

GUEST EDITORIAL

Generation X enters middle age

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Introduction

The 1970 British Cohort Study (BCS70) is an ongoing longitudinal study of people born in the United Kingdom in a particular week in 1970. It is the third study in Britain's world-renowned series of birth cohort studies, following the 1946 and 1958 birth cohorts. Whereas the 1958 cohort were part of the 'lucky generation' of post-war baby boomers, the 1970 cohort represent 'Generation X', a term popularised by Douglas Coupland's novel (Coupland, 1991), which portrays this generation struggling with anomie and uncertainty. Compared to the generations born in 1946 and 1958, the 1970 cohort were subject to an era of economic and labour market transformation and turbulence (Ashton and Bynner, 2011), and experienced growing socio-economic inequalities (Goodman and Webb, 1994, Hood and Joyce, 2013). They can be seen as entering middle age with a degree of reluctance, as child-bearing has been delayed to later ages compared to previous generations. The notion that this generation is more troubled than the previous generation gains some support from the higher levels of mental distress reported by the 1970 cohort members at age 42. This special issue asks how this generation is faring in mid-life, and addresses a diverse range of themes including social mobility, obesity and religion.

This introduction is presented in three parts. First, we provide an overview of the social and historical context in which the 1970 cohort have lived and some of the differences between the 1970 cohort and the other British cohorts. The aim here is to provide contextual information to support data analysis and interpretation for researchers who are

less familiar with the national historical context in which the BCS70 cohort members have lived their lives. Second, we provide information on the history of the study, and on the data. Third, and finally, we give a summary of the papers presented in this special issue.

Historical context

Politics and Economy

The 1970 cohort were born at a time of low unemployment (3%), but this was also a time of deindustrialisation and industrial strife. Strike action led to a three-day week in 1973-4. Continuing industrial unrest culminated in the 'winter of discontent' in 1978-9. From a child's-eye view, this was a time of blackouts and candlelit evenings.

In 1971, as BCS70 approached their first birthdays, Britain gave up pounds, shillings and pence in favour of a decimal currency. Britain joined the European Community (EC) in 1973. This became the European Union in 1993.

The 1970s also saw the dawn of the troubles in Northern Ireland. Fourteen unarmed protesters were killed in Derry on Bloody Sunday in 1972. The troubles made their mark on BCS70. Northern Ireland was included in the birth survey, but dropped thereafter.

Margaret Thatcher became Britain's first female Prime Minister in 1979, when the cohort members were nine years old. She won three terms in office, remaining in power from 1979 to 1990, when the cohort members were 20 years old. As such, she defined the era politically, and those growing up in the 1980s were often known as 'Thatcher's

children', implying that they were defined by the individualistic and materialistic attitudes summed up in Thatcher's famous statement that there is 'no such thing as society'.

Under the pressures of technological transformation and globalisation the period was also marked by a massive restructuring of employment as traditional manufacturing industries associated with coal and steel lost out to the more efficient high tech driven industries of the 'tiger economies' of the far East. The consequence was a breakdown of the customary transition routes to adulthood to be replaced by a mishmash of extended education and national training schemes. These originated from the Thatcher government's 'New Training Initiative' (1991) promoted to equip young people with the skills employers needed and imbued with risk and uncertainty (Banks et al., 1991). The outcome, finally, was a return in 1986 to the much maligned and discarded (now 'modern') apprenticeship, which has lasted ever since.

The worldwide recession of the early 1980s added to this labour market upheaval, leading to high unemployment, breaking the three million barrier in 1982. Young people in the BCS70 cohort entering adolescence paid a particularly high price in terms of later joblessness. High levels of social unrest were evident at the time, as shown for example by the Brixton riots of 1981.

Nevertheless, the Falklands war helped to propel Thatcher to a landslide election victory in 1983. The Thatcher government marked the end of the post-war corporatism and consensus, and the start of an increasingly economically unequal society. Extensive privatisation of state-run industries took place, including the sell-offs of the electricity, gas and water industries and the railways. Council housing was also sold off and private home ownership promoted (35% of cohort members were living in council housing at age five). House prices rose dramatically both during the 1980s and subsequently, with consequences for the 1970 cohort — at age 42, the number of home owners was lower among BCS70 cohort members than it had been for the cohorts born in 1958 or 1946 (Table 1), with an increase in private renting. The miners' strike of 1984-1985 emphasised Thatcher's determination to break the trade unions. Internationally, this period saw a strong alliance between Thatcher and US President Ronald Reagan,

and a reawakening of Cold War tensions with the Soviet Union.

