

INSIGHTS 2018-19

ABOUT THE STUDY:

Understanding Society provides key evidence about life in the UK. It is the largest longitudinal study of its kind and provides crucial information for researchers and policy makers about the causes and consequences of change in people's lives.

Our participants come from every area of the UK and the Study covers issues that affect all our lives, from family relationships, education and employment to health, social attitudes and behaviour.

Understanding Society has the following key features:

It covers all ages,
allowing us to understand the experiences of the whole population over time.

The whole household contributes.
We collect information on everyone in a household so that relations between generations, couples and siblings can be explored.

There is continuous data collection.
We interview participants every year so that short- and long-term changes in people's lives can be investigated.

We have national, regional and local data.
All four countries of the UK are included in the Study, allowing researchers to compare the experiences of people in different places and in different policy contexts.

There is an Ethnic Minority Boost.
The sample sizes of different ethnic minority groups allow the experiences of specific ethnic minorities to be investigated.

It is multi-topic.
Understanding Society covers a range of social, economic and behavioural factors, making it relevant to a wide range of policy makers and researchers.

It can be linked to administrative data.
Study data can be linked, with consent, to administrative records from other sources, building a richer picture of households.

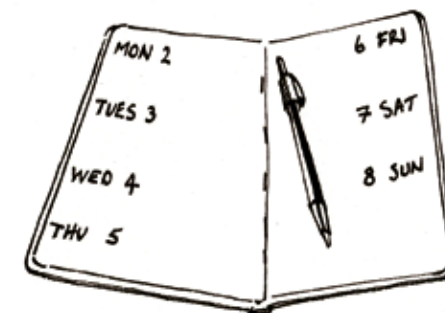
It is underpinned by world-leading methodological research.
Researchers have access to high-quality designed and harvested data supported by innovative experimentation, development and testing.

It includes biomarkers and genetic data.
Data collected by nurses to measure people's health enable researchers to understand the relationship between social and economic circumstances and health.

Explore how life in the UK is changing through *Understanding Society*.

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THE GAP BETWEEN WHAT WE VALUE AND HOW WE BEHAVE

David Walker
Chair of the ESRC's Governing Board for
Understanding Society until 2018

Foreword

Headlines – and social media – focus on Brexit, party instability, personalities and events. Often they are surface phenomena. Underneath them, in the depths of society, social processes unfold, out of sight. The UK ages. Housing stress grows. The planet's condition deteriorates. Women struggle to juggle care and career.

In recent months #metoo has expressed women's sense and experience of oppression in the workplace. The movement gained media traction and may turn out to be reshaping attitudes and employment practice. But the data show just how far there is to travel. For now, in the deep reaches of daily household behaviour, studies say the pay gap and the division of labour between men and women are proving much harder to change.

Findings in the following pages also remind us just how costly motherhood can be. If women return to work after having a child, they tend to work part-time or do fewer hours, which drives gaps in pay. Even among educated and progressive-minded people, the challenges of motherhood reinforce the traditional view that it's the man who is principal breadwinner, the women the homemaker.

When politicians (and business leaders) are short-termist, *Understanding Society* is the antidote. It is intrinsically longer-term. Some social surveys take a snapshot, showing how things are at a certain period or moment in time. A longitudinal study follows people as the clock ticks: some things alter, others remain surprisingly unaffected. *Understanding Society* follows the people of different ages who make up the households in the sample and charts both changes in them and their circumstances and changes in how they interact with each other: women with men, parents with children and so on through the gamut of social exchange.

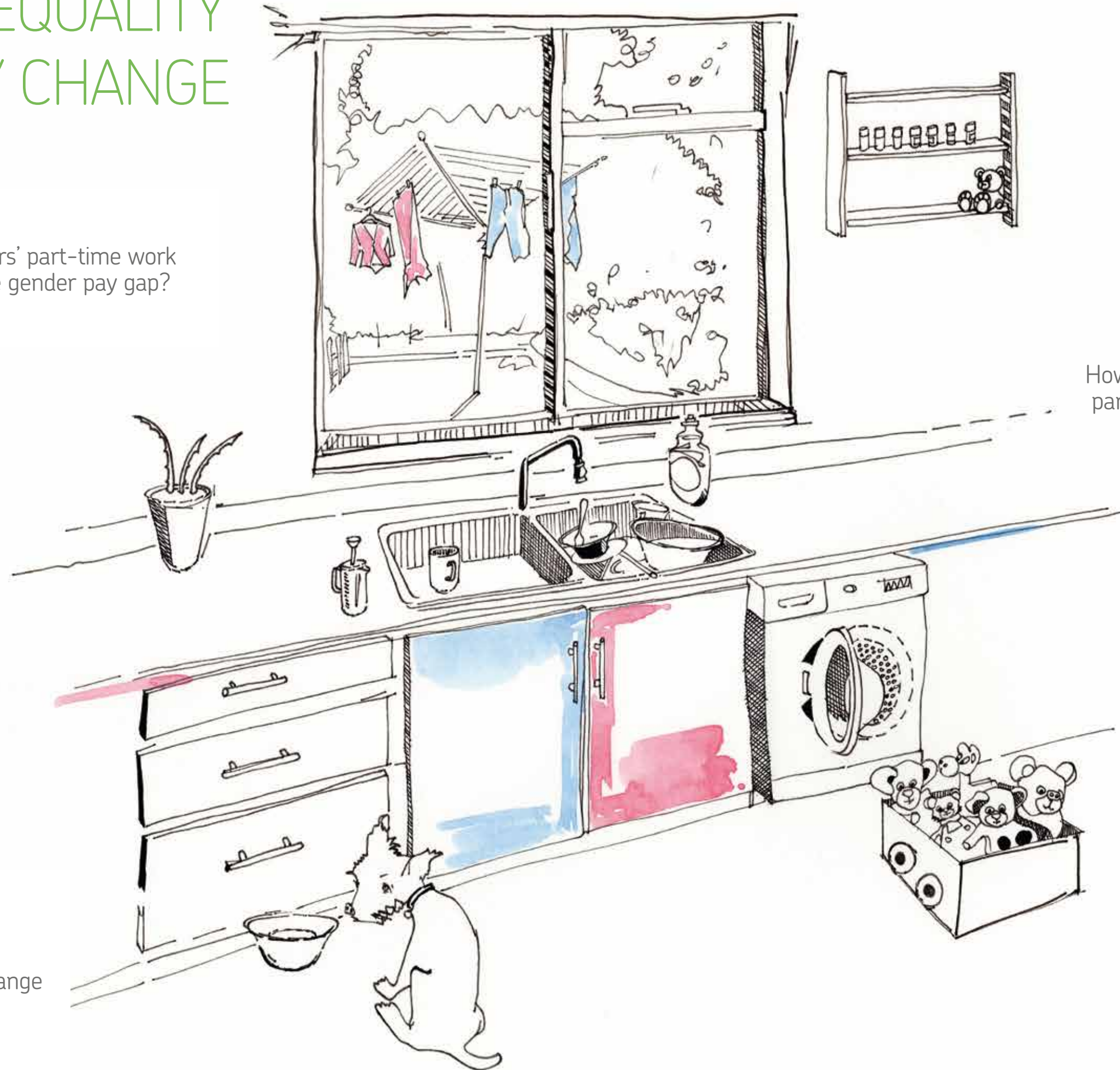
Social research like this is a tremendous resource, for policy makers, firms, indeed anyone who needs to know how the UK at the micro level is adapting and altering. Its value grows with every passing year as its capacity to register change and stability deepens and grows. But this year *Understanding Society* also flags a warning. Several of the studies here note that what we say we prize and what we do diverge, especially over environmental sustainability. Politics and public policy grapple with this and other examples of dissonance between behaviour and belief, the gap between value and action. Or, simply put, our tendency to hypocrisy.

GENDER INEQUALITY AND FAMILY CHANGE

Can mothers' part-time work
explain the gender pay gap?

How does becoming a
parent shape gender
role attitudes?

What are the effects of
separation on residential change
in England and Wales?



THERE ARE GENDER INEQUALITIES THROUGHOUT THE LIFE COURSE

Sam Smethers |
Chief Executive, the Fawcett Society

COMMENTARY

This annual findings report from *Understanding Society* offers new insights into the impact of having a child on women's earnings, gender roles and attitudes and, in the event of separation, how women and men fare differently in the housing market.

The gender pay gap is a major area of campaign and policy focus at the Fawcett Society. Women earn significantly less than men over their entire careers for complex, often interrelated reasons. The analysis by Costa-Dias et al. of the impact of part-time work shows clearly that having a baby has a significant and lasting impact on a woman's earning power, with a pay gap widening from 10 per cent to 33 per cent 12 years after the child is born.

Being out of the labour market, or working part-time, reduces work experience and the chances of women progressing at work. The unwritten assumption is that if you want to get on in the workplace, if you want to do a 'big job', then you have to subscribe to the 'male model' of work – a full-time job, probably with a long hours working culture. 6.3 million women, a majority of whom are mothers, work part-time. The quality of part-time work in the UK is poor, women are too often trapped in it for long periods, and we rarely see senior part-time roles. If we are to transform our workplaces, we need to reduce the penalties of part-time working and open up progression through this route.

