

Social
Research
Association

Issue 4
Summer 2017

Social Research Practice

The SRA journal for methods in applied social research



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Editorial

Richard Bartholomew

Editor

*Welcome to the fourth issue of **Social Research Practice**, the SRA's journal for methods in applied social research.*

We are committed to featuring the full range of social research methods, especially innovative ones, and this issue is no exception.

Firstly, Gavin Brookes and Tony McEnery explore the potential of corpus linguistics as a means for conducting quantitative analysis of large volumes of qualitative data such as online feedback obtained from NHS patients. By using specialist computer programs, it is possible to understand very sizeable datasets whilst at the same time avoiding systematic bias in the texts selected for analysis. Corpus linguistics appears to offer an interesting new tool for social scientists to enable them to make good use of the ever-growing quantity of online opinion data. But the authors rightly point out that that cannot be the whole story. This type of analysis can identify key patterns and trends but it still needs careful, theory-sensitive interpretation to make sense of what is being observed.

Sioned Pearce and Stuart Fox discuss the scope for using film as a research method more widely in the social sciences beyond its traditional domains of anthropology and ethnography, particularly in the political sciences where film has been used relatively little. They argue the case for researcher-led approaches to using film which can help test questions and hypotheses on political views and opinions in order to complement conventional quantitative research. Very topically, their paper is based on their recent research on young people's attitudes to Brexit and its impact on their broader engagement with politics and civil society. One of the intriguing features of using film as a research method is the extent to which, by recording an interviewee's body language, facial expressions and tone, it can add depth to, or even alter, the interpretation of what is being said.

Cathy Street and colleagues explore the challenges involved in developing an action research approach to an area of mental health services where the nature of those services and the roles and definitions of 'transition workers' vary from area to area and between services. Action research may be the only feasible way of making sense of what is a very fluid and evolving environment.

In our final article, John D'Souza and colleagues scrutinise critically the common practice in face-to-face random probability surveys of reissuing the names of a subset of non-responders in order to boost the overall survey response rate. Whilst this almost invariably does increase response, the authors question how far it is actually a cost-effective way of significantly reducing non-response bias, which is the main component of survey error. In focusing so much on response rates have we perhaps lost sight of the main purpose behind trying to minimise non-response? Using the Citizenship Survey as a case study, the authors identify the conditions under which reissuing is likely to be worthwhile or not worthwhile.

We are keen to have a regular flow of new articles. For subsequent issues we plan to experiment with a series of shorter 'research notes' of between 1,000 and 1,500 words. These will be in addition to our standard-length articles of between 2,500 and 4,000 words. The research notes will be suitable for short reports on work in progress or specific innovations and experiments which, although not yet fully trialled, may be of interest to other researchers. The notes may lead to fuller articles in due course or may simply report points of interest which would not be suitable for a longer article.

We will publish our fifth issue in early 2018. If you are interested in offering a research note or a full article for Social Research Practice, please visit the dedicated page of the SRA website <http://the-sra.org.uk/journal-social-research-practice/> where you can read the guidelines for authors and download the template for articles. If you have an idea for an article but are not sure if will be suitable, just drop me a line: rabartholomew@btinternet.com

How to interpret large volumes of patient feedback: methods from computer-assisted linguistics

Gavin Brookes, University of Nottingham and Tony McEney, Lancaster University

Abstract

In this article, we demonstrate how methods from corpus linguistics can be used to interpret large collections of patient feedback. Using a series of established corpus linguistic techniques, this study examines the key areas of concern in 29 million words of online patient feedback about the National Health Service (NHS) in England. Focusing on the theme of staff rudeness, our analysis shows how the power of computer-assisted textual analysis can be fruitfully synthesised with fine grained, human-led analyses to develop a more refined picture of the complex ways that patients evaluate healthcare services in their comments. We argue that, by affording the opportunity to study large collections of authentic language data, corpus linguistics methods can facilitate the types of objective and empirical approaches to large datasets that are now commonplace in the domain of evidence-based health communication research.

Introduction

This article will show how techniques from corpus linguistics can aid the interpretation of large amounts of qualitative patient-feedback data. Corpus linguistics is a collection of methods that involve using specialist computer programs to study language in a large body of machine readable text (a corpus, plural: corpora). Corpus approaches to linguistic analysis usually involve synthesising qualitative perspectives on language (for example discourse analysis) with quantitative computational techniques (for example frequency information) which are capable of rapidly and reliably identifying the most frequent and statistically salient linguistic patterns in the data. Computational assistance of this type means that corpus linguistics methods are able to deal effectively with sizeable datasets, which often run into millions, and sometimes even billions, of words. Corpus linguistics methods can add a degree of objectivity to linguistic analyses because they advocate a principle of methodological transparency in terms of two important principles: (i) no systematic bias in the selection of texts included in the corpus (that is do not exclude a text because it does not fit a pre-existing argument or theory); and (ii) total accountability (all data gathered must be accounted for) (McEney and Hardie, 2012).

In this article, we argue that established corpus linguistics methods can enrich the human interpretation of large collections of qualitative patient feedback, yielding insights which can inform the future practices and pedagogy of healthcare professionals. It should be noted, however, that the techniques used in this paper can be applied fruitfully, in principle, to any textual data. The focus on patient feedback is both about presenting new findings about patient feedback and showcasing the methods corpus linguists use for textual analysis.

The paper begins by introducing patient feedback, paying attention to the challenge facing healthcare providers of interpreting and extracting useful insights from large volumes of patient feedback. We then narrow our focus to the specific context on which this study is based, the National Health Service (NHS) in England, introducing the aims and objectives of the project that motivated our analysis. We go on to introduce a series of standard corpus techniques useful for interrogating substantial volumes of language data,

before demonstrating their utility by showing how a corpus-assisted approach can be useful for identifying and examining the salient themes emerging from a large collection of online patient feedback. The article concludes with a reflection on the utility of corpus linguistics methods for studying the linguistic routines of patients providing feedback on healthcare services, as well as language in healthcare contexts more broadly.

Background

Patient feedback

Since the 1990s, patient feedback exercises have been used routinely by healthcare providers the world over to monitor and regulate the quality of the services they provide (Vingerhoets et al, 2001). In England – the context of our data – it is now a legal requirement that all NHS trusts collate feedback on their services and report the outcomes of that feedback annually to the national regulatory body, the Healthcare Commission. To NHS trusts in England and other nations, the insights gleaned from patient feedback play an important role in monitoring and improving the standards of their services, as well as in demonstrating that those services represent value for public money – a concern that is particularly pressing in countries like the UK where all areas of social provision (including primary care) face cuts in government expenditure.