As the 1970 cohort entered their late teens, the economy recovered with the 'Lawson boom' of the late 1980s. A Poll Tax (i.e. a fixed tax per head) was introduced in 1990, replacing local taxes based on property values. This proved extremely unpopular, and difficult to enforce, with high rates of non-payment. Demonstrations against the Poll Tax in 1990 were followed by rioting. Thatcher stood down as Prime Minister in 1990, after losing the support of Conservative MPs. She was replaced by John Major. The period 1990-1993 was marked by another long recession. This came at an important time for the cohort members, many of whom would have been relatively new entrants to the labour market or, in the case of university graduates, entering it for the first time. Despite the economic slump, John Major won the 1992 General Election, which was the first general election that cohort members were eligible to vote in, at age 22. Internationally, 1992 saw the fall of the Berlin wall, symbolising the end of the Soviet bloc. Major initiated the peace process in Northern Ireland, which ultimately culminated in the Good Friday agreement in 1998, marking an end to the Troubles. After nearly twenty years in opposition, the Labour Party, led by Tony Blair took power in 1997, when the cohort members were 27 years old. The leadership had rechristened the party 'New Labour' to emphasise its turn away from the left-wing policies of the past. The period from 1997-2008 was characterised by economic growth and relatively low unemployment, despite the bursting of the dot-com bubble in 2000. In the early 2000s, the Blair government embarked on costly wars in Iraq and Afghanistan. The international financial crisis of 2008, originating in the banking collapse, and the subsequent recession, ended the long period of economic stability. Labour lost power in the general election of 2010, but the Conservatives did not win an outright majority, and entered government in coalition with the Liberal Democrats. By 2015, real incomes for working-age people were still below their 2007/2008 levels (Cribb, Hood and Joyce, 2015).

Education

Following the Plowden Report (Plowden, 1967) 'progressive' teaching methods were fashionable yet controversial in primary education during the

1970s. Familiar debates about academic selection and 'falling standards' raged during this period, including in a series of 'Black Papers' attacking comprehensives, egalitarianism and progressive teaching methods. Labour Prime Minister Callaghan called for a 'great debate' on the nature and purposes of education in a speech at Ruskin College in 1976. Many of the concerns he raised are still unresolved: high levels of poor basic skills among the British population, poor standards of numeracy among school-leavers, and poor take up of science and technology subjects, especially among girls.

For all the education debates of the 1970s, the school system that the 1970 cohort experienced was remarkably little different from that experienced by the previous generation born in 1958. The Grammar and Secondary Modern schools had continued their slow decline, and the vast majority of the cohort attended comprehensive schools intended for all abilities. Nevertheless, the old two-tier system of examinations at age 16 remained in place. Pupils who were deemed academically able enough took O (Ordinary) levels, while the less able took CSEs (Certificate of Secondary Education). Aligned with the development of youth training, vocational qualifications were overhauled in 1986 leading to the advent of the subsequently marginalised National Vocational Qualifications (NVQs).

The unified GCSE (General Certificate of Secondary Education) system was introduced in 1988, two years after the 1970 cohort would have taken their exams. A high proportion (54%) of the 1970 cohort left school at age 16, and for those who continued, the academic track A (Advanced) level course remained. This highly specialised path meant that pupils typically took only three academic subjects between the ages of 16 and 18.

Teacher pay was eroded in real terms from 1980 onwards. Long-running strike action over pay began in 1984 and culminated in an all-out strike in 1986. The long-term action included a 'work to rule' whereby out-of-hours sporting and cultural activities were not provided. The education of cohort members and their participation in wider activities was affected, although the coverage of the strike varied between schools. Fieldwork for the age 16 wave of BCS70 was unfortunately greatly disrupted by the strike.