The study also found that these solutions won't help the lowest paid. Women in low pay in particular face a challenging scenario as Universal Credit is rolled out. Cuts in benefits will affect women more than men. In-work conditionality will put much greater burdens on claimants – if they are earning below a certain threshold and offered a job with more hours or better pay, they could be obliged to take it even if there are good reasons as to why they can't. Both single parents and second earners, often part-time working mums who have to juggle hours around their

childcare responsibilities, could be affected. With 61 per cent of the beneficiaries of the new National Living Wage women, we also have to raise this to the same level as the Real Living Wage.

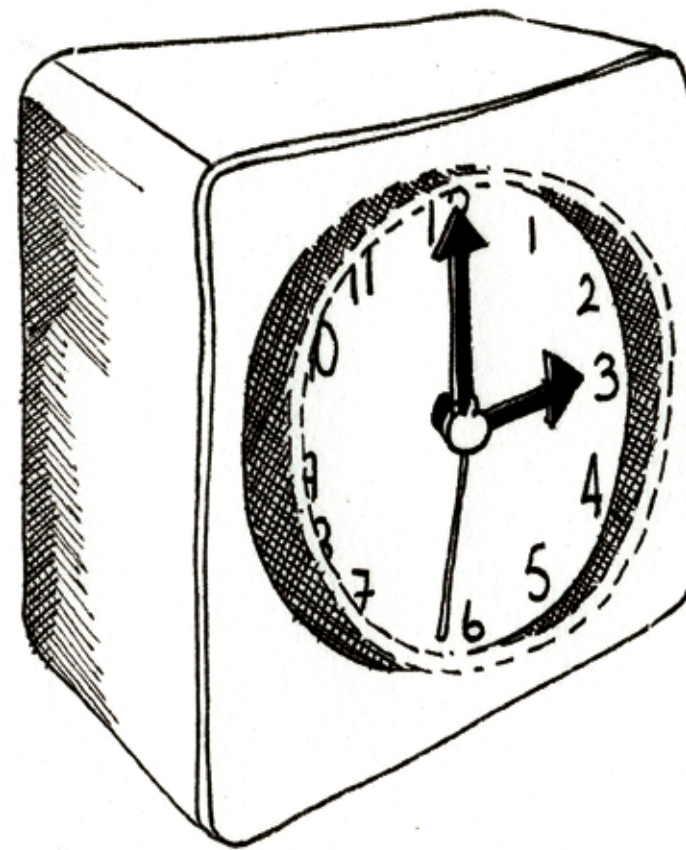
Grinza et al.'s study of the impact of becoming a parent on gender roles and attitudes is very revealing. The traditional family model, allowing men to concentrate in their careers and providing family income, while women specialise in child rearing is becoming outdated but this research tells us that there is huge pressure on parents to conform to traditional roles.

We can see how some of this happens. By creating a parental leave system that gives mothers a generous helping of maternity leave, has fathers reduced to just two weeks of paid paternity leave, but permits her to transfer some of her leave to him if she chooses unsurprisingly perpetuates the gendered division of labour in caring for children. We need a revolutionary approach to paid paternity leave – creating a longer, better paid period that fathers can afford to take, and can take early on.

Separation and divorce are familiar and very real areas of risk for women, in particular those with children. Research by Mikolai and Kulu finds that women are more likely than men to end up in private renting followed by social renting, with a move to homeownership least likely. This overall pattern was different for separated women with children. We need greater availability of social housing, particularly important for single parents, 92 per cent of whom are women, which can provide stability for children during this phase and a safety net for vulnerable single parents.

These studies show women disadvantaged in terms of earning power and asset ownership, with the gender pay gap widening over the life course. Now is the time to act across government, business and society.

Can mothers' part-time work explain the gender pay gap?



KEY POINTS:

The gender pay gap was linked to family formation; the gap gradually widens for 12 years after having a child.

Gender differences in rates of full-time and part-time paid work after having a first child were an important driver of differences in wages for men and women as part-time workers wages stagnated.

Addressing gender differences in working patterns would make the biggest difference on the gender pay gap for those who have degree-level education.

The gender pay gap is persistently large and reducing it is high on the political agenda. Better understanding the gender pay gap is clearly important for tackling gender inequality, but it also matters if we are to understand low pay and lack of wage progression. Addressing these issues has implications for poverty, which is increasingly a problem for those in work. With lone-motherhood on the rise and two-thirds of children in poverty living in a working household, understanding the gender wage gap is of growing importance.

The study combined the British Household Panel Survey (BHPS) and *Understanding Society* to create 25 years of longitudinal data following individuals and their families from 1991. It then used these data to explore the development of the gender pay gap and the impact of having a child. The research focused on men and women in the main working years (aged 20 to 55), who had finished their education.

The research found the gender pay gap was linked to family formation. The gender wage gap was around 10 per cent before the birth of a first child, meaning that women were paid on average 10 per cent less than similar men; there was then a gradual and continual increase in the

gap over the 12 years after birth to reach 30 per cent. As wages were measured on an hourly basis, the growth of the wage gap was not due to current differences in working hours between men and women *per se*. Instead, it could be linked to more subtle differences in work, which are linked to working hours but affect wage progression only gradually, such as career opportunities or job characteristics (e.g. the learning content of the job).

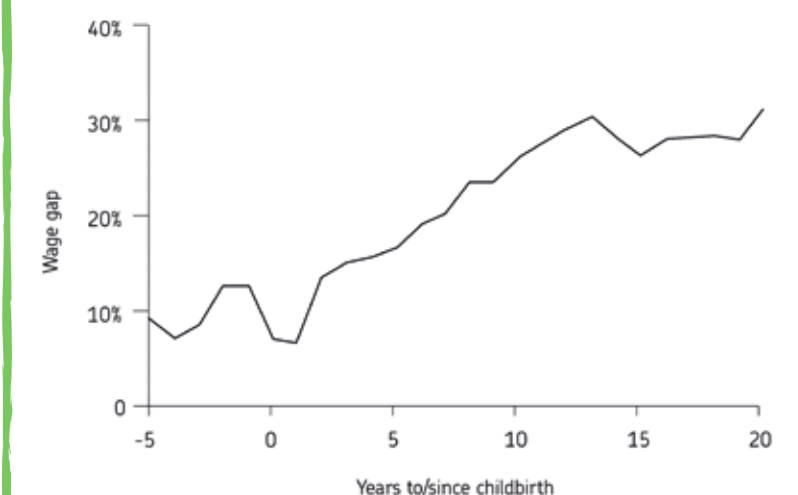
After the birth of a child, many women left paid work altogether or switched to working part-time (5 to 24 hours per week); this pattern was not found for fathers. Working part-time means lower cumulative work experience, compared to working full-time. By the time their first child was 20, women were in paid work for an average of 3 years less than men. This cumulative difference is important, as work experience allows workers to command higher wages and for this full-time work, experience is most beneficial. By working part-time, women are penalised with limited access to the wage progression opportunities afforded to full-time workers.

The study estimated the effect of work experience accumulation on wages, by education group. It found that the gender wage gap would close by up to two-thirds if degree-educated women worked the same hours as men after having a child. The same pattern was found for women with A-levels and GCSEs, but the impact was smaller. For women with A-levels and GCSEs, differences in work experience between men and women after having a child explained roughly one-third of the gender pay gap.

The greater difference in the impact of work experience for women with a degree is likely due to these women having the highest potential for wage growth, if they had worked full-time. The research also examined the role of other factors, including occupation, industry and other job characteristics to explain the gender pay gap, but these factors had only weak implications compared to work experience even for those with A-levels and GCSEs.

In conclusion, gender differences in rates of full-time and part-time paid work after having a first child were found to be an important driver of differences in wages for men and women. This is because working full or part-time affects the amount and type of work experience that men and women build up, and this affects the wages they can command. However, closing gender gaps in rates of full and part-time work could not close the gender pay gap completely, especially for people without degree-level education. This is a particularly important issue for policy when considering the relationship between the pay gap and poverty; those who are more likely to be in poverty will not benefit most by policies to address gender gaps in work patterns.

Gender wage gap by time to/since birth of first child, adjusted for age



Notes: Wage gap measured in proportion of male wages. Observations in the top one and bottom two percentiles of the wage distribution are excluded.

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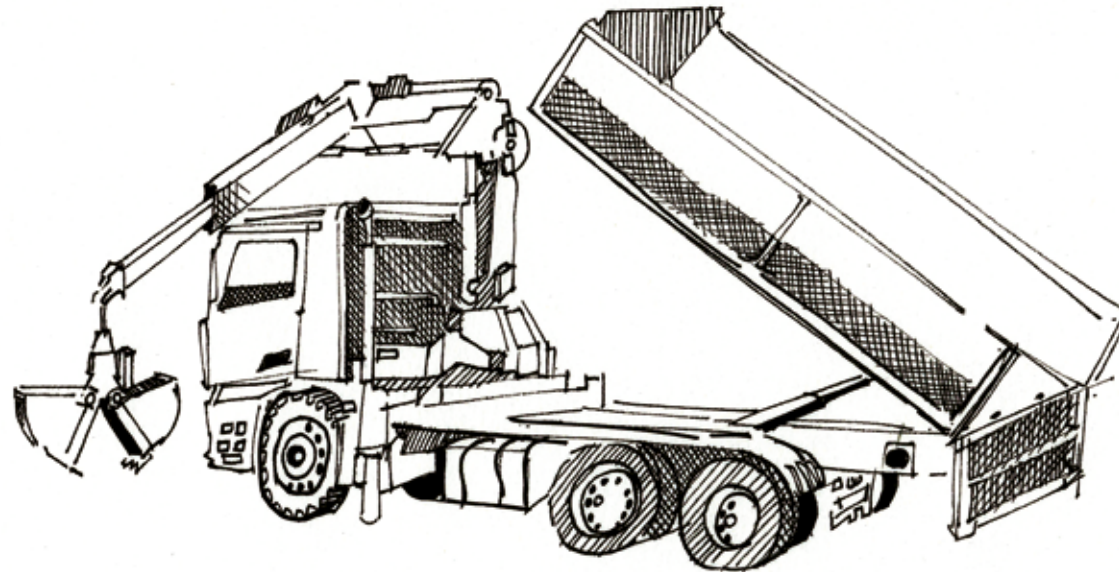
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ORIGINAL RESEARCH

Costa-Dias, M., Joyce, R., Parodi, F. (2018) The gender pay gap in the UK: children and experience in work. IFS Working Paper 18/02. London: Institute for Fiscal Studies. Available at: https://www.ifs.org.uk/uploads/publications/wps/MCD_RJ_FP_GenderPayGap.pdf [accessed 1 August 2018].