Healthcare providers can obtain feedback about their services from patients using any of a number of methods, including face-to-face and telephone interviews, postal questionnaires, comment boxes and online questionnaires (Ziebland and Coulter, 2013). The present study focuses on feedback in the form of online comments submitted to the NHS Choices online service. Online methods of feedback offer several advantages over offline methods. For example, the internet is relatively accessible in contemporary society: it does not require the person giving feedback to be physically present at the healthcare site beyond the duration of treatment. It also allows providers to collect, manage and store large amounts of feedback digitally, with relative ease, in comparison to managing thousands of copies of completed paper questionnaires or comment slips.

The convenience of online methods of feedback provision is, therefore, advantageous for both patients and healthcare providers. The former are able to post comments in their own time and from the comfort of their own homes, while the latter are able to fulfil their legal commitment to obtain and monitor feedback with relative ease and at lower cost. The added convenience that the internet brings with it as a medium of patient feedback means that, over the course of months and years, a healthcare provider like the NHS, which serves millions of people, accrues hundreds of thousands of comments about its services. However, the task of collecting and storing data in such large quantities is considerably easier than meaningfully interpreting it. Corpus linguistic methods are well suited for meeting this challenge.

The ‘Beyond the checkbox’ project

The analysis reported in this article relates to a recent project undertaken within the ESRC Centre for Corpus Approaches to Social Science (CASS) at Lancaster University entitled: ‘Beyond the checkbox – understanding what patients say in feedback on NHS services’¹. The purpose of this project was to help the NHS to better understand the results of the patient feedback it gathers to aid service improvement. As part of this project, we accessed comments submitted to the NHS Choices online service over a period of 2.5 years (March 2013 to September 2015). These comments relate to a wide range of healthcare organisations including acute trusts, care organisations, care providers, clinical commissioning groups (CCGs), clinics, dentists, GP practices, hospitals, mental health trusts, opticians and pharmacies (see table 1). This constitutes a large amount of data: 228,113 comments, amounting to approximately 29 million words of patient feedback. In this article, we refer to this dataset as the NHS Comments Corpus (NHSCC).

¹ Economic and Social Research Council; grant number: ES/K002155/1.

Table 1: Breakdown of comments in the NHSCC

Section	No. of comments	Word counts	Mean words per comment
Acute trusts	1,022	159,385	156
Care organisations	6	1,164	194
Care providers	4,493	422,133	94
CCGs	1	253	253
Clinics	2,887	400,813	139
Dentists	41,958	4,306,698	103
GP practices	111,318	14,093,437	127
Hospitals	55,145	8,605,580	157
Mental health trusts	565	111,557	197
Opticians	1,734	179,493	104
Pharmacies	8,984	690,629	77
All sections	228,113	28,971,142	146

As a body of patient feedback, the NHSCC represents a significant advancement on existing datasets of its type in several ways. It is considerably larger than any collection of patient feedback examined in existing research, which has tended to account for patient comments in the hundreds and, at the most, in the tens of thousands (see for example Raleigh et al, 2009; Lagu et al, 2010; López et al, 2012). The NHSCC also contains feedback relating to a wider range of healthcare organisations than has been explored in previous studies, which tend to focus on one area of provision in particular (Platanova et al, 2008). Furthermore, whilst most systematic analyses of patient feedback have focused on data collected during the 1990s and early 2000s, the NHSCC contains comments made as recently as September 2015. Despite its advantages over previously studied collections of patient feedback, it should be borne in mind when interpreting the results of the analysis that the NHSCC represents comments posted by – and so the impressions and concerns of – a self-selecting sample of patients who have the capability and inclination to provide feedback online. Thus, the corpus cannot claim to represent the perspectives of those patients who are not able to go online to provide feedback, who have provided feedback another way (for example verbally or through writing), or who simply haven't made the effort to share their concerns through conventional feedback channels.

The size and scope of the NHSCC make it an undoubtedly rich resource for learning about people's experiences of, and concerns about, healthcare services in England. However, at the same time, these features also pose significant challenges to the NHS for extracting meaningful information from, and actually interpreting, this feedback. Because of its size, the NHSCC defies close qualitative analysis; it would be unfeasible to examine all 228,113 comments in the data without the help of quantitative computational methods. This is an important challenge for the NHS to meet, since, as discussed earlier, healthcare providers' abilities to monitor and improve the standards of their services hinge on their ability to understand and learn from what their patients say about those services. The 'Beyond the checkbox' project showed the NHS how this challenge could be met by drawing insights from the NHSCC using methods from corpus linguistics. In the next section, we introduce these methods in more detail, outlining their suitability for meeting the challenge of interpreting large volumes of feedback data.

Analytical approach

Our analytical approach makes use of three well established methods in corpus linguistics: keywords, collocation and concordance, all of which were accessed using the CQPweb (Hardie, 2012) computer program. Keywords are words that are unusually frequent in one corpus when it is compared against another corpus (a reference corpus). The reference corpus typically represents a norm or ‘benchmark’ for the type of language under investigation. In the present study, we compare the NHSCC against an existing corpus of modern-day general written British English (BE06; see Baker (2009)). The resulting keywords are then taken to be characteristic of the patient comments. We use keywords as an inductive measure – a way to identify characteristic themes and other points of interest across the patients’ comments – to be followed up in more fine-grained, qualitative fashion.

Qualitative analysis is undertaken with the help of the corpus methods of collocation and concordance. Collocation is a word association measure that tells us how often two or more words occur alongside one another, and whether or not this association is notable as a sizeable effect. Analysing those words which recur alongside a word of interest can be useful for developing an understanding of how that word is used, talked about and evaluated across the comments. In a previous analysis of the NHSCC dataset, Brookes and Baker (2017) examined the frequent collocates of words expressing positive and negative evaluation (for example good and bad) to investigate what patients tended to evaluate positively and negatively in their comments.

The final method we use in our analysis, concordancing, is a way of viewing the corpus data that allows us to examine every occurrence of a word or phrase in context, and thus quickly scan for patterns of use. An example of what a concordance output looks like is given in figure 1, using the search term *staff* (the most frequent noun in the corpus).