Those cohort members who qualified for university entrance would typically have done so at age 18 in 1988. The proportion of the cohort gaining a degree by age 42 seems low by contemporary standards (25%), yet is much higher than it had been for those born in 1958 and 1946 (Table 1). Cohort members faced a two-tier higher education system made up of universities (high status) and polytechnics (lower status). This divide was abolished by the 1992 Education Act, also signalling a shift from elite to mass higher education. So, both at school and at university, the 1970 cohort missed being affected by the major educational reform acts of their era by a few years.

Technology

Televisions were affordable in the 1970s, and the 1970 cohort grew up with television as an accepted part of family life. However, there were only three TV channels until Channel 4 was launched in 1982, and the 1970 cohort did not grow up with TV available all day. Breakfast television was first launched in 1983. The 'test card' featuring a girl and clown which showed during downtime in the BBC schedule remains an iconic image of a 1970s childhood. 1970s children had to find things other than TV to occupy much of their time.

The cohort has experienced extraordinary levels of technological change across many domains. As teenagers they listened to electropop cassettes on their Sony Walkmen. They taped the first episodes of Eastenders on their brand new video recorders. However, the most notable change has been the revolution in computing and IT. Home computers came into the mainstream in the early 80s. The ZX Spectrum computer came onto the market in 1982, and many of the boys (but fewer girls) of the 1970 cohort would have owned one of these inexpensive machines, which were mostly used for games. BCS70 cohort members would have used pen-and-paper for all their schoolwork and for their university essays in the early 1990s. However by age 34 in 2004, 75% of them were using computers at work. The internet became hugely important commercially with the dot-com boom of the late 90s. Almost all (97%) of cohort members had internet access at home at age 42.

Women and families

The sex-discrimination act of 1975 outlawed discrimination against women by employers. Women's labour market participation increased

greatly in the 1970s and 1980s, and mothers of the 1970 cohort members were more likely to have worked during their children's infancy and early childhood than was the case for earlier generations. The girls of the 1970 cohort achieved equal levels of school success as the boys, and were similarly likely to obtain a university education (25% in men and 25.5% in women; Table 1). Compared with earlier cohorts, the BCS70 women had greater labour market opportunities. However, the gender pay gap has remained (Joshi, Makepeace and Dolton, 2007). The roles of men and women have changed dramatically. The majority of the 1970 cohort grew up in 'intact' two-parent families (80% lived with both of their natural parents at age 16). However, family structures and relationships in mid-life are more heterogeneous for this cohort than for previous cohorts, with increased divorce and single-living. Many of this generation delayed childbearing, so they are more likely to have young children than previous generations in early mid-life.

Lifestyles and health

While advances in medicine have enabled a greater capacity to treat both infectious and chronic diseases, societal changes have affected lifestyles in ways that have not always been beneficial for health. Compared with cohorts born in 1958 and 1946, the 1970 cohort were more frequently exposed to smoking during pregnancy, less likely to have been breastfed, yet less likely to have contracted measles as children, due to the availability of the measles vaccine (Table 1). This cohort experienced the rise of convenience foods during their teenage years in the 1980s, increased car ownership and declining activity levels, increased alcohol consumption (especially among women), but lower levels of smoking (Schoon and Parsons, 2003). During childhood, they were no

more likely to be overweight than the previous cohort, born in 1958. However, by the age of 16, BCS70 were fatter than teenagers of previous generations. How adult health in the BCS70 compares with previous cohorts warrants careful empirical study and is likely to depend on the component of health considered. For example, malaise scores (capturing psychological distress) were higher in the BCS70 than the 1958 cohort (Table 1), suggesting that mental health may have worsened, although these differences may be explained by cohort differences in the propensity to report psychological problems.

Demography

Whereas the 1958 and 1946 cohorts were part of the 'baby boomer' generation, by 1970, the total fertility rate had fallen to 2.4. Unlike previous cohorts, the mothers of the 1970 cohort had access to the contraceptive pill and to abortion via the 1967 abortion act. However, the proportion of participants with at least one child by age 42 was only slightly lower in BCS70 than in it had been in the 1958 cohort (Table 1), suggesting that the idea of an increase in 'child-free' living for this generation has been exaggerated.