DATA USED

BHPS Waves 1-18 and *Understanding Society* Waves 1-7.



How does becoming a parent shape gender role attitudes?

KEY POINTS:

Overall, new mothers significantly shifted their gender role attitudes to become more traditional, while new fathers did not experience any significant change.

This change in gender role attitudes was strong and significant for those who held progressive views before having a child, both for men and women.

Living in local areas, and having personal situations, that imposed more traditional roles for new parents led to greater shifts towards holding more traditional gender attitudes.

How women and men divide paid and unpaid work within a couple affects women's employment, earnings, and career prospects. This is an important issue for gender equality. It is therefore crucial to understand how gender attitudes are shaped over the lifetime, and how they are influenced by key life events. This research focused on the effect of becoming a parent on gender attitudes.

The research utilised the rich longitudinal data from *Understanding Society* to examine the impact of becoming a first-time parent on gender attitudes. Using these data, the authors compared gender attitudes before and after having a first child, taking into account the characteristics of the new parents that remain unchanged (such as personality).

The study found that, in general, women significantly shifted their gender role attitudes to become more traditional after having their first child (towards a male breadwinner model). In comparison, new fathers did not significantly change their attitudes. So, what explains this shift in attitudes following childbirth? Underlying this shift could be the experience of cognitive dissonance: the psychological discomfort that comes from when

a person's beliefs do not match their behaviour. As a result, people may change their beliefs to match their current behaviour.

The research explored whether cognitive dissonance could explain changing attitudes after having a child by looking at situations where traditional family roles were most at odds with people's prior beliefs. They found women and men with progressive attitudes before having a child were the people who revised their attitudes most (becoming more traditional) after the birth of their first child.

The authors considered that progressive people were most likely to experience cognitive dissonance where traditional family arrangements were imposed on them – via the gendered social norms and institutions of their local area – rather than chosen, when they became parents. The research categorised the local authority districts of new parents by how traditional the local arrangements were: including local people holding traditional gender attitudes, low availability of local formal childcare, and low rates of mothers in employment. They found the traditionalisation of those women and men whose pre-natal attitudes were progressive

was highest when they were exposed to the imposition of traditional arrangements in the gender division of labour.

Further, the research considered traditional family arrangements that had a direct effect on the new mother by looking at new mothers who did not use formal childcare and those who left the labour market after having their first child. These new mothers experienced a significant and large shift in attitudes to become more traditional.

These results provide strong evidence of cognitive dissonance as an important driver in changing gender attitudes for new parents to become less progressive. Traditional divisions of paid and unpaid work amongst new parents are often imposed due to gendered stereotypes and institutional settings, triggering new parents to become more supportive of traditional family arrangements. Changes to new mothers' employment (such as reduced hours or leaving the labour market), even if only temporary, have lasting effects on their earning and career prospects.

The findings also suggest a vicious circle where imposed traditional family arrangements create further support for these from new parents, which are damaging for women.

Policies should be designed to disrupt this cycle, granting mothers the possibility to have a full working life, without being forced to choose between children and work. This should include taking active steps to promote paternity leave, male part-time work, and public childcare, as well as measures to tackle deleterious gender stereotypes.

How strongly do new parents agree or disagree with gender role attitudes?

Gender role attitudes are explored via self-completion of the statements below. Respondents agree or disagree on a four-point scale ranging from (1) 'strongly agree' to (4) 'strongly disagree'.

Gender role attitudes	Women	Men
A pre-school child is likely to suffer if his or her mother works	3.37	3.13
All in all, family life suffers when a woman has a full-time job	3.31	3.31
A husband's job is to earn money; a wife's job is to look after the home and family	3.72	3.67
Both the husband and the wife should contribute to the household income	3.98	3.79

ORIGINAL RESEARCH

Grinza, E., Devicienti, F., Rossi, M. and Vannoni, D. (2017) How entry into parenthood shapes gender role attitudes: New evidence from longitudinal UK data. IZA Discussion Paper Series No. 11088. Bonn: Institute of Labor Economics (IZA). Available at: <http://ftp.iza.org/dp11088.pdf> [accessed 1 August 2018].

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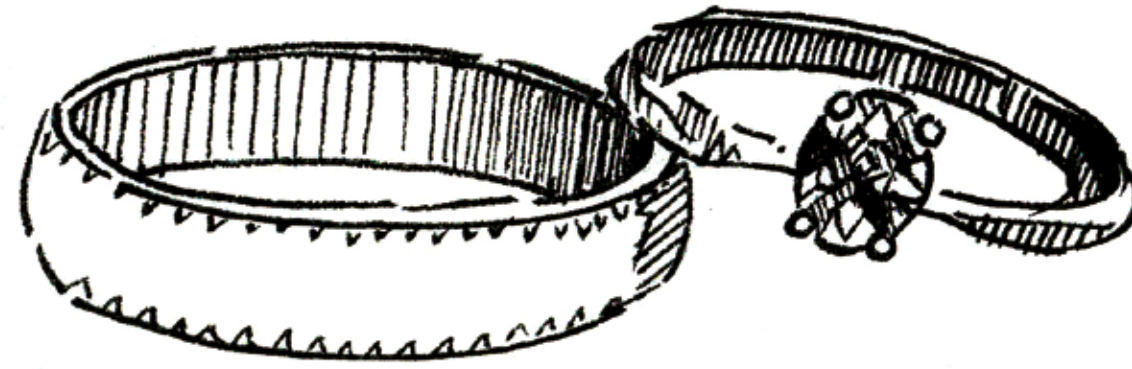
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DATA USED

Understanding Society Waves 2 and 4.



What are the effects of separation on residential change in England and Wales?

Relationship dissolution is a life event that is likely to have a negative effect on people's housing circumstances as it is associated with 'downward' moves on the housing ladder. The implications of relationship breakdown on housing are gendered; the impacts differ between men and women and affect the accumulation of housing wealth through, for example, different housing tenures. This research examines the short- and long-term effects of divorce and separation on people's housing circumstances.

The authors combined the British Household Panel Survey (BHPS) and *Understanding Society* to compare people's housing circumstances before and after their relationship dissolved (either through divorce or separation). Using the combined data allowed the authors to follow the same people over a longer period of time; it was therefore possible to examine changes occurring over several years after the breakdown of the co-residential relationship. In this research, the definition of residential change included both residential moves and housing tenure changes; this is the most comprehensive approach as people can move without changing tenure, or change tenure without moving.

The research found different patterns of residential change after separation for men and women (see figure). During the observation period, separated women were most likely to move to private renting, followed by social renting, with a move to homeownership (as the head of the household) the least likely. Similarly, separated men were most

likely to move to private renting, but the second most likely move was to owner-occupation, as the head of the household. This suggests that men were more likely to become homeowners after separation than women.

This finding also reflected current social housing policies, which can provide housing for some single parent families (usually headed by women). This was supported by the finding that residential changes differed between women with and without children. Separated women with children were most likely to move to social or private renting; however separated women without children were most likely to move to private renting, followed by living with relatives or friends.

Separation led to a sustained period of elevated residential mobility for both men and women. In the first few months following separation, men and women were around three times more likely to experience a residential move than their married counterparts. The likelihood of residential moves decreased over time, but was still more common among separated people several years later. Separated women were 30 per cent, and separated men 20 per cent more likely (than those who were married) to move three or more years after separation.

Relationship dissolution led to more turbulent housing careers for men than for women. Separated men who moved at least once during separation were more likely to experience further residential changes whereas separated women who moved were less likely to do so.

This research shows that separation is associated with long-lasting changes in people's housing careers; however, its implications are different for men and women. In the short-term, separated men were more disadvantaged, as they were more likely to experience higher residential mobility. However, in the long run, they were more likely to experience better housing situations than separated women as they were more likely to have moved to homeownership. By comparison, separated women were more likely to have moved to social housing, particularly if they had children and low levels of education. Social housing is therefore an important safety net for this group of separated women.