Figure 1: Concordance lines of *staff*, taken from CQPweb

practice manager” . Charlton Lane” centre of excellence” Untrained	staff	. lack of activities . lack of care plans . named nurse
and getting an emergency appointment for later that day . The Office	staff	are very friendly and helpful . More often than not we get
reception so this option really helps Also very happy with the nursing	staff	and doctors that I have seen at this practice The GP practice
years I have known it. The caring Doctors Nurses and admin	staff	take on some challenging patients ! who are always treated courteously ,
40 years . and I will be joining another practice . Excellent staff All the	staff	All the staff are extremely helpful at the Surgery . In Particular
and I will be joining another practice . Excellent staff All the	staff	are extremely helpful at the Surgery . In Particular one person who
visitors number , a leaflet about opening hours etc , the reception	staff	were extremely professional and helpful . The doctor i saw was excellent
professional and friendly I am very happy with my GP and	staff	of crest medical centre . Always polite , welcome you in a
surgery for years , and I would never consider changing , the	staff	in general are very nice and helpful , but mostly my GP
She suffered from cancer . I wish to thank the Doctors and	staff	for all the support my mother and family received throughout her illness
your comments . Our deepest sympathy for your loss . Admin/reception	staff	is a disgrace The surgery is within a short distance from main
in . I stand by my previous positive comments about the ancially	staff	but this practise needs a family doctor whi understands their patients .

With the search word running down the centre of the computer screen, and a few words of context displayed to the left and right, the concordance output can be very useful for spotting patterns that might be less obvious during more linear, left-to-right readings of the data. It is also possible to sort and randomise the order in which the concordance lines are displayed on screen. For a more contextualised view of the data, the analyst is able to access each original text (comment) in its entirety, simply by clicking the highlighted search word in the centre of each concordance line. Concordancing is, therefore, essentially a means to adopt a different perspective on the data, providing the opportunity for more theory-informed, human-led interpretations to be developed.

The analysis in this article combines the above corpus methods in a cyclical approach that involves: (i) initially engaging with the data quantitatively using the keywords measure to identify general themes in the patients' comments, (ii) using collocation to develop a sense of how those themes are discussed, and finally (iii) closely reading the concordance lines containing words of interest to confirm or revise our hypotheses and develop a more refined understanding of the patients' comments and concerns. Crucial at each stage of this process, is the involvement of the human analyst in making methodological decisions and interpreting the significance of the corpus output. In other words, the computer will not 'do' the analysis for us – that is the job of the human analyst. However, corpus linguistics methods can help us to adopt novel perspectives on larger amounts of data to arrive at more interesting and statistically substantiated conclusions.

Analysis

Keyword analysis: what are the key themes in patient feedback?

Our examination of the patient comments began with an analysis of the keywords that are generated when we compare the NHSCC against standard written British English (as represented by BE06). The keywords were generated and ranked using the log-likelihood (LL) (Dunning, 1993) statistical confidence measure – a scale of confidence for deciding whether any observed difference is significant. Table 2 displays the top 20 keywords (an arbitrary cut off) when they are ranked according to their LL scores. All of the LL scores cited in this paper are beyond the 99.9% threshold level.

Table 2: Top 20 keywords in the NHSCC, ranked by LL

Rank	Keyword	NHSCC		BE06		LL
		Freq.	%	Freq.	%	
1	<i>I</i>	985,701	3.40	7,870	0.78	36991
2	<i>of</i>	336,129	1.16	30,666	3.07	15890
3	<i>my</i>	362,005	1.24	2,385	0.23	15080
4	<i>staff</i>	159,892	0.55	206	0.02	10642
5	<i>appointment</i>	138,623	0.48	52	<0.01	10206
6	<i>surgery</i>	134,415	0.46	24	<0.01	10157
7	<i>his</i>	19,483	0.06	5,170	0.52	9997
8	<i>he</i>	37,513	0.12	6,827	0.68	9466
9	<i>very</i>	178,198	0.62	882	0.09	8503
10	<i>have</i>	331,258	1.14	4,222	0.42	8051

Rank	Keyword	NHSCC		BE06		LL
		Freq.	%	Freq.	%	
11	<i>doctor</i>	106,777	0.36	92	<0.01	7425
12	<i>me</i>	193,232	0.66	1,636	0.16	6831
13	<i>dentist</i>	73,424	0.25	5	<0.01	5636
14	<i>practice</i>	89,194	0.31	170	0.02	5577
15	<i>they</i>	253,491	0.87	3,702	0.37	5165
16	<i>care</i>	89,466	0.31	267	0.03	5062
17	<i>GP</i>	67,483	0.23	21	<0.01	5002
18	<i>doctors</i>	66,364	0.22	55	0.01	4628
19	<i>service</i>	78,691	0.27	291	0.03	4177
20	<i>to</i>	946,728	3.27	26,188	2.62	3790

Before commenting on the keywords in this table, it is useful to first clarify how these words have become keywords. Although frequency is a driving factor in identifying keywords, high frequency alone is not enough for a word to be judged as 'key'. What is most important in determining whether a word is a keyword is the *relative* frequencies of the word between the two corpora being compared. For example, the most frequent noun in this list, *staff*, accounts for 0.55% of all the words in the NHSCC. This is very much greater than the 0.02% for which the same word accounts in the BE06. Therefore, the word *staff* is a keyword in the NHSCC when its usage is considered not simply on its own, but against some norm of usage.

We now turn our attention to the keywords themselves. Half of the items in table 2 are grammatical words (*I, of, my, his, he, very, have, me, they, to*). Although such items are likely to be of interest to linguists concerned with mapping the genre or register of the comments, they reveal very little about the actual content of the feedback, and so aren't particularly useful for developing an understanding of patients' experiences and concerns. However, other keywords in this table are more indicative of the types of things that patients comment on in their feedback, including staff members (*staff, doctor, dentist, GP, doctors*), system-related issues (*appointment, service*), places (*surgery, practice*) and procedures (*care*). This initial manual grouping attests the utility of the keywords method for quickly establishing the themes or topics that are most characteristic of the comments in our data. To discern these themes manually, without the aid of keywords, would take an appreciable amount of time, and involve scanning the content of 228,113 comments.

Due to limitations of space, it is not possible for us to examine all of these themes in detail here. One word that we will focus on is *staff*. This is the most frequent noun in the data, and the most 'key' item in table 2 that isn't a grammatical word. That *staff* features so frequently, and statistically saliently, across the comments suggests that this topic is central to the ways in which patients give feedback. This is hardly surprising. Yet, *staff* is also a rather nebulous word. Unlike the words *doctor, GP* and *doctors*, also keywords in table 2, it is not possible from the surface level to know what types of staff members and specific roles patients tend to focus on when giving feedback. The collocation method, introduced earlier, can help us to gain such an insight.

Collocation analysis: what do patients say about *staff*?