When the 1970 cohort was born, immigration was low and the proportion of ethnic minorities was very small (4%). Immigration has subsequently risen dramatically, resulting in a very different ethnic profile, even among the general population of the same age as BCS70, but particularly among younger people. The UK population in 1970 stood at 55.66 million. By 2000 it had increased to 58.9 million, but by 2012 it had shot up to 63.7 million (Source: ONS). This increase was driven in part by open borders within the EU, which expanded to include Eastern European countries in 2004.

Table 1.

	NSHD (1946 cohort)			NCDS (1958 cohort)			BCS (1970 cohort)			MCS (2000 cohort)		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
Child characteristics												
Smoked during pregnancy				33.7%	33.6%	33.6%	46.2%	46.1%	46.2%	36.3%	35.1%	35.7%
Ever breastfed	75.9%	74.7%	75.3%	67.7%	69.0%	68.3%	35.8%	36.6%	36.2%	67.1%	66.8%	67.0%
Measles by 10 or 11	88.2%	89.7%	88.9%	91.9%	92.6%	92.2%	50.0%	49.8%	49.9%	12.4%	11.2%	11.8%
Adult characteristics – Age 42/43 for NSHD												
High malaise (Age 42)*				9.6%	16.3%	13.0%	16.0%	20.2%	18.2%			
Lives with spouse	81.0%	81.3%	81.2%	69.1%	69.3%	69.2%	59.2%	58.7%	59.0%			
Lives with cohabiting partner	6.0%	3.8%	4.9%	11.5%	11.5%	11.5%	17.6%	16.0%	16.7%			
Lives with no partner	13.0%	14.9%	13.9%	19.5%	19.2%	19.3%	23.2%	25.3%	24.3%			
Has at least one child	83.3%	89.1%	86.2%	77.5%	82.8%	80.2%	74.4%	81.1%	77.9%			
Has a degree	11.2%	6.0%	8.7%	19.4%	16.2%	17.8%	25.0%	25.5%	25.3%			
Homeowner (mortgage paid or owed)	80.9%	81.8%	81.4%	81.4%	79.9%	80.6%	73.8%	73.8%	73.8%			

*based on the 9 item malaise scale; high malaise = a score of more than 4 out of 9

Note: estimates for the 1946 cohort were weighted to account for the stratified sampling design.

History of the study

BCS70 is a multi-purpose and multi-disciplinary study which has collected detailed information from cohort members on many different aspects of their lives. The birth survey was medically focused, but with each follow-up the scope of enquiry has broadened. The early surveys at five, ten and 16 tracked the physical, social and educational development through childhood and into adolescence. Adult sweeps have gathered information about all of the key domains of life including housing; cohabiting relationships; fertility and births; children and wider family; family income and wealth; economic activity; life long learning (qualifications achieved and training); health and health behaviours and social participation. Response rates at each follow-up are presented in the first paper in this issue by Mostafa and Wiggins.

BCS70 began as the British Births Survey (BBS), with information collected about the births and social circumstances of over 17 000 babies born in England, Scotland, Wales, and Northern Ireland (Elliott and Shepherd, 2006). A questionnaire was completed by the midwife who had been present at the birth and, in addition, information was extracted from clinical records. The study aimed to examine the social and biological characteristics of the mother in relation to neonatal morbidity. The BBS was sponsored by the National Birthday Trust Fund in association with the Royal College of Obstetricians and Gynaecologists. The founding Principal Investigator (PI) was Roma Chamberlain, and the study was based at the University of Bristol. Fieldwork was funded by the Medical Research Council, National Birthday Trust Fund, Department of Health and Social Security and Royal College of Obstetricians and Gynaecologists. After the initial birth survey, Northern Irish participants were dropped from the sample.

Sub-studies were carried out at 22-months and 42-months as part of a project known as the British Births Child Study, 1972/73. This was designed to explore the effects of foetal malnutrition on the development of the child. These sub-studies involved a 10% random sample alongside all twins, post-mature and growth retarded births to married mothers. A number of publications reported specifically on the sub-studies (Chamberlain and Davey, 1975; 1976; Chamberlain and Simpson 1977; 1979).

The study remained at Bristol for the age five and

ten follow-ups, with Neville Butler coming in as PI. In 1975 and 1980 parents of the children in the study were interviewed by health visitors, and information was gathered from the child's class teacher and head teacher, from the school health service, and from the children themselves. The 1975 wave was funded by the Medical Research Council. The age ten survey had a range of funders: Joseph Rowntree Memorial Trust, Department of Education and Science, Department of Health and Social Security, Manpower Services Commission and National Institute of Child Health and Development.