KEY POINTS:

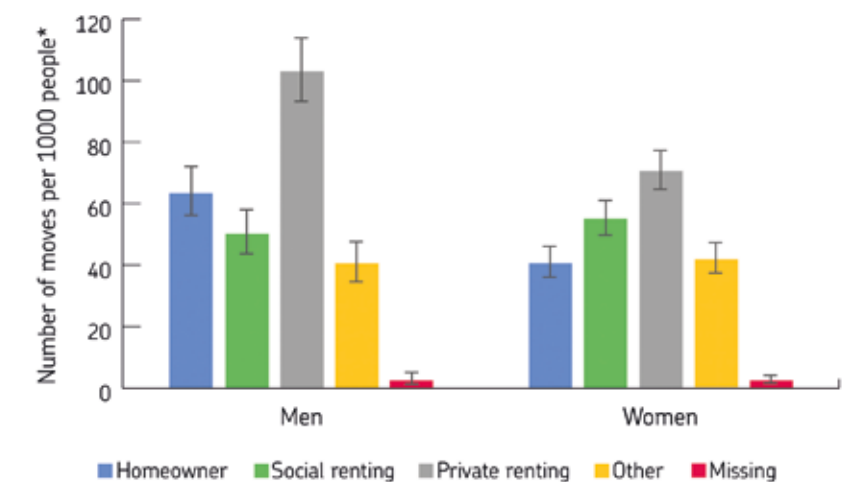
Separation led to a sustained period of elevated residential mobility for both men and women.

Separated men and women were most likely to move to private renting. Separated women were also likely to move to social renting whereas men moved to homeownership.

Separated women with children were most likely to move to social or private renting whereas those without children were most likely to move to private renting, followed by living with relatives or friends.

These findings highlight the important role of housing policies in providing the most vulnerable groups with secure housing after separation. However, housing inequalities are likely to persist for as long as there is a group of vulnerable people who do not have access to social housing and a group of women (with children) who cannot afford to become homeowners following separation.

Rates of separated men and women to move to different tenure types in England and Wales (1991 – 2014)



Notes: The whiskers indicate 95% confidence intervals.
*based on person-years, which takes into account the length of time the respondent is observed in the data.

ORIGINAL RESEARCH

Mikolai, J. and Kulu, H. (2018) Short- and long-term effects of divorce and separation on housing tenure in England and Wales. *Population Studies*, 72(1): 17–39. Available at: <https://doi.org/10.1080/0324728.2017.1391955> [accessed 1 August 2018].

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DATA USED

BHPS Waves 1–18 and
Understanding Society Waves 2–5.

QUALITY OF LIFE IN OLDER AGE



Drivers of poverty entry and
persistence among older
people in the UK

What's driving unretirement
– might it exacerbate
inequalities in later life?

What is the relationship
between health and social
exclusion in older age?

SUPPORTING A GOOD LATER LIFE

Anna Dixon |
Chief Executive, Centre for Ageing Better

COMMENTARY

The analysis presented here using *Understanding Society* data relates to quality of life in older age, with a focus on three key areas for action: reducing poverty in later life; supporting people to remain in work for longer, and to be able to continue to participate in their communities. All things we know are important to a good later life.

Kanabar's analysis throws light on why some people become poor at older ages, as well as the persistent nature of poverty in later life. Housing tenure has an important impact, with those in social housing more protected from financial insecurity than people who own their own property. Policy needs to recognise that not all homeowners are financially secure and that the high costs of maintenance and heating may be a factor in pushing them into poverty. Some low-income homeowners have equity in their property (depending on location and condition). Financial services need to develop innovative products that enable them to access equity to fund home improvements. Government needs to make funding available to those without equity or enable them to move into social housing. Such schemes may also need to consider how to provide homeowners with additional support to carry out the renovations and manage other issues such as decluttering and removal.

Kanabar also finds that those who were divorced were more likely to remain in poverty. Analysis by the Resolution Foundation/Centre for Ageing Better of the 1.8 million low- and middle-income households headed by someone aged 50 to state pension age found these households were more likely to be single households, a sub-group that has grown significantly over the last two decades. Divorce and separation at older ages appear to be a key factor in later life poverty. This has important implications for living standards, given the additional financial strain of living as a single rather than a couple, particularly when this was not planned.

Platts et al. look at the issue of 'unretirement' – a return to paid work after retirement – and find one quarter of retired people

unretire. Most people who unretire are more likely to be in good health and be better educated, suggesting it is not financially driven but for other reasons, such as missing social contact.

The challenge for those who need to return to work out of financial necessity after retirement is finding work. Employment support needs to recognise the barriers that older workers, particularly with health conditions, face in getting back into employment. Some initiatives exist but concerted action is needed by employers to tackle age bias in recruitment, offer flexible working into retirement as a process and support people to manage health conditions and caring responsibilities.

We know that social connections are really important to the quality of life for older people. There are many barriers to social participation. Sacker et al. find there is a strong relationship between poor physical and mental health and social exclusion, particularly the ability to take part in cultural, sport and leisure activities. Being involved in activities that are meaningful and enjoyable is not only a source of social contact, but also contributes to a greater sense of wellbeing. The research finds that the lack of civic participation is bad for people's health. This is why all organisations, both voluntary and public sector, need to ensure that opportunities for participation are inclusive and additional support and adjustments are made for those with health conditions or disabilities.

One interesting finding from Sacker et al. is that use of a car, mobile phone and the internet were protective for older people in poor physical health. Local planners and those responsible for transport infrastructure need to ensure transport is accessible, affordable and connects people to the things they want to do, including cultural and leisure activities. In order to tackle digital exclusion among older people, businesses, the public sector and charities need to build confidence and show the value to the person, rather than offer skills training as the solution.

Drivers of poverty entry and persistence among older people in the UK



KEY POINTS:

Drivers of initial poverty and poverty entry were related to past and current characteristics, such as educational attainment and receipt of health benefits, respectively.

Most people remained in the same state across two waves of the survey; this is likely due to the relative stability of income in later life.

The results suggest a need for policies to not only reduce poverty persistence in older age, but also address the drivers of poverty entry.

The UK, like many other developed countries, has an ageing population. Although poverty amongst older people has declined over recent years, a significant minority of older people are living in poverty despite this being an ongoing concern for policy. Poverty at older age is addressed through the administration of welfare benefits to top-up income (such as Pension Credit) or help with the additional costs of poor health or disability. These benefits make it more difficult to properly assess income levels among older people and, as such, it is important to pay attention to the types of benefits people may receive when trying to understand their living standards.

The study uses the longitudinal design of *Understanding Society* to examine the importance of different characteristics and circumstances in determining whether a person enters into, or persists with, living in poverty in older age. The research included men (aged 65 and over) and women (aged 60 and over) who had retired and lived in a single or couple pensioner household. People were defined as living in poverty if their household income (after accounting for certain housing costs, adjusted for household size and inflation) was below 60 per cent of the population median. Most factors were defined at the 'Head of Household' level; which

refers to the person with the highest income, if there is more than one person in a household.

The study found that head of households' education, housing tenure, subjective financial situation and whether they had at least one occupational pension played an important role in determining *poverty entry*. For example, individuals living with a household head who had a degree were significantly less likely to fall into poverty. Those who lived in social housing were also less likely to enter poverty compared people who owned their home outright; those in social housing also reported higher levels of receipt of council tax benefit.

Turning to *poverty persistence*, people who were divorced were more likely to remain in poverty relative to those who had always been single; this could be due to the latter group being better financially prepared for single retirement. Those who lived in local authority housing were less likely to persist in poverty compared to people who owned their house outright, likely due to the same factors discussed in relation to poverty entry.

The study found that most people remained in the same state across two waves of the survey; and that this was driven by personal and household characteristics rather than the effect of having a low-income *per se*. This lack of transitions is unsurprising given the relatively stable income sources of many older people, by comparison to potentially fluctuating employment earnings of working-age people. The study also found that it was important to account for a person's initial income position and this is likely to be strongly connected to their past earnings history.

Finally, the study found it was important to account for health-related benefits; such benefits form part of household income but may not translate to an improvement in living standards, as the additional income is used to cover disability related costs. This highlights the need for disability-adjusted poverty lines when comparing living standards across groups.

Measuring living standards among older people is of crucial importance given the fiscal implications of ageing in the UK. The study advocates the importance of accounting for health-related costs when computing poverty lines as a significant proportion of older people are in a receipt of health-related benefits.

In terms of policy implications: current measures to support older people on low incomes simply top up their income (i.e. reduce persistence), however the study finds that the drivers of initial poverty and poverty entry are related to past and current characteristics, hence the need for policy to reduce poverty entry in the first place.

ORIGINAL RESEARCH

Kanabar, R. (2017) In or out? Poverty dynamics among older individuals in the UK. *Journal of Pension Economics & Finance*, 16(4): 509–553. Available at: <https://doi.org/10.1017/S1474747216000135> [accessed 1 August 2018]

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DATA USED

Understanding Society Waves 2–4.