To better understand who patients were referring to when they talked about staff and, just as importantly, what they were saying about staff members in their feedback, we generated a list of words (collocates) occurring within the five words preceding and following *staff* in the corpus. This window of five words to the left and five words to the right is fairly standard practice in corpus research, as it provides a 'good balance between identifying words that actually do have a relationship with each other (longer spans can throw up unrelated cases) and [gives] enough words to analyse (shorter spans result in fewer collocates)' (Baker et al, 2013: 36). Because they were not particularly useful for answering either of the above questions, we removed grammatical collocates from this list, leaving only what linguists refer to as 'content' words. Table 3 below displays the 20 most frequent content word collocates of *staff*, ranked by frequency of co-occurrence.

Table 3: Top 20 content word collocates of staff, ranked by frequency

Rank	Collocate	Freq.	No. of Comments
1	<i>reception</i>	29,344	23,443
2	<i>friendly</i>	15,530	14,527
3	<i>helpful</i>	14,058	13,185
4	<i>rude</i>	8,136	6,891
5	<i>doctors</i>	7,858	7,199
6	<i>member</i>	7,627	6,222
7	<i>surgery</i>	6,943	6,434
8	<i>excellent</i>	6,567	5,952
9	<i>practice</i>	6,483	6,058
10	<i>care</i>	6,002	5,523
11	<i>staff</i>	5,846	2,910
12	<i>nursing</i>	5,635	4,847
13	<i>service</i>	5,594	5,249
14	<i>thank</i>	5,218	4,910
15	<i>caring</i>	4,712	4,395
16	<i>good</i>	4,668	4,288
17	<i>polite</i>	4,664	4,542
18	<i>professional</i>	4,623	4,462
19	<i>nurses</i>	4,568	4,284
20	<i>great</i>	4,542	4,031

Many of the collocates in the above table help us to build a picture of the types of staff that patients talk about in their comments, including *reception*, *doctors*, *care*, *nursing* and *nurses*. Other words, specifically *surgery* and *practice*, indicate the places where these staff members work. Exactly half (n=10) of the collocates in table 3 are evaluative words. Of these, all but one (*rude*) appear to express positive evaluation (*friendly*, *helpful*, *excellent*, *thank*, *caring*, *good*, *polite*, *professional*, *great*). To offer an illustrative example, the most frequent positive word in table 3, *friendly*, collocates with *staff* almost twice as often as does the word *rude*, and in over twice as many individual comments. At the surface level, this trend suggests that patients are more likely to evaluate staff positively than negatively in their comments, although, of course, words which seem positive on the surface can perform a negative evaluative function in text, and vice versa (for example a patient could describe a staff member as being 'not friendly' or 'not helpful'). Another striking feature of the above table is the tendency for patients to use evaluative words which seem to relate to social skills, such as being friendly, caring and polite or, on the other hand, rude. Compared with the relative paucity of words which, at the surface level, relate to staff members' technical competence, suggests that patients are more likely to evaluate *staff* according to relational, rather than transactional, skills.

At this point in the analysis we need to study the comments in more qualitative, contextualised detail, to test such hypotheses, but also explore other interesting patterns. In this study, we focus on the most frequent collocate in table 3, *reception*. That *reception* is the most frequent content word collocate of *staff* suggests that, when patients mark out a particular type of staff member for comment, it tends to be staff working in reception. To get a better understanding of what patients tended to say about reception staff, we repeated the collocation procedure, generating a list of words occurring within the five words preceding and following the word *staff*, but only instances when it occurred alongside the word *reception*. In other words, we asked the question: what other words does the word *staff* tend to occur with when it co-occurs with *reception*, to get a sense of the words patients used most often when talking about reception staff. The most frequent content word in this list was *rude*, which featured alongside the collocation of *reception* and *staff* 3,853 times and in 3,119 comments (LL score: 13132.654)². In the next step of the analysis we used the concordance measure to qualitatively examine a sample of comments in their entirety, exploring in more granular fashion the reasons why patients evaluated reception staff as *rude*.

Concordance analysis: why are reception staff described as *rude*?

In this part of the analysis, we set out to explore the relationship between the words *staff*, *reception* and *rude* in more detail, and to identify some of the reasons why patients might evaluate reception staff as *rude*. To do this, we used the concordance technique (introduced earlier) to closely read and code a sample of comments in which the words *reception*, *staff* and *rude* occur together, identifying the factors underlying these seemingly negative evaluations. Since these words collocate 3,853 times – too many concordance lines for manual, close reading – this part of the analysis required a degree of selectivity. We therefore analysed a randomly-selected sample of 400 comments containing the co-occurrence of *reception*, *staff* and *rude*. Although this approach does not provide a comprehensive picture of these comments, it does account for at least ten percent of the total collocations, allowing us to at least get a sense of the general trends in terms of which specific areas of concern tend to drive comments about reception staff being rude. Comments in which patients did not elaborate on the reasons why they judged reception staff to be rude (for example, just said: 'the reception staff are rude') were excluded from this part of the analysis. This was the case for 14 percent of the comments in the sample.

Our qualitative analysis of the comment sample identified 11 distinct types of comment about reception staff and rudeness. The five most frequent comment types are displayed, along with representative example extracts, in table 4 below.

² Reception staff also feature as the subject of positive comments in our data. Although the words/expressions *reception staff*, *receptionist* and *receptionists* collocate with the word *rude* 10,282 times, they also occur alongside *helpful* 7,134 times and *friendly* 5,320 times.

Table 4: Top five comments about reception staff rudeness, ranked by frequency³

Comment type	Percentage of sample	Example
Lack of appointment availability	34%	That is ridiculous I cannot book or make an appointment for when you have one free, the reception staff were very rude they also said 'come in the morning and make appointment' I don't want one for the same day! I find trying to make an appointment see a doctor is useless surgery they would rather you are on your last legs before you get an appointment!
Don't answer telephone	17%	You have to bear rude unpleasant staff on the reception. They rarely answer the phone.
Don't listen to patients	12%	Shocking rude, do not listen Like many of the above reviews I am appalled by the rude reception staff.
Put the telephone down on patients	10%	Rude reception staff. Staff are rude. Had phone slammed down on me many of times by same reception staff.
Refused access to treatment	10%	Very rude reception staff and Security. My daughter knee was infected. We were advised by the pharmacist to go to this walk-in centre as we live in Thornton Heath and it was too late for the GP. We were given a flyer that indicates that the centre open 7 days a week 8am-8pm. I am pregnant and my daughter is 9 years old. We arrived at 7:55 and they refused to see my daughter as they were about to close even if there were still 2 people waiting to be attended.