In 1986, Neville Butler left Bristol University and set up his own charity, the International Centre for Child Studies (ICCS). Controversially, he removed all the BCS70 records and control of the study to ICCS. Neville Butler was an energetic and well-connected fundraiser for the survey. His personal friends included Margaret Thatcher, and his fundraising parties at the Dorchester and Claridges were attended by aristocrats such as the Marquess of Bath. A news release (Butler, 1984) featuring the text of a speech given by Neville Butler at the London Stock Exchange provides an insight into these fundraising activities. Robert Maxwell spoke at the event and donated a covenant of £5,000 yearly for seven years.

The 1986 follow-up of BCS70 was known as 'Youthscan' and comprised 16 separate survey instruments, including parental questionnaires, class teacher and head teacher questionnaires, and medical examinations. In addition to completing educational assessments, the cohort members themselves answered questionnaires on a wide range of different topics and were asked to keep two four-day diaries, one on nutrition and one on general activity. It was originally planned to trace cohort members in time to interview them at 15.5 years old, well before the minimum school leaving age. Unfortunately, industrial action by teachers, who were responsible for the educational tests, meant that the survey was delayed, and resulted in incomplete data collection from schools.

Through 1989 Neville Butler was in discussion with John Bynner and colleagues at the Social Statistics Research Unit (SSRU), City University about the future of BCS70, and in 1991 SSRU took over responsibility for the study with John Bynner as director. At this point, no data had been deposited with the Economic and Social Research

Council (ESRC) since the age five wave (the deposit of the age five data had been brought together by Jean Golding, who later became founding director of the Avon Longitudinal Study of Parents and Children (ALSPAC)). With funding from ESRC, SSRU made a commitment to deposit the later data. BCS70 moved from the International Centre for Child Studies (ICCS) to SSRU in 1991. In 1998, SSRU moved from City University to the Institute of Education (now UCL Institute of Education) to become the Centre for Longitudinal Studies (CLS) with Director John Bynner becoming PI of both BCS70 and the National Child Development Study (NCDS) until his retirement in 2003.

A 10% sub-sample follow-up of BCS70 was carried out in 1991 directed at the basic skills of cohort members and funded by the Adult Literacy and Basic Skills Unit and the Paul Hamlin Foundation. A postal follow-up of the full cohort was conducted in 1996 when study members were aged 26. This survey was funded primarily by ESRC, and ESRC has consistently supported the study subsequently.

In 2000, BCS70 combined with NCDS to undertake, for the first time, a joint survey, funded by ESRC. This simultaneous survey of the BCS70 and NCDS cohorts was undertaken to facilitate comparisons between these two groups born 12 years apart (Ferri, Bynner and Wadsworth, 2003). This study restored the BCS70 sample to over 11,000 and established a baseline for the scientific content of the adult surveys, ensuring that all major life domains were covered. Heather Joshi, Director of CLS from 2003, took over responsibility as PI from 2003-2004, and Jane Elliott took over as PI subsequently.

The age 34 wave carried out in 2004 was a full interview-based survey of the cohort and incorporated a component of basic skills assessment funded by the government-established National Research and Development Centre for Adult Literacy and Numeracy (NRDC) based in CLS. The survey also included an NRDC-funded 'Child Study', involving collection of data from 50% cohort members and their children via self-completion questionnaires and assessments. The age 38 follow-up took the form of a 30 minutes telephone survey. In 2010, Alice Sullivan became PI for the age 42 survey, which consisted of a one hour face to face interview and a self-completion questionnaire conducted in cohort members' homes. As well as

collecting details about key experiences and circumstances since the time of the prior interview, the age 42 survey covered a range of new topics including career help from parents and other family and friends, an assessment of vocabulary, sexuality, class identity, childlessness, reading preferences, television watching and belief in God.