Poverty persistence and transitions

First observed wave	Second observed wave		Total
	Not living in poverty	Living in poverty	
Not living in poverty	90.5%	9.5%	100%
Living in poverty	31.7%	68.3%	100%

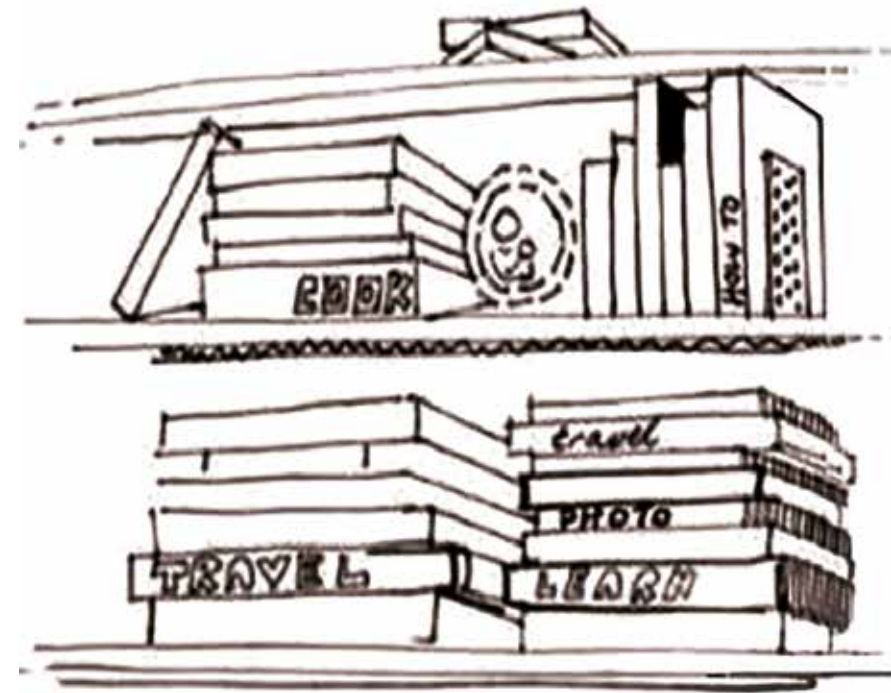
KEY POINTS:

Unretirement is relatively common; around one quarter of retirees in this study took up paid work again after retiring.

Unretirement was more likely among men, people with academic qualifications and people in good health.

There was little evidence that unretirement was due to financial hardship.

What's driving unretirement – might it exacerbate inequalities in later life?



Retirement is often thought of as an abrupt and permanent end to employment, but for many people this is not the case. Retirement can be a complex and lengthy process, and some retired people may return to paid work (unretirement). Understanding unretirement is important for policy since retirement reversals may affect income inequalities and standards of living in later life.

The study utilised the panel design of the data to examine transitions into, and out of, retirement. The authors combined the British Household Panel Survey (BHPS) and *Understanding Society* to cover the maximum timespan available in the data. Data on retirement transitions were used to examine the rates of unretirement in the UK and the personal and financial characteristics of people who unretire. Unretirement was defined as people who self-identify as being retired and later recommence paid employment, or those who return to full-time work after semi-retirement.

The research found that around one quarter of retired people unretired. Retirement reversals were more common earlier into retirement: about

nine per cent unretired within the first year and the majority did so within eight years. Women who unretired were more likely than men to unretire after their state pension age; the median unretirement age was 63 for women (with a contemporary state pension age of 60) and 64 for men (65 years being the contemporary state pension age for men).

It might be reasonable to think that unretirement could be a strategy for people in precarious financial situations to raise their incomes, however there was limited evidence of the role of financial difficulties in the decision to unretire. Housing tenure was associated with retirement reversals: people who were still paying back their mortgage were about 50 per cent more likely to unretire than those who owned their homes outright. However, other financial factors, specifically, reporting financial difficulties and lacking an occupational pension were not associated with higher rates of unretirement. Since it was people with higher incomes who were more likely to unretire, it may be that people in financial hardship lack opportunities to unretire.

There were differences by personal characteristics in the rates of unretirement. Men were about one quarter more likely to return to work following retirement than women. For those in couples, having a spouse in employment was associated with a greater likelihood of unretirement, compared to people whose spouse was not in the labour market. People without academic qualifications were about half as likely to unretire as those who had post-secondary academic qualifications, even when accounting for income and self-perceived financial situation. Further, people's health affected retirement reversals: those in excellent or good health were around one quarter more likely to unretire than those reporting fair, poor or very poor health.

The research shows that retirement is not a stable state in the UK; returns to paid work following retirement were relatively common. Unretirement was more likely among certain groups of retirees, particularly men, those with qualifications and in good health, and people did not appear to unretire in response to financial hardship. This suggests unretirement may

benefit the already advantaged in terms of human capital and financial resources. As unretirement presents an opportunity to supplement pension incomes, it is probable that there is a group of retired people in financial difficulty who would return to paid work if the right opportunity were available. However, this group may find it harder to find suitable or good quality work. Consequently, government and employer policies that protect older employees from age discrimination, encourage flexible working and reduce barriers to employment may raise the employment rates of older people by increasing suitable work opportunities.

These findings have policy implications as unretirement has the potential to exacerbate inequalities in later life. Unretirement tends to enable those who are already advantaged to improve their incomes, whereas the more disadvantaged remain so. Hopes that retirement reversals might prove to be a strategy that enables older people in poorer financial situations to raise their incomes are likely misplaced.

ORIGINAL RESEARCH

Platts, L. G., Corna, L. M., Worts, D., McDonough, P., Price, D. and Glaser, K. (forthcoming) Returns to work after retirement: a prospective study of unretirement in the United Kingdom. *Ageing & Society*. Available at: <https://doi.org/10.1017/S0144686X17000885> [accessed 23-07-18].

The accepted manuscript for the above is available, open access, at: [https://www.research.manchester.ac.uk/portal/en/publications/returns-to-work-after-retirement-a-prospective-study-of-unretirement-in-the-united-kingdom\(3adb1362-b87a-4419-80a3-2931e742e554\).html](https://www.research.manchester.ac.uk/portal/en/publications/returns-to-work-after-retirement-a-prospective-study-of-unretirement-in-the-united-kingdom(3adb1362-b87a-4419-80a3-2931e742e554).html) [accessed 1 August 2018].

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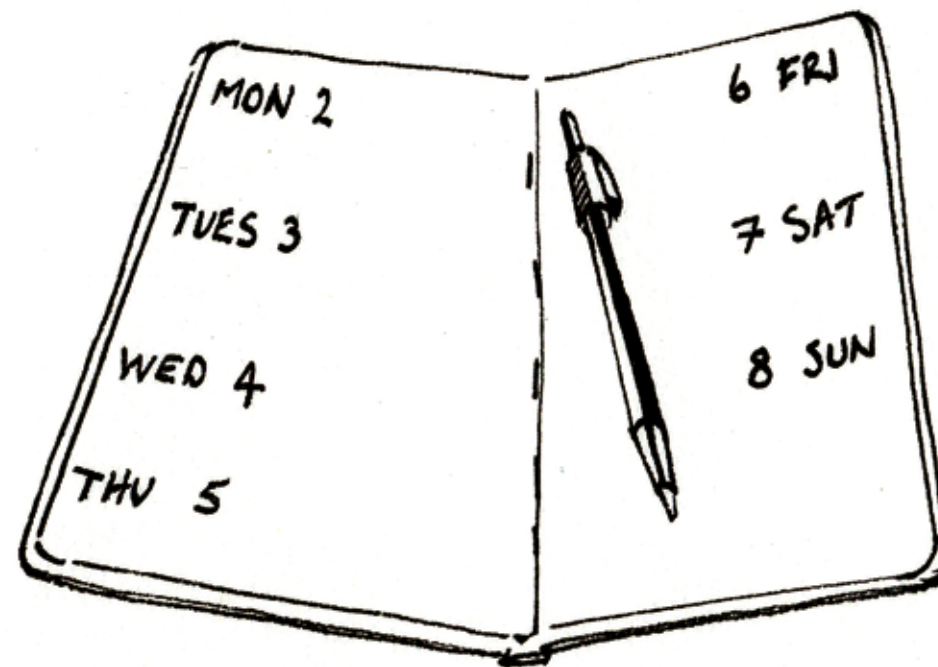
DATA USED

BHPS Waves 1-18 and
Understanding Society Waves 2-6.

“There are messages here for employers who might want to think about these new demographics, but also for policy makers as it looks like the possibilities to supplement savings or retirement income in later life through unretirement are available to a greater extent to the already advantaged. This is a worry for those of us who are worried about inequalities in later life,”

Professor Price, Director of the Manchester Institute for Collaborative Research on Ageing and a co-author of the paper.

What is the relationship between health and social exclusion in older age?



KEY POINTS:

Being in poor health as an older person predicted later social exclusion.

For those in poor health, access to a car, owning a mobile phone and using the internet was linked to being less socially excluded.

Being socially excluded predicted later declines in health.

Social exclusion among older people is a key area of policy focus in many European countries that have an increasingly ageing population. As people grow older, they are more likely to become socially more rather than less excluded, which highlights the severity and persistence of social exclusion for older people. Social exclusion is a process through which people become disengaged from mainstream society and has many drivers, such as poverty, ill health and poor housing; these drivers have long-lasting effects on people. Although preventing and alleviating social exclusion in older age is a key focus for policy, the gaps in the existing evidence base on the pathways through which people become socially excluded are likely to hamper the effectiveness of such policies.

The research utilised the longitudinal nature of the *Understanding Society* data to foster understanding of the pathways between health and social exclusion (for example whether health is a driver or an outcome of social exclusion), and to examine factors that could affect this relationship. The study used the first four waves of data, focusing on those who completed an interview in each of these time waves and were aged 65 or over at Wave 3. The authors created an index of social exclusion from the data, which covered three underlying domains: service provision and access,

civic participation and social relations and resources. The health measures included self-rated health, limiting long-term illness or disability, and psychological distress.

The analysis found that being in poor health in Wave 1 and/or 2 predicted greater social exclusion one year later compared with those in stable good health; this finding remained after taking into account sociodemographic characteristics and potential mediators of the relationship (such as having access to a car). In particular, the relationship was strongest between poor physical and psychological health in Waves 1 and 2 and social exclusion from civic participation (which is defined to include taking part in cultural, sport and leisure activities).