Generally speaking, the comment types above underscore the importance of communication skills to how staff members are evaluated in patient feedback. Receptionists not answering phone calls, putting the phone down mid-call, not listening to patients, being perceived as 'snappy' in the way they communicate with patients, and breaching patient confidentiality by discussing patient cases in the public domain, all emerged as reasons why patients perceived them as 'rude'. Other complaint types, specifically reception staff treating patients like they are an inconvenience and not smiling, suggest that there is also a focus on interpersonal or relational skills. The focus on receptionists' communication and interpersonal skills in the patients' comments supports the finding from Hammond et al's (2013) ethnographic study: that receptionists are often perceived as overly direct and paying little attention to patients' needs because of their characteristically 'task-centred' style.

Other categories above paint a more complex picture of the comments in our sample. The most frequent comment type, complaints about lack of appointment availability, though related to interpersonal and communication skills in terms of style of message delivery, have more to do with receptionists' roles as medical gatekeepers. Booking and managing appointments is a complex task that requires the receptionist to negotiate numerous factors, including patients' medical needs, their expectations, and the actual availability of appointments (Gallagher et al, 2001). A small minority of the comments in our sample praised reception staff for their interpersonal skills – including patients expressing surprise that others would evaluate reception staff as rude, and complaining about other patients being rude *towards* reception staff. In the next section, we draw on corpus-external knowledge and theories to explain the patterns observed in the analysis.

³ Other comment types not displayed in this table include: treating patients like they an inconvenience (6%), not smiling (5%), being 'snappy' (3%), breaching patient confidentiality (2%), patients being rude to reception staff (<1%), and patients surprised that people describe reception staff as rude (<1%).

Discussion

The analysis reported in the previous section demonstrated that reception staff tended to be evaluated negatively more than positively, and that this evaluation was often focused on receptionists' communication and interpersonal skills. To explain this tendency, and specific types of complaints that contributed toward it, it is beneficial to step outside the corpus, and draw on corpus-external theories and our knowledge of the contexts in which the comments were posted. At face value, the tendency for reception staff to be evaluated as *rude* suggests that staff working in this area tend to interact with patients in a way that is rude (or at least is perceived to be rude by the patients posting the comments) more often than other health professionals. However, this pattern could also be explained by differing patient expectations that patients have of staff and which relate to status. It is possible that patients might be more lenient in their evaluation of 'rude' doctors than receptionists because they perceive the former as being more qualified and as capable of directly remedying their ailments. Similarly, since the role of medical receptionist is mostly taken up by women, the tendency for receptionists to be evaluated in terms of their interpersonal skills (that is as *rude*) more often than other staff types might reflect ingrained societal expectations that women will be more caring and polite than men (Mills, 2003). Indeed, our data suggests that even when the nature of the complaint has little to do with relational aspects of service, patients nonetheless evaluate the receptionists in terms of their interpersonal skills, in this case as *rude*.

Negative comments relating to staff members' interpersonal skills might also be explained by the nature of their role, which requires them to act as a 'key buffer between practice and patients' (Litchfield et al, 2016: 3) and means that they are often the unfortunate 'bearers of bad news': informing patients about problems with systems that they don't design themselves, but of which they are the public face (for example informing patients about a lack of appointment availability, or appointment delays or cancellations). Thus, as we observed in our analysis of the comments, as medical gatekeepers, receptionists frequently bear the brunt of patients' frustrations when issues about appointments arise (Hammond et al, 2013).

Complaints about receptionists refusing patients access to treatment, which accounted for ten percent of the comments in our sample, are likely to reflect the difficulty that receptionists face in balancing the demands of their expanding roles. Although they are not required to receive any formal medical training, receptionists are, nonetheless, required to routinely make 'triage' decisions to ensure that patients who require immediate care are given priority when it comes to arranging appointments (Patterson et al, 2005). It is likely to be a source of frustration when patients, anxious to receive medical attention for a health concern, are denied access to care by non-medically-trained staff members who they might perceive to be less-qualified, for example, than doctors.

Most of the comments we examined in which reception staff were described as 'rude' likely had more to do with receptionists' expanding roles rather than their interpersonal skills. Nonetheless, poor relationships between reception staff and patients can have negative consequences for patient health, not least because they can prevent members of the public from accessing treatment in the first place (Martin, Perfect and Mantle, 2005). Although the purview of the receptionists' role continues to evolve and expand, encompassing a range of clerical, but also clinical functions, the training that such staff receive has not kept up with these changes (Litchfield et al, 2016). Providing reception staff with the opportunity to receive formal training that is tailored to their more diverse role profile – targeting skills such as medical assessment and communication style – could help receptionists to better balance the task-oriented and patient-oriented functions of their role. Implementing this type of training is more complex in practice than on paper, not least because NHS staff workloads are unlikely to decrease in the immediate future. At the same time, developing patient-centredness can be linked to the concept of emotional labour (Hochschild, 1983) – that is, the regulation of emotion to create a publicly visible facial and bodily display within the workplace. Training such qualities in staff can be difficult, particularly since members of the public tend to react negatively towards interactions that they perceive as 'scripted' or inauthentic (Cameron, 2000).

Conclusion

In this study, we have illustrated how corpus linguistic techniques can be useful for carrying out in-depth, quantitative and qualitative examinations of large collections of health-related language data. The well-established corpus methods of keywords and collocation served as inductive means for broadly surveying our corpus of online patient comments, providing a useful precursor for more refined, qualitative analysis of comments concerned with the issue of reception staff rudeness. By affording the opportunity to examine large volumes of authentic language data, corpus methods go some way toward appeasing the commitment to more objective and empirical approaches to large datasets now commonplace in the domain of evidence-based health communication research (Brown et al, 2006). In the present study, computational assistance has allowed us to base our observations on a much larger collection of feedback (29 million words) than would have been possible through non-computational means.

An appealing feature of the established corpus methods we have introduced in this article is that they are flexible, and can be used and combined in different ways. This flexibility allows us to ask numerous and more complex questions of patient feedback data, and in turn, develop a more nuanced picture of the patients' concerns. For example, the keyword measure could be used to compare comments relating to different areas of provision and gain a sense of which concerns are more common in – and characteristic of – one area of provision compared to another. Similarly, it would be possible to compare the evaluation of particular staff groups (such as receptionists) across different areas of provision to ascertain, for example, whether certain types of evaluation (for example as *rude*) are more common in one area of provision compared with another, or whether the same types of staff behaviour and characteristics resulted in them being evaluated as *rude* across different areas of provision. Moving away from frequency- and saliency-driven approaches, more qualitative corpus techniques like collocation and concordance also allow us to search for, and pinpoint, comments which mention, low frequency words that refer to potentially serious events (for example words like *dangerous* or *abuse*) and which are likely to trigger urgent review. Although we have not explored it in this article, corpus methods can also offer a diachronic perspective on the data. This makes it possible to track the frequency of certain evaluative words or phrases over time, and so determine the direction of travel as to whether feedback is becoming more positive or negative over time. Such a metric would enable feedback assessors to evaluate how training interventions or other initiatives affect patients' experiences of care, for example by comparing comments posted before and following their implementation.