There are a number of books that provide a useful general introduction to health data in the early waves of the study. The birth sweep provided a valuable insight into patterns of obstetric and neonatal care in the United Kingdom (Chamberlain, Philipp, Howlett & Masters, 1978; Chamberlain, Chamberlain, Howlett & Claireaux, 1975). The birth and five-year findings relating to health were discussed in Butler, Golding and Howlett (1986), and general findings from the first two sweeps were also outlined in Osborn, Butler and Morris (1984). The age 26 survey is reported in Bynner, Ferri and Shepherd (1997). More recently, Ferri, Bynner and Wadsworth (2003) have provided an overview of intergenerational changes between the 1946, 1958 and 1970 cohorts, including changing health and lifestyles. Wadsworth and Bynner (2011) provide the complementary historical context for all three British birth cohort studies over the period since the end of the second world war.

Future Plans

The next follow-up will take place in 2016 when cohort members will be aged 46 and will take the form of a biomedical survey conducted by nurses. The biomedical follow-up will provide an invaluable resource for investigating the longitudinal predictors of health in mid-life. It will also provide a baseline for research on ageing, as risk factors will be measured prior to functional decline and disease becoming apparent. The survey will address the major public health agendas faced by this generation, including obesity, sedentary lifestyles, and mental health and wellbeing. Many of the planned measures were included in the biomedical follow-up of the 1958 cohort (NCDS) which took place in 2002-3 when cohort members were aged 44-45 meaning that cross-generational comparisons will be possible.

Planned measures include anthropometric measurements (height, weight, waist measurement and hip measurement), physical functioning (grip strength and standing balance), blood pressure and resting heart rate, and cognitive assessments.

Blood will be collected for a full range of future analyses. A 45 minute interview is planned, which will include the core content covered in all adult sweeps and additional detail on mental and physical health and health behaviours.

It is currently planned that future follow-ups will occur at 50 and then every five years thereafter.

Papers

Missing data

Our special issue opens with a consideration of the important issues of attrition and non-response in birth cohort data. Mostafa and Wiggins consider the extent of non-response in BCS70 and its effect on the composition of the sample between 1970 and 2012. They find that, although men from lower social class backgrounds and with less educated parents are less likely to respond, at a statistically significant level, the predictive power of their non-response models is weak. The authors illustrate the use of weights and Multiple Imputation respectively to address the problem of differential non-response. Using predictors of non-response to construct non-response weights does not improve the efficacy of the illustrative models presented in the analysis, largely because the predictors are weak. This paper presents the case that Multiple Imputation provides a superior solution, enabling the researcher to restore sample size with partial information, and coming closest to the 'benchmark' model with complete data in terms of parameter estimates and standard errors.

Mostafa and Wiggins emphasise the importance of making best use of the available data for longitudinal analysis. With each wave of data collection, attrition increases, and for longitudinal analyses exploiting several waves of data, problems due to wave and item non-response can multiply. The option of ignoring cases with partial information therefore becomes increasingly untenable over time, particularly for those who wish to exploit the rich data available and to take a genuine life course perspective. For researchers using BCS70 data, the possibilities of using Multiple Imputation are particularly exciting given the variable levels of response in past waves, and high levels of instrument non-response in the 1986 wave in particular.

Obesity

Costa, Johnson and Viner examine trajectories

into overweight and obesity by age 42. Only a minority (30%) of the cohort had never experienced overweight or obesity at age 42. For this generation, only a small group (6%) became overweight or obese by age ten. The most common pattern was for individuals to become overweight or obese in early adulthood, i.e. at age 26 to 30, and remain overweight by age 42 (44%). However, stark gender differences were apparent. A majority of men (63%) became overweight or obese in early adulthood, compared to 31% of women. Only 15% of men never experienced overweight or obesity up to age 42, compared to 40% of women.

Although only a minority of this cohort actually became overweight as children, the childhood roots of adult overweight and obesity were made clear by this analysis. Both the mother's and the father's Body Mass Index (BMI) when the cohort member was a child predicted not just childhood overweight and obesity but also early-adulthood onset overweight and obesity. A high social class position (either parent having a professional or managerial job) during childhood was a protective factor against overweight and obesity, while evidence of early puberty (by age ten) substantially increased the risk of early-adulthood onset overweight and obesity.

