safe syringe message

Encouraging the use of low 'dead space' injecting equipment could reduce the risk of a wide range of serious viral and bacterial infections among people who inject drugs. By **Arild Foss**

DRUG USE IN the UK is among the highest reported in Western Europe. In 2017-2018, around 3 million (9%) of 16-59 year olds in England and Wales reported using a drug within the last year, according to the Public Health England report 'Shooting Up'.

People who share needles and syringes are at risk of a wide range of serious viral and bacterial infections, including HIV, hepatitis B and C virus. Despite a reduction in needle and syringe sharing among UK drug users (from 45% in England, Wales and Northern Ireland in 2007 to 36% in 2017), it remains a high-risk issue with one in six reporting that they've shared needles and syringes within the past month.

A key issue in the risk of infection is the construction of the needle and syringe. Injecting equipment has fixed needles or needles that can be removed. Compared to syringes with fixed needles, traditional injecting equipment with detachable needles has a higher volume of so-called 'dead space' – the space that's left between the needle and the plunger when it's fully pushed in. Blood and drug remain in this part of the syringe after injection, and can cause infection if it's shared with others.

One way of tackling the infection risk is to use a low dead space syringe (LDSS), which has less space between the needle and the plunger. Encouraging the use of low dead space injecting equipment with detachable needles could reduce the risk of infection among people who share equipment. Research at NIHR CLAHRC West (the National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care) has shown that people who inject drugs would be willing to switch to detachable LDSS if the benefits were explained and they were introduced gradually.

As part of an ESRC Impact Acceleration award to encourage the use and provision of appropriate injecting equipment (including detachable LDSS) and harm reduction practices among people who inject drugs, Deborah Hussey – an Assertive Engagement Worker from the Bristol Drugs Project (BDP) – joined researchers at NIHR CLAHRC West as Knowledge Mobilisation Fellow.

"The secondment was a very exciting opportunity to influence injecting practice on a national level," says Hussey. She initially met the researchers when they were interviewing service users at BDP for the Low Dead Space project, before being invited to present at a national stakeholder event.



Credit: Linnell Communications

The research team is led by Dr Jo Kesten, Senior Research Associate at the University of Bristol. "This project aimed to translate research evidence into communication materials using co-production to support speedy implementation of detachable LDSS," she says.

Deborah and Jo first visited needle and syringe programmes to understand barriers to the uptake of detachable low dead space injecting equipment. "The barriers can include lack of knowledge about the options available, lack of access, lack of funds for service providers, or fear of change among service users – they become accustomed to equipment they may have been using for many years, and are concerned that a change of equipment may affect their injecting experience," says Deborah.

After getting an overview of issues to consider, the research team worked with Michael Linnell, a designer who specialises in information product design for drugs, alcohol and public health campaigns. Service users from Bristol Drugs Project got involved through a series of workshops to co-produce posters, a booklet and an animation video.

"The key thing we considered was making sure we involved service users in the design process – shaping the messages, language and look and feel of the materials – to ensure that the materials would be acceptable, easy to understand and effective for the target client group," emphasises Deborah Hussey.

The campaign material has been shared widely with people who inject drugs, needle and syringe programmes, commissioners and public health stakeholders across the UK, and is also available online from social enterprise Exchange Supplies and Linnell Communications. ■

i Deborah Hussey, Bristol Drug Project
Email deborah.hussey@bdp.org.uk
Dr Jo Kesten, University of Bristol
Email jo.kest@bristol.ac.uk

News briefs

STRENGTH IN PLACES FUND

Twenty-four ambitious projects, from pharmaceuticals to aerospace, and transport to the creative economy, are to receive early-stage funding to develop full-stage bids that could lead to significant economic growth in places across the country.

Each of the shortlisted projects from the first wave of UK Research and Innovation's (UKRI) Strength in Places Fund has been awarded up to £50,000 in early-stage funding, which will allow applicants to develop full-stage bids. Teams behind these projects will then submit these bids to UKRI in late 2019, with four to eight of the strongest set to receive between £10 million and £50 million each to carry out projects designed to drive substantial economic growth.

Announced as part of the government's Industrial Strategy in November 2017, the Strength in Places Fund will benefit all nations and regions of the UK by enabling them to tap into the world-class research and innovation capability that is spread right across the country. The fund brings together research organisations, businesses and local leadership on projects that will lead to significant economic impact, high-value job creation and regional growth.

UK Research and Innovation Chief Executive, Professor Sir Mark Walport, said: "Our clear vision is to ensure we benefit everyone through knowledge, talent and ideas. Significant support through the Strength in Places Fund will further catalyse economic potential across the country by

bringing researchers, industry and regional leadership together to drive sustained growth through world-class research and innovation."