The research found that experiencing social exclusion predicted later declines in health. Taking into account people's health status at Wave 3, those who were more socially excluded had poorer outcomes on each of the three domains of health in Wave 4. The reverse relationship, however, was not found; improvements in health did not reduce social exclusion, at least in the short-term.

The authors investigated whether having access to a car, owning a mobile phone or using the internet weakened the association between poor health and social exclusion. For those in stable poor physical health, as well as for those with worsening physical health, access to a car, owning a mobile phone and using the internet was linked to being less socially excluded. These factors, however, did not affect the level of social exclusion for those in stable good health or those experiencing changes in their psychological health. This finding suggests that it is important to distinguish between physical and mental health when considering the use of technologies amongst older people.

In conclusion, poor health is associated with greater social exclusion and, in turn, social exclusion is linked to declining health. Use of a car, mobile phone and the internet are factors that protected older people in poor physical health from social exclusion, highlighting an area for policy intervention.

The role of car access suggests that broader transport initiatives, such as public transport or taxi schemes, may also help mitigate against social exclusion amongst older people in poor health. Further, the importance of technology use highlights a potential for encouraging its use and developing age-friendly technologies.

ORIGINAL RESEARCH

Sacker, A., Ross, A., MacLeod, C. A., Netuveli, G. and Windle, G. (2017) Health and social exclusion in older age: evidence from *Understanding Society*, the UK household longitudinal study. *Journal of Epidemiology & Community Health*, 71(7): 681-690. Available at: <http://dx.doi.org/10.1136/jech-2016-208037> [accessed 1 August 2018].

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DATA USED

Understanding Society Waves 1-4.

What is included in the index of social exclusion?

Service provision and access

- Access to healthcare, food shops and learning facilities
- Quality of local medical, shopping and leisure facilities
- Access to sports and leisure facilities

Civic participation

- Frequency of participation in cultural, sports and leisure activities in the past 12 months

Social relations and resources

- Living arrangements (i.e. living alone or with a spouse/partner)
- Quality of personal relationships (with spouse/partner, children and friends)

GREEN LIVES

Do green lifestyles
improve life satisfaction?

What is the impact of air
pollution on life satisfaction for
people living in England?

Does becoming a parent
make you think differently
about the environment?



APPLYING THE HUMAN DIMENSION TO ENVIRONMENTAL POLICY

Dustin Benton |
Director of Policy, Green Alliance

COMMENTARY

Environmental policy is an area that tends toward either abstract, technocratic policy built on simplistic behavioural assumptions, like carbon pricing, or else rests on anecdote, as the endless debate over recycling bins demonstrates. So it is refreshing to see robust, longitudinal research applied to this area using *Understanding Society*.

Of the three articles highlighted here, the most striking is Knight and Howley. The fact that air pollution levels commonly experienced in major UK cities harm life satisfaction more than the death of a husband or wife, and nearly as much as marital separation, is alarming. Politicians would do well to add the fine-grained geographical evidence that underpins this work to their rhetoric about how air pollution exposes geographical inequality. Already, they rightly point to the misery caused by urban traffic to (often poor) children who cannot breathe clean air. Being able to quantify this harm would significantly strengthen the case for metro mayors to restrict diesel vehicles, which are the main source of nitrogen oxides (NOx) pollution in UK cities.

Doing so would also link air pollution explicitly to mental health and wellbeing, which has attracted political interest from both right – David Cameron’s Gross National Happiness index or Theresa May’s Just About Managing narrative spring to mind – and left, with Jeremy Corbyn’s focus on giving mental health parity within the NHS.

The evidence of medical harm from air pollution is unequivocal. The UK government has lost three court cases in the past three years due to its failure to adequately protect people’s health. But policy is made by politicians, and depends as much on what resonates on the doorstep as on medical evidence and legal proceedings. The evidence of tangible harm to life satisfaction supports, for example, bringing the UK’s petrol and diesel sales ban forward to 2030, given this would cut NOx emissions by 40 per cent by 2025.

Although the other two articles are less immediately arresting, it would be a mistake to overlook the analysis of either Binder and Blankenberg or Thomas et al., which explore pro-environmental

behaviours. The former lends credence to the recent recognition, initially by Michael Gove MP and latterly by the Conservative Party as a whole, that being seen to be green is popular. But the research has a sting in its tail: although self-perception of a green lifestyle is linked to significantly higher life satisfaction, and although most people who wanted to be environmentally friendly were happier as a result, they still didn’t stop flying or buying over-packaged products. The work of Thomas et al. shows a similar pattern: although new parents may start with moderate or even high environmental concern, having a child is hard work and green activities that require regular effort slip when faced with the demands of parenting.

The interpretation of this evidence merits some unpicking. Rather than the ‘personal sacrifice’ calculation suggested by Binder and Blankenberg, the reason why recycling or turning off the tap is more common than refusing packaging or flying less may be down to a lack of alternatives for different tasks: if you’re hungry and a plastic-wrapped apple is what’s for sale, that’s what gets bought.

The policy implications of these two studies suggest choice editing is the right response. This can drive higher life satisfaction much more from actual pro-environmental behaviour rather than simply self-perception of green lifestyles. For example, policy could require manufacturers to redesign products to make them less wasteful; or fairly tax aviation while supporting high-speed rail for shorter journeys. If people are happier when they take pro-environment action, and much less happy if they find it hard to do so, then the policy response should be to make positive environmental behaviour the simple, low-cost default.

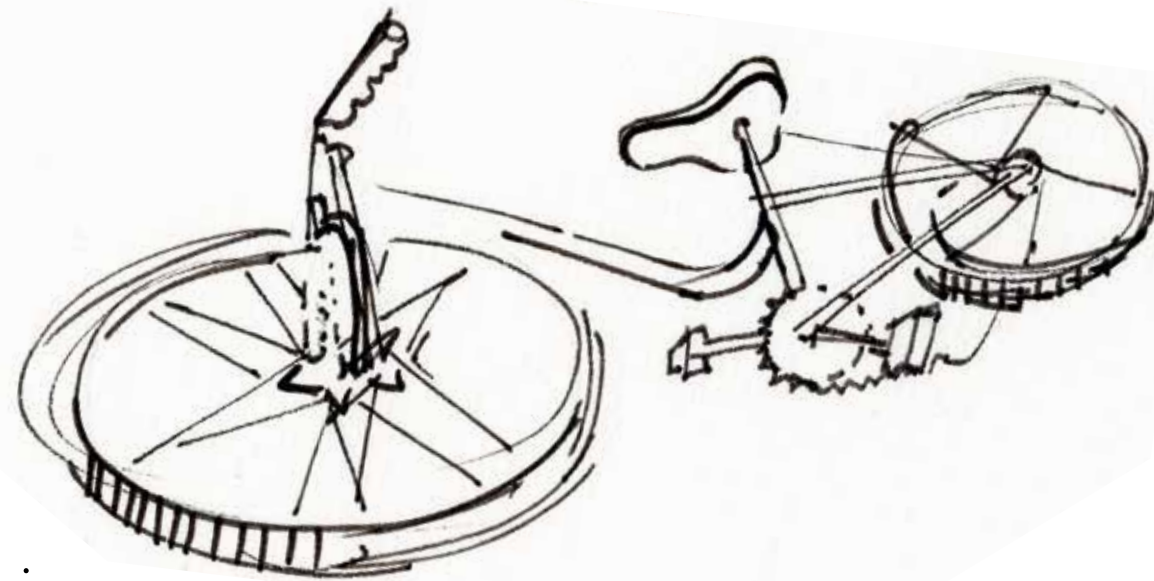
The common thread across all three studies is that they add a human dimension to what might just be seen as environmental issues, and in so doing, provide new political salience to a critical policy area.

KEY POINTS:

Increases in air pollution from nitrogen dioxide had a negative impact on people's life satisfaction.

The size of the estimated effect of nitrogen dioxide levels on life satisfaction was comparable to many 'big-hitting' life events.

What is the impact of air pollution on life satisfaction for people living in England?



The features of the local environment can have a significant impact on life satisfaction. Previous research highlighted the role of greenspace, biodiversity and pollution on people's wellbeing. Concern about air quality and pollution is gaining prominence in public debate and increased policy attention. In order to provide a clear justification for policies to improve air quality, it is important to quantify the negative impacts air pollution has on people's wellbeing.

One way to assess the impact of the environment on people's welfare is to measure how their subjective wellbeing changes in response to changes in the environment. The most common approach to this is using people's self-reported life satisfaction; their response on a seven-point scale to the question 'How dissatisfied or satisfied are you with life overall?' The research combined 13 years of data from the British Household Panel Survey (BHPS) and *Understanding Society* which records individuals' answers to this question and compared it with detailed air quality records¹ from the Department for Environment, Food and Rural Affairs.

The measure of air pollution chosen was nitrogen dioxide, which is a significant gaseous pollutant in the UK emitted from road traffic and energy production processes. Levels of nitrogen dioxide regularly exceed the legal EU limits for air quality and are largely attributable to diesel

vehicle emissions. The authors used the geographic identifiers in the BHPS and *Understanding Society* to link the survey responses to additional data on the local environment, including levels of nitrogen dioxide, area level deprivation and traffic flows.

The longitudinal design of the data allowed the researchers to relate changes in air quality to changes in subjective wellbeing for the same individuals over time. This, coupled with the inclusion of a variety of neighbourhood controls (e.g. economic and social deprivation), improves the robustness of the findings as compared to using cross-sectional data.