Whichever method or combination of techniques we choose to adopt, critical to the corpus-assisted approach outlined in this article, is the interplay between, on the one hand, computational and statistical measures, and on the other hand, human-led, theory-sensitive readings of the data. This triangulated approach allowed us to build a more comprehensive picture of the comments in our data – one which accounted for general linguistic trends across the comments but also the complexities of the patients' evaluations. To account for such complexities, it was fruitful for our analysis to go beyond the corpus itself, and draw on our knowledge of receptionists' expanding roles, as well as how social expectations might be influenced by status and gender. The computer programs used in corpus linguistic analyses are useful for pinpointing frequent and statistically interesting features of the data, but it is up to the human analyst to dig a little deeper (and often wider – drawing on corpus-external sources) to interpret and explain the significance of those patterns.

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Visual methodology in the political sciences: film-based research methods to capture young people's views on Brexit

Dr Sioned Pearce and Dr Stuart Fox, Cardiff University

Abstract

Film as a research method for collecting and analysing visual data has a long and rich history within the fields of anthropology and ethnography. This approach is less commonly used within the social sciences and still less within the political sciences. This paper goes some way towards defining the parameters of visual methodology in the political sciences by discussing the use, value and limitations of film to capture political views among young people.

Drawing on a set of 19 interviews with young people discussing the UK referendum on EU membership on 23 June 2016, the paper exemplifies the method through analysis of two selected films before going on to evaluate its relevance to the study of politics. Challenges with collection, analysis and writing-up are also discussed.

Funding acknowledgement

This research was funded by the Economic and Social Research Council (ESRC) and the Wales Institute for Social and Economic Research Data and Methods (WISERD) at Cardiff University.

Introduction

Film-based research

Film as a research method for collecting and analysing visual data has a long and rich history within the fields of anthropology and ethnography, dating back to the 1930s (Mead, 1939; Mead 1975; Becker et al, 1967; Krebs, 1975; Hockings, 1975). However, while visual methodologies are commonly used within the social sciences (Mannay, 2015), film is less commonly used than other methods and still less so within the political sciences. This, it is argued by some authors, is part of the wider dominance of quantitative methodology within the political sciences, leading to a less well-developed use of qualitative methods overall (Blatter et al, 2016). Indeed, it is possible to argue that film as research tool does not lend itself as readily to the principles of theory-building and hypothesis-testing as quantitative data from surveys. This paper argues to the contrary by dividing film as a research method into two broad approaches, participant-led and researcher-led, and focusing on the latter. Participant-led studies give participants significant editorial control over film creation in order to empower them through the research process; researcher-led approaches capture a more traditional, structured or semi-structured qualitative research interview on film. Here, we argue for the value of the latter to the political sciences as means of testing questions and hypotheses on political views and opinions which could complement quantitative research, using the case of young people and Brexit.

While earlier, anthropological and ethnographic studies using film as a research method favoured systematic analysis of imagery to capture 'facts' and 'real' representations of cultures through film, a shift away from positivistic interpretations towards more subjective understandings has now taken place:

'...filming is [now] understood to be the product of a researcher's discursively positioned actions... Analysis has already begun the moment the camera is turned on and the researcher begins to make decisions about what to shoot' (Thompson and Hall, 2015: 3)

With this shift came arguments for visual methods more generally as a move away from use of the written word as 'superior' to other forms of understanding:

'...abandoning the possibility of a purely objective social science and rejecting the idea that the written word is essentially a superior medium of ethnographic representation' (Pink, 2001: 4)

Indeed, justification for the use of visual methods within ethnography often stems from the existence of images within everyday life and the fact that we live in a (social) world which can be expressed in mediums beyond the verbal. Data collected through films includes participants' words but also their body language, expressions and gestures, voice, accent, tone and intonation, yielding data that adds depth drawn from contradiction and consolidation between words and gestures. The same is true for studies aiming to understand public political opinions and views which add to our understanding of wider trends and patterns.

Going further in their justification of visual methodology Wesley et al (2005) argue that film is preferable to audio recording because, rather than categorising the participant according to the label most appropriate for the research, it allows the inclusion of the whole person and the milieu of representations not possible to convey through words alone. Similarly, Heavey (2015) draws on Goffman's presentation of self (1959) to argue the importance of bodily narrative in the performance in everyday life, which *includes* the body, rather than using the body as a vehicle for such construction. Heavey (2015) argues that a participant's awareness of their body within storytelling is part of transforming an embodied experience from the person who experienced it to the audience:

'...all storytelling involves performance – a taking of one's (embodied) experience and a making it into (embodied) experience for one's audience...' (Heavey 2015: 429)

In this context, Wesley et al (2005) focus more on data analysis and use than on the process of collection, though they do highlight the reflexive nature of the researcher during fieldwork. In contrast, Foster (2009) uses film as a means to empower participants, particularly when given the opportunity to take ownership over the process and express themselves on their own terms. She discusses the way in which participants experience film-making as a form of expression. These two approaches by Wesley et al (2005) and Foster (2009) exemplify the two broad approaches defined here as participant-led and researcher-led film-based methods, and how they differ. The approach taken in this study is more akin to Wesley et al's (2005) than to Foster's (2009) because the research is guided by a specific question, and focuses on the use of film in data analysis to draw findings rather than the process of gathering the data.

Acknowledging researcher bias, directive and role in the film-making in the researcher-participant dialogue is, therefore, a core part of the analysis presented here. The study will gauge the significant differences between audio and audio-visual interview recording using this dialogue and ways in which the method can potentially enrich the data and provide a forum for views on a divisive topic. In doing so, the paper reflects upon the ways in which audio-visual data collection can expand the parameters of political research by capturing interactions and expressions beyond the verbal.