The twenty-four projects span the UK, with all nations and regions of the country represented.

The Strength in Places Fund is a cross-council UKRI programme in partnership with the higher education funding bodies of Wales, Scotland and Northern Ireland and the Office for Students.

The Government confirmed in the 2018 Budget that the Strength in Places Fund is to receive a further £120 million to bring the fund budget for the period up to 2021/22 to £236 million.

For more information, see: www.ukri.org/funding/funding-opportunities/strength-in-places-fund ■

£27 MILLION TO BOOST RESEARCH IMPACT AT UK UNIVERSITIES

The ESRC has announced £27 million of funding for Impact Acceleration Accounts (IAAs) at research organisations across the UK. Over the next four years this second round of ESRC IAAs will help social scientists collaborate with businesses, policymakers and civil society, creating new opportunities for research to make a positive contribution to society and the economy.

IAAs are block awards made to research organisations to speed up the impact of research. Research organisations can make decisions about how to invest their IAA funding based on their individual needs and strategies, responding flexibly and creatively to opportunities for social scientists and potential research users to collaborate and share knowledge. ESRC IAAs create opportunities for the social sciences to work with other disciplines and proactively engage across their institution to build networks and leverage funding vital for sustainability of knowledge exchange and impact.

Building on a first round of ESRC IAAs, these 26 new awards continue to focus on building capacity, skills and

culture around knowledge exchange within research organisations, as well as strengthening engagement opportunities with research users, including at an early stage and in innovative ways. IAAs are also intended to enable organisations to focus on longer term sustainability of knowledge exchange and impact support, and to help improve plans for supporting impact included within new research projects.

Following a competitive peer-reviewed process open to invited research organisations that receive substantial levels of research investment from the ESRC, 26 research organisations from across the UK have been awarded IAA funding, which will commence from 1 April 2019. This includes six research organisations that have not previously held ESRC IAA funds.

For more information, see: esrc.ukri.org/collaboration/collaboration-opportunities/impact-acceleration-accounts ■

ESRC FUNDS NEW £5-MILLION CLIMATE CHANGE CENTRE

Cardiff University has been selected as the main hub for a £5 million research centre to explore how we can live differently to achieve the rapid and

far-reaching emissions cuts required to address climate change.

A collaboration between Cardiff, Manchester, York and East Anglia Universities, and charity Climate Outreach, the Centre for Climate Change and Social Transformations (CAST) will work closely with industry, local/national governments and charities to tackle climate change.

The centre will focus on four challenging areas of everyday life that contribute substantially to climate change, but which have proven stubbornly resistant to change. These include consumption of goods and physical products; food and diet; travel; and heating/cooling in buildings.

Working closely with members of the public to develop inspiring yet workable visions of a low-carbon future, the centre also aims to develop responses to climate change that emphasise parallel benefits in other areas of life: for example, through promoting wellbeing and cleaner air by moving away from a reliance on cars.

For more information, see: esrc.ukri.org/news-events-and-publications/news/news-items/esrc-funds-new-5-million-climate-change-research-centre ■

People

NEW STRATEGIC ADVISORY NETWORK MEMBERS

The ESRC has appointed 21 new members to its Strategic Advisory Network (SAN).

The SAN provides:

- Detailed expert support and advice including on the design of strategies and schemes, investment management, pre- and post-award, and interventions
- A broad perspective of advice on issues, proposals and decisions, including feedback on views within our various stakeholder groups
- Access to a pool of academic and user experts to whom the office can turn to for ad-hoc advice and advocacy and to test out new ideas
- Provision of input into general policy advice

The Network is a flexible resource, enabling the Executive to obtain the advice it needs, drawing on a range of perspectives from across our key stakeholder groups including academia, business, third sector and Government. These new members took up their appointments on 1 April 2019, and their full biographies will be available on the ESRC website:

- Mr Simon Anderson, independent consultant
- Professor Ann Berrington, University of Southampton
- Professor Ruth Blakeley, University of Sheffield
- Mr Simon Briscoe, independent consultant
- Ms Alexy Buck, Ministry of Justice
- Professor Jackie Carter, University of Manchester
- Professor Tarani Chandola, University of Manchester
- Professor Mary Daly, University of Oxford
- Professor Simin Davoudi, Newcastle University
- Professor Rick Delbridge, Cardiff University
- Dr Abi Dymond, University of Exeter
- Professor Eleanor Fisher, University of Reading
- Dr Jen Gold, What Works Team, Cabinet Office
- Professor Cristina Iannelli, University of Edinburgh

- Professor Andrew Jones, City University London
- Dr Olivia Maynard, University of Bristol (early career representative)
- Professor Marie McHugh, Ulster University
- Dr Alice Owen, University of Leeds
- Professor Ian Rivers, University of Strathclyde
- Professor Teela Sanders, University of Leicester
- Professor Deborah Wilson, University of Bristol ■

NEW YEAR HONOURS 2019

A number of prominent social scientists, economists and ESRC grant holders, both past and present, were honoured in the New Year Honours list for 2019.