The results showed that increases in nitrogen dioxide in local areas had a negative impact on people's life satisfaction; a ten-unit increase in annual average nitrogen dioxide in the local area was associated with a 0.03 point decrease in life satisfaction. Here, the local area is considered as the Lower-layer Super Output Area, which covers a population of 1000 to 3000 people (or 400 to 1200 households).

This finding took into account people's self-reported health status; this suggests that the relationship found between nitrogen dioxide levels and life satisfaction was not because of people's underlying health status. However, health status was important for this finding in another way: the

average annual nitrogen dioxide level had a greater estimated negative effect for people in relatively worse health, compared to those in better health.

The size of the estimated effect of nitrogen dioxide levels on life satisfaction was demonstrated as being comparable to that of many 'big-hitting' life events. The results suggest the average loss in life satisfaction experienced from an annual average ambient level of 40 µg/m³ (the legal EU limit, exceeded in many parts of the UK) would equate to roughly: 80 per cent the effect size of marital separation, a third more than widowhood and half of unemployment, factors commonly found to be important determinants of psychological wellbeing.

Overall, the results therefore demonstrated that greater exposure to nitrogen dioxide was associated with a decrease in life satisfaction; the estimated impact of this relationship was shown to be comparable in magnitude to many other negative life events. Given that the negative effect on life satisfaction of exposure to nitrogen dioxide (at varying levels)

is population-wide, compared to other factors that negatively affect subjective wellbeing such as becoming unemployed or widowed which will not affect everyone, then the benefits to society of reductions in this form of air pollution would be widespread and impactful.

The findings lend support for transport policies designed to reduce nitrogen dioxide air pollution. Exposure to nitrogen dioxide varies across the country and is regularly above legal limits. Emissions from transport are falling, but road transport, in particular emissions from diesel vehicles, is the largest source of nitrogen dioxide emissions in the UK.

ORIGINAL RESEARCH

Knight, S. J. and Howley, P. (2017) Can clean air make you happy? Examining the effect of nitrogen dioxide (NO₂) on life satisfaction. Health, Econometrics and Data Group Working Paper Series No. WP 17/08. York: Health, Econometrics and Data Group. Available at: <https://www.york.ac.uk/media/economics/documents/hedg/workingpapers/1708.pdf> [accessed 1 August 2018].

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DATA USED

BHPS Waves 12-18 and *Understanding Society* Waves 1-5 linked to the following datasets by Lower-layer Super Output Area:

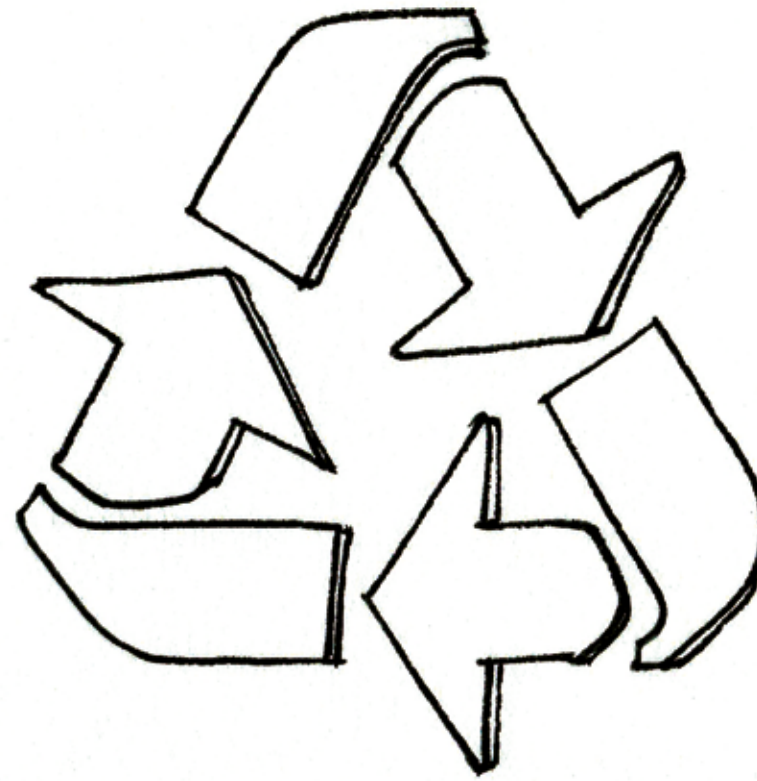
- Department for Environment, Food & Rural Affairs' pollution-climate modelled values 2002-2014
- Ministry of Housing, Communities & Local Government's English Indices of Multiple Deprivation 2004, 2007 and 2010
- Ministry of Housing, Communities & Local Government's Generalised Land Use Database 2005
- Office for National Statistics' annual mid-year population estimates.

Notes: ¹ <https://uk-air.defra.gov.uk/data/pcm-data>

"We found that if people are exposed to a pollution level of the legal limit of 40 micrograms per metres cubed the loss in life satisfaction is comparable to about 83 per cent the effect of marital separation, over 100 per cent the effect of widowhood and just over 50 per cent the effect of unemployment."

Sarah Knight, co-author

Do green lifestyles improve life satisfaction?



KEY POINTS:

The likelihood of taking environmentally-friendly action varied by the task, even among people with the most green lifestyles, with actions involving less sacrifice more common.

Self-perception of a green lifestyle was linked to higher life satisfaction, irrespective of concrete action.

Bad conscience about not being green enough decreased life satisfaction, but the impact could be mitigated by having a self-perceived green lifestyle.

Value-action gap for green behaviour depends on costs of green behaviour but also green preferences.

The impact of human behaviour on the environment is of global concern, with calls for increased action by campaigners. By adopting green lifestyles, people can help mitigate negative effects by aiming for sufficiency, voluntary simplicity and sustainable consumption. However, it is unclear whether adopting a green lifestyle will be detrimental to wellbeing as people sacrifice the consumption of goods, or may boost wellbeing through altruistic action. The impact on life satisfaction could have implications for further green behaviours and, more broadly, the success of green policies based on individual action.

The research used the range of questions in *Understanding Society* about environmental attitudes and behaviours, over time to examine whether people's self-perception of their green lifestyles, or their actual behaviours, affect life satisfaction and whether people's perceptions accurately reflect their behaviours.

The study found that the likelihood of people participating in *environmentally-friendly behaviours* varied by task; most people turned

off the tap while brushing their teeth, but it was comparatively rare for people to go on fewer flights, share car journeys or refuse to buy products because of packaging. This variation was likely a reflection of the ease or difficulty of taking these actions, and the level of personal sacrifice involved.

Overall, most people did not think of their lifestyles as being particularly green; only two per cent of participants stated that they believed they were doing everything in an environmentally-friendly way, but three-quarters reported doing a few, one or two green things. The research found that this self-perception of a *green lifestyle* was linked to higher life satisfaction, and this had a large impact. However, actual green behaviours were not associated with life satisfaction above and beyond self-perception.

Further, people feeling that they should do more for the environment (having higher *environmental concern*) had a negative impact on life satisfaction. When these two issues were combined it was found that

people who wanted to do a lot for the environment were happier if their lifestyle was greener. Wanting to do more for the environment led to decreased life satisfaction, but some of this negative effect was counteracted by having a self-perceived *green lifestyle*. Together, this suggests that a *green lifestyle* and *environmental concerns* are likely two different concepts, with people not conflating the two.

There was evidence of a value-action gap for some people, where self-perceptions of a green lifestyle did not match people's behaviours. In general, the more people thought their lifestyle was environmentally-friendly, the greater number of green actions people took. However, even those people who self-identified as doing most or everything in an environmentally-friendly way do not take all eleven actions listed. The actions most commonly missed by this group were ones associated with greater personal sacrifice, such as taking few flights.

Taking into account people's stable characteristics, the authors examined what drove green behaviours. They found that being separated,

unemployed or retired was associated with being more environmentally-friendly, but being in poor health or having a large family (three or more children) was linked with the reverse. These factors may affect the difficulty of the environmental behaviours, suggesting that green behaviours may be constrained by personal circumstances rather than necessarily being a conscious choice.

In conclusion, people's self-perception of their green lifestyle, rather than actual behaviour, is linked to higher life satisfaction. The likelihood of taking environmentally-friendly action varied by the task, with actions involving less sacrifice more common. This has implications for policies designed to increase green behaviours: policies are likely to be more successful if they start with behaviours that are easier to achieve, building up to more challenging changes.

The proportion of people with a self-perceived 'green' lifestyle who 'never' engage in this behaviour:

Keep the tap running while brushing teeth – 2%

Take own bag when shopping – 10%

Use public transport rather than travel by car – 34%

Decide not to buy something because it has too much packaging – 50%

Take fewer flights – 65%

ORIGINAL RESEARCH

Binder, M. and Blankenberg, A.-K. (2017) Green lifestyles and subjective well-being: More about self-image than actual behavior? *Journal of Economic Behavior & Organization*, 137: 304–323. Available at: <https://doi.org/10.1016/j.jebo.2017.03.009> [accessed 1 August 2018].

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DATA USED

Understanding Society Waves 1 and 4

Does becoming a parent make you think differently about the environment?



KEY POINTS:

Having a child led to a reduction in the frequency of some environmental behaviours.

New parents with an existing high level of environmental concern increased their desire for a green lifestyle; however, this positive change in attitude did not translate to a change in behaviour.

The findings from the research do not support the legacy hypothesis – that parents have an increased concern about the environment as they consider the environmental legacy left to their children.