The study: young people and Brexit

The films analysed and discussed in this paper are part of a larger interdisciplinary research project entitled 'Young People and Brexit' which began in February 2017. The study considers the impact of Brexit on young people's broader engagement with politics and civil society. Young people are the most politically disengaged and apathetic generation in the UK (Fox, 2015), reflected in their traditionally low electoral turnout across Western Europe (Mair, 2013). However, the UK referendum on European Union (EU) membership in June 2016 was an exception, with 64% of 18- to 24-year-olds voting, more than in any general election since 1997, and substantially more than the 41% who voted in the 2015 general election. However, more recently, the 2017 general election saw over 50% of 18- to 24-year-olds vote; an uncharacteristically high turnout.

An element of the media coverage after 23 June 2016 focused on the deep generational divide reflected in this vote (Fox and Pearce, forthcoming) but simplified the complexity of intergenerational relations; attitudes toward the EU; and the impact of Brexit upon youth engagement. Furthermore, the volatile, emotive and divisive nature of the referendum, coupled with the result and the aftermath in the case of the EU referendum (and the general election), could deter future political discussion and engagement among young people over the long-term (Mycock, 2015). The study aims to get beneath the headlines and to understand the impact of Brexit on youth engagement. This paper draws on the data collected through the study to explore film as a method in the political sciences.

Filming during the study

19 films were created between March and April 2017 with 23 young people (15 filmed alone and eight filmed in four pairs, at their request) aged between 16 and 21. Interviews lasted between 7.03 and 37.03 minutes, and took place in a convenient location for participants, often a café, school classroom or public building. Each film was created in one take. Interviews took place in South East Wales and South West England, largely in Bristol and Cardiff where the majority of both populations voted to remain in the EU. However, the sample selection was purposive and not designed to be geographically representative. Rather, views were sought from young people in- and out-of-school and over- and under-18, to explore the link between educational attainment and Euroscepticism (Fox and Pearce, forthcoming), and to gauge perceptions of young people not able to vote in the referendum, whose views are not captured in political polls and surveys. The interview schedule was semi-structured and guided by 13 research questions, allowing participants to discuss issues of most interest or importance to them.

Filming was carried out by a professional camera operator and film-maker. While this approach does not allow for the type of participant empowerment discussed in Foster's (2009) work, it was viewed as the most appropriate approach for this study, which aimed to capture views and opinions on political issues. In addition, the research team did not have the skills and capacity to create quality film footage. The advantages of this were better quality films, expertise in capturing visual data, and the camera operator's experience of putting people at ease during filming. In addition, based on feedback, the professional nature of the filming, the equipment and the camera operator appeared to give the process more credibility for the young people involved. Finally, it allowed the researcher to focus on the interview, build a rapport, and draw out responses in discussion with participants. However, having another person, beside the researcher, present during interview, could cause participants to hold back or exercise caution in expressing their political views. In order to lessen this risk, each participant was reassured before the interview that there are no 'right' or 'wrong' answers; that the study is interested in their experiences and perspectives in the context of Brexit; and that it aims to get a wide range of differing views.

Before filming, each participant was given an information sheet explaining the project, its purpose and the process of filming, analysis and presentation. As thanks for taking part, each participant was offered a letter signed by the research team detailing their participation. The letter stated that they had taken part in research voluntarily and in their spare time, and had been interviewed on camera. The letter was designed to assist participants with any job-seeking in the future. Finally, participants signed a consent form which, as well as informing them that their participation was voluntary and withdrawable at any time, gave details about the process and use of the films. Participants were told that the films would be used as research data, with the same implications and restrictions as verbal interview data. Participants were assured that the data would not reveal any identifying characteristics, and that the visual aspect would be described in writing rather than shown in imagery. Finally, they were informed that the data may be quoted anonymously in a research article using a pseudonym.

Analysis

All 19 films have been analysed and two have been chosen for the purposes of this paper to exemplify the broader themes. Specifically, three broad themes on film as a research method are visible across the full dataset: (i) *contradictions* between the verbal and body language (including expression and tone); (ii) *consolidation* of the verbal and body language; (iii) *supplementation* of verbal with body language. They are detailed here using two examples.

The two films were chosen for three main reasons. Firstly, because one is a paired interview and one an individual, thus capturing three-way and two-way interactions between the pair, the individual and the researcher. Secondly, because the films include all three themes (contradiction, consolidation and supplementation), also identified to varying degrees within the other 17 films. Finally, because the three participants in these two films had differing views on the EU referendum – two supported ‘remain’ and the other ‘leave’ in June 2016 – thus capturing the diversity of viewpoints. In total, seven of the 23 young people supported leaving the EU (30.4%) and 16 supported remaining (69.5%) close to the actual proportion of all 18- to 24-year-olds who voted in the EU referendum.

Film one is a paired interview, 17.37 minutes long, and took place within a school classroom in March 2017, approximately nine months after the EU referendum. Participants have been assigned the pseudonyms Aled and Ian. Both are male, both 16-years-old and, therefore, were not eligible to vote in the EU referendum. Both were in full-time education at the time of filming. The pair were friends, and had chosen to be interviewed together despite having different views on the EU referendum result: Ian supported leaving and Aled remaining in the EU.

Film two is an individual interview, 12.38 minutes long, and took place within a city hall, the most convenient location for the participant, in April 2017. The participant is female, and has been assigned the pseudonym Sarah. She was 19-years-old at the time of filming, and was working full-time during a study break. She had voted to remain in the EU.

Analysis was carried out in two phases moving from content to form. The first phase involved transcribing the interview in line with audio interview analysis including coding and categorising to draw out themes. The second involved looking at body language, facial expressions and tone alongside the transcript and themes. Each phase involved a stage of reflection in light of emerging findings and considering the footage as a whole. Once initial reflections and notes had been made, the researcher then re-watched the film to re-examine and question each observation. This cycle was repeated multiple times. Here, we turn to the detail of these two phases.

Phase one: textual analysis

This section presents key parts of the textual data. Discussion was led by interview questions on participants' views of the EU referendum and Brexit. In all 19 films participants used terminology specific to the EU referendum, for example ‘Brexit’, ‘EU trade bloc’, ‘Article 50’, ‘hard Brexit’ and ‘border control’. It was possible to gauge some degree of the impact of Brexit on their political engagement through the text (for example, comparison between their own interest in politics before and after the EU referendum). Most participants mentioned frequent discussions about politics with friends, family and teachers; frequent discussions about Brexit on social media; signing petitions relating to the referendum and Brexit; and changing their opinions on politicians (less trust) after the referendum due to the volatile nature of the campaign.

Verbal interaction between Aled and Ian in film one was also captured through the text. They had different views. However, the conversation was amicable, and their verbal exchanges were not in direct conflict. Both gave their views in turn and in response to the question. For example, while Aled described a heated discussion with a teacher at his school who planned to vote leave, Ian did not comment or contribute despite having different views to Aled.