We offer our congratulations to everyone honoured:

Companions of the Order of the Bath (CB)

Dr James Colin Richardson, Chief Economist, National Infrastructure Commission. Former ESRC Council member. For public service.

Commander of the Order of the British Empire (CBE)

Professor Fiona Devine OBE, Head, Alliance Manchester Business School and Professor of Sociology, University of Manchester. ESRC grant holder and former Chair of the ESRC International Advisory Committee and former Co-Investigator at ESRC-funded research centre. For services to the Social Sciences.

Professor David Noel Livingstone OBE FBA, Professor of Geography and Intellectual History, Queen's University Belfast. Supervisor of ESRC post-doctoral research student. For services to Scholarship in Geography, History of Science and Intellectual History.

Ian Alexander McCafferty Former External Member, Bank of England Monetary Policy Committee. Formerly sat on the Advisory Board of a ESRC-funded UK Innovation Research Centre. For services to the Economy.

Professor Alison Macdonald Park Former Director of CLOSER, University College London Institute of Education. New ESRC Director of Research. For services to the Social Sciences.

Bridget Clare Rosewell OBE

Economist and Commissioner, National Infrastructure Commission. Former member, Research Priorities Board, ESRC. For services to the Economy.

Officer of the Order of the British Empire (OBE)

Professor Ian John Deary FBA FRSE, Professor, Differential Psychology and Director of centre receiving funding from ESRC and other Councils. For services to the Social Sciences.

Dr Malcolm McKinnon Dick Director, Centre for West Midlands History, University of Birmingham. Gained an ESRC-funded PhD at the University of Leicester. For services to History in the West Midlands.

Dr Charles Edward MacDonald Foster

Reader in Physical Activity and Public Health, Bristol University. Currently a co-investigator for an ESRC-funded project and Health and Wellbeing Pathway Lead at the University of Bristol on behalf of the ESRC-funded South West Doctoral Training Partnership. For services to the Promotion of Physical Activity.

Timothy Douglas Harford, Economist and Journalist. ESRC funded his two-year Masters in Economics at Oxford University. For services to improving economic understanding.

Professor Helen Zerlina Margetts, Professor of Society and the Internet and lately Director, Oxford Internet Institute. Former ESRC grant holder and Principal Investigator on an ESRC research project. For services to Social and Political Science.

Professor David James Martin, Professor of Geography, University of Southampton. Former ESRC Council member, and grant holder. He was Coordinator of ESRC's Census Programme 2002-12 and a Deputy Director of the Administrative Data Research Centre for England from 2013-18. For services to Geography and Population Studies.

British Empire Medal

Sarah Renee Starbuck, Cleaner, School of Social Sciences, Education and Social Work, Queen's University Belfast. Supported many researchers with ties to ESRC over the years. For services to Higher Education. ■

News

ESRC FUNDS FOURTH WAVE OF NATIONAL SURVEY OF SEXUAL ATTITUDES AND LIFESTYLES

The National Survey of Sexual Attitudes and Lifestyles begins its fourth study on sexual health and wellbeing in Britain, led by researchers from UCL in collaboration with the London School of Hygiene & Tropical Medicine, the University of Glasgow and NatCen Social Research.

The National Surveys of Sexual Attitudes and Lifestyles (Natsal) are regarded as the world's largest, most detailed studies of sexual behaviour.

Three Natsal surveys have taken place at the turn of each decade since 1990, with a new wave of data collection (Natsal-4) due to begin in 2021. People are randomly selected, based on their postcodes, and invited to participate, so the surveys represent the general population in Britain.

For the 2021 survey, interviewers will collect information from nearly 10,000 people aged 15-59 using computerised questionnaires to ensure privacy. Survey answers will be combined with information from biological samples (eg, to test for sexually transmitted infections) and routinely-collected data (eg, health records). Development work for the next wave will start in May 2019 to ensure that the questions asked and the data collected are 'fit for purpose' in 2021.

The next wave of Natsal is being funded by a grant from Wellcome Trust's new Longitudinal Population Studies Strategy, reflecting Wellcome's long-standing support for Natsal since its inception. The National Institute for Health Research (NIHR) and the ESRC as part of UK Research and Innovation are also contributing to funding this latest wave, reflecting the importance of the study for informing policy and practice, and its multidisciplinary focus.

Combining all four surveys will create a resource that provides a comprehensive picture of the sexual health of the nation and show how this has changed over time and across generations.