Existing research suggests that psychological distance may be one of the main barriers to changing peoples' environmental behaviours. The most severe impacts of climate change are likely to be felt by future generations and, while it can be difficult to consider the long-term consequences of day-to-day actions, becoming a parent might lead to greater environmental concern as new parents begin to consider the environmental legacy they leave to their children. The authors refer to this as the *legacy hypothesis*. However, the existing evidence for this is limited.

The study utilises the longitudinal nature of the *Understanding Society* data to examine the effect of parenthood on environmental attitudes and behaviours. In particular, the authors examines how parenthood influences environmental attitudes and behaviours: i) upon the birth of a child ; ii) the birth of a firstborn child specifically ; iii) whether changes in attitudes and behaviours are different for new parents with already high levels of environmental concern; and iv) whether changes in new mothers' and fathers' behaviour differ.

The study found that having a child, irrespective of whether this was a firstborn child or not, led to a *reduction* in the frequency of some environmental behaviours. This group of parents were slightly less likely to wear more clothes instead of turning up the heating, use public transport instead of the car, or to car share with others making a similar journey. Becoming a parent for the first time was similarly linked to a small decrease in environmental behaviour: new parents switched off the lights in unused rooms less often.

Becoming a parent was generally not linked to changes in attitudes towards the environment. There was however one exception: new parents with already high levels of environmental concern showed a small increase in their desire to have a more environmentally-friendly lifestyle, but this change in attitude did not lead to changes in environmental behaviour. The gender of new parents did not affect environmental attitudes or behaviours either way.

Overall, the study found only minor changes in people's environmental attitudes and behaviours following the birth of a child. The changes in behaviours were all negative, in that people would engage less often in those environmental behaviours. The only positive change was an increase in desire for an environmentally-friendly lifestyle amongst first-time parents with already high levels of environmental concern. Across all these findings, the evidence does not support the legacy hypothesis.

Although the legacy hypothesis has an intuitive appeal, having a child also raises several barriers to leading an environmentally-friendly lifestyle, which could explain the findings of this research. New parents are likely to feel time-pressured and have new concerns. It may then be understandable that new parents may want to turn up the heating

or avoid public transport. These behaviours are consistent with the immediate need for looking after a newborn child rather than long-term sustainability.

The policy implication of this research is recognising that the transition to parenthood is not a defining life stage in relation to environmental attitudes and behaviours. The authors note that the results do not dismiss the idea of using environmental legacy to promote an environmentally-friendly lifestyles. However, additional support may be required to reduce or remove barriers for new parents to help translate environmental concern into sustainable behaviour.

ORIGINAL RESEARCH

Thomas, G. O., Fisher, R., Whitmarsh, L., Milfont, T. L. and Poortinga, W. (2018) The impact of parenthood on environmental attitudes and behaviour: a longitudinal investigation of the legacy hypothesis. *Population and Environment*, 39(3): 261-276. Available at: <https://doi.org/10.1007/s11111-017-0291-1> [accessed 1 August 2018].

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DATA USED

Understanding Society Waves 1 and 4

Does becoming a parent make you think differently about the environment?

Having a child (not necessarily firstborn), led to a reduction in the following environmental behaviours:



- Put more clothes on when you feel cold rather than putting the heating on or turning it up
- Use public transport
- Car share

POLICY IMPACT

Building a more productive society – could the industrial strategy make a difference?

The government's Industrial Strategy represents an attempt to tackle the fundamental problems with the British economy. Not only is productivity much weaker in the UK than major competitors (having virtually stalled over the last decade) but extremely large variations remain between firms in the same sector, across sectors and between places¹.

The concern about productivity comes alongside the effects of inequality, in wide-ranging areas such as income, education, health, new technology and access to quality jobs, which tend to feed off each other and may reduce overall demand in the economy and productivity².

Alternative ideas about how to promote growth and productivity that address equality (and environmental) issues are now gathering momentum, with policy makers such as the Organisation for Economic Co-operation and Development (OECD), World Bank and others, grappling with the idea of 'Inclusive Growth'. The OECD defines this as economic growth distributed fairly across society, which creates opportunities for all.

The Industrial Strategy, designed to "create an economy that boosts productivity and earning power throughout the UK", builds on "five foundations" and sets out four overarching "grand challenges" initially that could help drive forward industries of the future. A key goal is to "spread the proceeds of growth and address disparities in regional productivity"³.

London and its hinterland are prosperous on most indicators but almost of half of the UK population live in regions where productivity levels are no better than the poorer parts of the former East Germany⁴. Given the combination of low wage/low-productivity work and the most extreme level of regional inequality in Europe, a central debate around inclusive growth and the Industrial Strategy is how the foundations – covering innovation, skills, business growth and infrastructure – will play out in different places and amongst different groups in society over time.

In May 2018, *Understanding Society* held a roundtable to discuss the Industrial Strategy and Inclusive Growth. This showcased emerging research and touched on future applications of *Understanding Society*. Looking beyond traditional supply-side evidence, which tends to cover issues of education, skills or access to jobs, the roundtable examined the distributional effects of growth, innovation and entrepreneurship.

Who benefits from sectoral growth?

Research by Lee, Green and Sissons⁵ shows that there are low-paid workers in every sector of the economy but the rate is much higher in some than others, for example, Accommodation and Food Services, Residential Care, and Wholesale and Retail. They find that these patterns are structural. This means that when observable characteristics of workers such as education, age, ethnicity, gender, country of birth, region, etc. are controlled for there is still a 'sector effect' which determines low pay.

Evidence also indicates that aggregate employment growth at the local level is more important than employment growth in specific sectors in influencing individuals' wage growth. Local growth provides greater opportunities for workers to switch firms, occupations and sectors; however, such growth is also proportionately more likely to benefit those in higher skilled occupations. The challenge is getting the balance right between those sectors that could create the industries of tomorrow, and the low-paid sectors that account for significant employment – both types of sectors matter for Inclusive Growth.

AUTHOR

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Impact Fellow, *Understanding Society*

Industrial Strategy White Paper

Foundations designed to drive economic change: Ideas; People; Infrastructure; Business environment; and Place

Grand challenges designed to put the UK at the forefront of industries of the future: Artificial Intelligence and Data Economy; Clean Growth: Future of Mobility; and Ageing

Technological innovation, regional disparities and inequality

A key government objective is to raise Research & Development (R&D) investment to 2.4 per cent of Gross Domestic Product by 2027, potentially increasing annual spending to £46 billion – across business, public sector and charities⁶. Research presented at the workshop by Ciarli et al⁷, examined the effects of R&D spending on local labour markets. At the macro-level R&D spending is associated with economic growth, but whilst innovative firms also tend to hire more workers, the impact of R&D growth on local labour markets is less clear. This research found that increases in R&D spending seemed to have a low overall local employment multiplier effect – although it did appear to change the composition of employment. R&D spending spurred an increase in self-employment, although it is not entirely clear whether this was driven by opportunity or necessity.

Crucially, the effects of R&D spending also vary between different types local labour markets (defined by travel to work areas). In local labour markets with a disproportionate proportion of initial routine occupations, where technological change has not led to a strong replacement of these occupations, further innovation investments triggered a de-industrialisation process where the employment created was low-skilled and concentrated in non-tradable services. On the other hand, in areas with a low proportion of routine occupations, R&D growth increased the demand of high-skilled workers and reduced the demand of low-skill employment.

Post-crisis growth in the self-employed: volunteers or reluctant recruits?

Business dynamism and new firm formation is important for innovation, job re-allocation and the vibrancy of places – although less critical for productivity. The number of self-employed individuals since 2008 has risen by 1 million to 15.1 per cent of the labour force, with growth across all UK regions. The trend in self-employment is more pronounced amongst women⁸. Research presented by Henley⁹ examined what explains this growth in self-employment, particularly in terms of 'pull' and 'push' effects and in the context of the gig economy.

The analysis showed little evidence that recent growth in self-employment was as a result of 'pushed' effects due to weak local labour markets. The probability that an individual chose self-employment was higher where local area unemployment was lower, but the effects of the quality labour markets and higher wages were quite small. Not surprisingly, this means that the regions more likely to benefit from self-employment are those where local economic opportunities are already better. The only evidence for unemployment 'push' into self-employment was for men, who were recently unemployed or previously unemployed, and with low pay, in high unemployment locations. Within the self-employed there was a declining proportion of job creators, with women less likely to grow their businesses than men.

This evidence highlights the need for a more considered national-local approach to Inclusive Growth – not only in terms of conventional horizontal supply-side measures on education, skills and access to jobs – but developing ideas further upstream. This might just make this Industrial Strategy different from its predecessors.

How can Understanding Society help?

Understanding Society is an important resource for identifying short- and long-term treatment and policy effects related to the Industrial Strategy. The World Bank has also called for not only company level but also individual level research to inform the agenda for inclusive growth. Combining longitudinal data on employees’ education, contract status, work conditions and wage information from the survey alongside aggregate company information creates significant and exciting unique opportunities for productivity and labour market research.

NOTES

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⁵ Lee, N., Green, A. and Sissons, P. (2018) Who benefits from growing sectors? *Understanding Society* Roundtable presentation.

⁶ ONS (2018) Gross domestic expenditure on research and development, UK: 2016. Available at: <https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/researchanddevelopmentexpenditure/bulletins/ukgrossdomesticexpenditureonresearchanddevelopment/2016> [accessed 3 August 2018].

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⁹ Henley, A. (2017) The post-crisis growth in the self-employed: volunteers or reluctant recruits? *Regional Studies*, 51(9): 1312-1323.

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