Vocabulary

The paper contributed by myself, Alice Sullivan, and Matt Brown, examines vocabulary development between adolescence (age 16) and middle age (age 42). We build on earlier work where we examined the role of reading in progress in vocabulary and mathematics between the ages of ten and 16 (Sullivan & Brown, 2015 in press). The age 16 vocabulary test was repeated at age 42 – the first time that one of the childhood cognitive tests has been repeated in adulthood. We found that, on average, cohort members' vocabulary scores increased substantially between the ages of 16 and 42.

We examined the role of reading habits both in childhood and adulthood in predicting this vocabulary growth. In adulthood, we were able to examine the genres of books that the cohort members read as well as how much they read. Both the quantity and quality of reading varied enormously according to educational level. We were interested to discover a large cultural divide in the types of books that graduates of Russell Group

and other universities read. For example, nearly half (48%) of Russell Group graduates read 'contemporary literary fiction' compared to nearly a third (30%) of graduates of other universities.

We found that reading habits in both childhood and adulthood influenced vocabulary development between the ages of 16 and 42. In adulthood, the type as well as the quantity of reading was important, those who read high-brow novels made the greatest vocabulary gains. High levels of post-16 educational and occupational attainment were also linked to high vocabulary gains between 16 and 42.

Social mobility

Much attention and debate has focussed on the levels of social mobility experienced by the 1970 cohort as compared to past generations. Gutierrez, Micklewright and Vignoles' paper examines one of the potential mechanisms through which parents pass their advantage (or lack thereof) on to their children. To what extent do social networks and assistance from parents, other family and friends make a difference to people's labour market chances?

At age 42, the cohort members were asked a retrospective question on help received from parents, family and friends in getting a job. The types of help that they were asked about included providing advice, recommending the cohort member to an employer, directly employing them, and helping them to get a job via their social networks. The authors found that there was a clear social gradient in the levels of parental help received, with those from higher social class backgrounds receiving more help. However, the results show that those who received parental help did not have higher earnings or higher social class positions at age 42 than those who did not report receiving any help. This may be because not all help is equally beneficial. Those cohort members who reported that the help they had received had been important to their careers did have higher earnings than those who reported that their parents' assistance had not contributed to their careers.

Religion

The final paper in the special issue reports on 'The mysteries of religion and the lifecourse'. For the first time, the 2012 survey asked cohort members questions about belief in God and life after death, alongside questions about religious

affiliation and practice, which have been asked previously.

Voas's paper reveals the apparent unreliability over time of cohort members' responses on religion. Between 2004 and 2012, nearly a quarter of people changed their minds about whether they had been raised in a religion. Between 1996 and 2012, more than a quarter changed whether they saw themselves as belonging to a religion. This must give us pause for thought as survey researchers. When measuring something which respondents may have vague ideas about, small changes in question wording or context can have an enormous effect on the apparent findings.

Belief in God was gauged by asking cohort members: 'Which of these statements below comes closest to expressing what you believe about God?'. The responses were: I don't believe in God (22%); I don't know whether there is a God and I don't believe there is any way to find out (21%); I don't believe there is any way to find out (21%); I don't believe in a personal God but I do believe in a Higher Power of some kind (14%); I find myself believing in God some of the time but not others (12%); While I have doubts, I feel that I do believe in God (19%); and I know God really exists and I have no doubts about it (12%). Nearly half of cohort members (48%) believed in life after death, but belief in God and life after death did not always go together. For example, only two thirds of those who believed in God with no doubts also said that there was definitely life after death, while 26% of agnostics believed in the hereafter. Voas also finds that those who say they have a religion do not necessarily mean that they believe in God. Among mainline Protestants (Church of England, etc.) only nearly half (48%) believed in God with the remainder expressing various shades of agnosticism or disbelief. The religious beliefs of the British appear far too muddy to give much comfort to either the established churches or advocates of clear-sighted atheism.

A striking finding from this analysis is the large gender gap in belief. 54% of men reported atheist or agnostic views, compared to 34% of women. Why this should be the case remains an unresolved question. But we can look forward to BCS70 being used increasingly as a resource to help us to understand the predictors of religious belief as well as its consequences later in life.

Conclusions

The papers presented in this special issue give some idea of the wide range of topics and questions that may be addressed using BCS70 data. Rather than presenting the final word on any of these

subjects, the aim has been to promote the possibilities of the survey, and encourage as wide as possible a range of researchers from all disciplines to consider how they could exploit this rich resource.

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