For more information, see: www.natsal.ac.uk/home.aspx ■

RESEARCH NETWORK TO SUPPORT UK TRANSITION TO A LOW-CARBON ECONOMY

A network of new and extended city climate commissions in Edinburgh, Belfast and Leeds has been launched to help the UK meet the requirements of the 2015 Paris Agreement on climate change and the UK Climate Change Act by building local capacities and stimulating the flow of green finance into UK cities. The Place-based Climate Action Network (P-CAN) will help the local delivery of the UK's climate change objectives by supporting action in UK cities through a partnership made up of the private, public and third sectors.

The ESRC is investing £3.5 million in P-CAN over the course of five years. It will be hosted by the London School of Economics and Political Science, the University of Leeds, the University of Edinburgh and Queen's University Belfast. It will include researchers from universities across the UK and will seek to increase engagement with the public, private and third sectors in tackling climate change.

P-CAN will help to accelerate and sustain the transition to a low-carbon, climate-resilient society through the creation of local climate commissions, following the Leeds model developed in 2017, as well as other broader measures focused on increasing investment in low-carbon, climate-resilient development.

The P-CAN project will take forward and extend a model of partnership which has been developed in Leeds by Professor Andy Gouldson.

P-CAN will also operate a Flexible Fund to commission between 20 and 30 small grants for the wider community of climate and energy researchers to explore innovative approaches. P-CAN will seek to influence decisions on climate change and the low-carbon energy transition at a local and national level while feeding into policies such as the Government's Industrial Strategy and UK Clean Growth Strategy. For more information, see: esrc.ukri.org/news-events-and-publications/news/news-items/new-3-5-million-research-network-to-support-uk-transition-to-a-low-carbon-economy/ ■

EVENTS

13-24 MAY

STEPS Centre 2019 Summer School

The Summer School is a two-week immersive course on theories and practical approaches to sustainability, through creative, interactive and participatory learning. Applications are invited from highly-motivated doctoral and postdoctoral researchers working in fields around development studies, science and technology studies, innovation and policy studies, and interested in transdisciplinary methods and the politics of the environment. steps-centre.org/news/apply-now-steps-summer-school-2019/

20 MAY

Catching the wave

This event will explore how the social sciences contribute to the Industrial Strategy and participate in calls under the Industrial Strategy Challenge Fund. Hosted by the Innovation Caucus, the event is open to all social scientists who are interested to understand and engage with research and impact through the Industrial Strategy. With numerous calls live under Wave 2 of the Industrial Strategy Challenge Fund, and the priority themes of Wave 3 now announced, this event is about ensuring that social science researchers are Industrial Strategy ready and well positioned to contribute to the debate. www.eventbrite.co.uk/e/catching-the-wave-social-science-industrial-strategy-challenge-fund-tickets-58642593576

26 SEPTEMBER

IFS Annual Lecture: Penny Goldberg

Professor Pinelopi (Penny) Goldberg will give the 2019 IFS Annual Lecture on the unequal effects of globalisation. Professor Goldberg is the Chief Economist of the World Bank Group and is on public service leave from Yale University, where she is the Elihu Professor of Economics. Professor Goldberg's main research interests include International Trade, Development, and Applied Microeconomics. She holds a PhD in Economics from Stanford University and a Diplom in Economics from the University of Freiburg, Germany. Professor Goldberg is former Vice-President of the American Economic Association and President elect of the Econometric Society (for 2021). She is also a research associate at the National Bureau of Economic Research (NBER – currently on leave) and board member of the Bureau of Research and Economic Analysis of Development (BREAD). www.ifs.org.uk/events/booking

Making sense of society



The ESRC magazine *Society Now* aims to raise awareness of our research and its impact. It addresses a wide range of readers, from the MP to the businessperson, the voluntary worker to the teacher, the public through to the social scientist, and is published four times a year (spring, summer, autumn and winter).

Society Now offers a readable, intelligent, concise overview of current issues concerning society.

To subscribe to the magazine, please send an email including your full name and address to: societynow@esrc.ukri.org



UK Research and Innovation

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Our research informs public policies and helps make businesses, voluntary bodies and other organisations more effective. Most important, it makes a real difference to all our lives.

The ESRC is part of UK Research and Innovation.

esrc.ukri.org
@ESRC

Economic and Social Research Council
Polaris House
North Star Avenue
Swindon SN2 1UJ
Tel: +44 (0)1793 413000
Fax: +44 (0)1793 413001

EDITOR IN CHIEF Susie Watts susie.watts@esrc.ukri.org

EDITOR AND DESIGNER Nick Stevens nick.stevens@esrc.ukri.org

INFOGRAPHIC Tidy Designs