A: I have had quite an involved conversation with X [teacher] about it and I was quite shocked when I found out X was going to vote Brexit and actually when I found out I actually emailed him ... I was like 'oh I blame you' and I was quite angry towards him.

Each allowed the other space to answer the questions with minimal verbal response. When direct verbal interaction occurred, it was always in agreement. For example, Aled and Ian agreed on the issue of 'Brexit fatigue' through over-exposure leading to a sense of fatalism:

A: ... I'm getting quite sick of seeing it quite frankly now and the way Theresa May says Brexit is Brexit ah it's annoying me quite a bit actually.

I: It's getting a bit boring now it's always in the news Brexit is Brexit ... it's going to happen and we're just going to have to live with it.

A: Yeah I just want to see it happen now to be honest.

I: Out of the news get something new in.

However, the text also revealed the direct impact of one participant's opinion on the other:

I: ... as Aled said about immigrants and [UK nationals] not wanting to do the dirty work however that could be of benefit for young people considering more money could be put into training for us and like more jobs and less young unemployment yeah.

A: Now that he's said that yeah that could be a good idea actually because there would be more job opportunities for young people as well with less people actually flooding into the UK and there would be a gap in unemployment for the young people to fill.

For the most part, each gave their views in turn without interrupting or directly contradicting the other. This statement-based dialogue was a common theme running through all 19 interviews, paired and individual.

Sarah's interview data, however, shows a more conversational approach:

S: I have had quite an interest in politics for a long time now, but the [EU] vote was actually the first time I pulled an all-nighter to stay up and watch everything, several cans of energy drink!

One reason for this could be her age. At 19, she was one of the oldest in the sample group and, as a result, may have been more confident or relaxed in speaking about political issues and being interviewed generally.

Sarah discussed some apprehension, trepidation and cautious optimism about the impact of Brexit on the UK and herself. Phrases such as 'we will see', 'I am hoping' and 'I'm a bit worried' arise frequently. 'I'm a little bit worried' was used three times about a 'hard Brexit'; the potential end of the ERASMUS programme in the UK; and funding for her local youth parliament.

S: I'm a little bit worried about things like the Erasmus project because some of that funding goes into things like the British Youth Council which is UK wide paid, so Youth Parliament and so I am a little bit worried about where the funding from that might come from in the future, but yes we will see.

As with all 19 interviews, some degree of understanding about the impact of Brexit on participant engagement in politics is possible to gauge from the verbal data transcribed as text. However, the following detail about phase two of analysis adds the visual dimensions of the data to explore the emergent contradictions, consolidations and supplementations coming from this. In some cases, this raises questions about the proposed meaning of the text.

Phase two: analysis of body language, facial expression and tone

In film one, both participants chose to stand beside each other, facing the researcher who was out of shot. Throughout filming, both Aled and Ian remained shoulder-to-shoulder and did not face each other at any point, despite commenting on and responding to each other's views. This meant all body language was directed towards the researcher, consolidating the formalised three-way dialogue visible in the text, as opposed to a more informal, one-to-one conversational style seen in Sarah's interview. With the exception

of one gesticulation from Aled, both participants held their hands at their sides or clasped in front while they were speaking. In short, at first glance their body language was formal, stiff and still with very little movement to emphasise their words. This raises questions about the formality created by the question-and-answer format, and being filmed by a professional camera operator. But equally, the participants were both young and may have felt as uncomfortable being recorded by a Dictaphone. However, despite the formal stance, their body language contributed to the lack of interaction seen in the text. For example, both nodded in agreement, smiled, grimaced or looked at the other during the interview, which contradicts the 'turn-taking' structure of the interview reflected in the textual analysis above and in many of the other interviews, particularly the pairs. Here, we see the visual data capturing a hidden interaction not discernible through the audio. The interaction through facial expressions and small head movements contradicts the structured, statement-based nature of the text. It reveals a potential consensus in discussion which is not possible to gauge in the text, and in fact, contradicts what appears, at face value, to be conflicting opinions¹. This was particularly evident when issues in the popular media arose, for example, Theresa May's statement, 'Brexit means Brexit', or Donald Trump being elected as President of the US. This highlights the value of visual methodology specifically in capturing discussion on topical or divisive issues.

In many of the films, an individual participant's body language often directly contradicted the text. For example, when Aled was discussing his disappointment at the result of the EU referendum, he expressed regret at the way he acted, while expressing humour with his body language:

*A: I was quite disrespectful to people who did actually leave so looking back I **wish I hadn't done that really.***

Body language: laughing and smiling

In addition, a focus on relationships and emotions in discussion about responding the referendum result was contradicted by the stiff body language. For example:

*I: I've always trusted politicians cause it's our life in their hands ... 'cos my parents are hardworking nurses and I believe they should get the best equipment, the best training and more support and that £350m would definitely have benefited them. And now when Nigel Farage says 'no massive mistake not going to happen' **it just completely put me off it.** Obviously, I still like politics and I've always enjoyed the subject I've always loved it but now it's just put me off and made **me hard to trust politicians.***

Body language: arms behind back, looking forward

Facial expression: neutral

However, some consolidation is also evident in the body language. For example, at three points during film one, Ian raised both eyebrows when emphasising the sincerity with which he had believed the 'leave' campaign information before the referendum, then frowned and a shook his head when discussing the disappointment and disillusionment he felt at learning it was false.

I: What swayed me to vote leave was the promise of £350m funding to the NHS...

Facial expression: eyebrows raised

Tone: emphasis

*I: ...but straight after leavers voted, **Nigel Farage** stated that it was a **mistake** and that just completely **put me off.***

Body language: eyebrows raised, downward nod

Tone: emphasis

¹ Shown in the quotes below through bold and underlined text.

*I: ... and to be honest made me **not** trust politicians nowadays.*

Facial expression: frown and look of disgust

Tone: emphasis

In this example, body language and tone consolidate and emphasise the text. In addition, the emphasis of certain words at certain points, coupled with the body language, creates a consistent rhythmic pattern of word flow. This rhythm potentially reflects a rehearsed or practised statement or sentence, or at least something he feels confident saying. Coupled with the repeated body language and largely confident expression, it could imply that Ian feels comfortable with this argument, and that he could have made the same point before. This repetition was not pursued in interview as it was only identified in analysis.

Certain movements or gestures were made more than once by each participant and, after several viewings, some patterns began to emerge. Aled would raise one eyebrow to emphasise a point which resulted in a sceptical 'look' sometimes corresponding with his words but sometimes not. However, in some instances, this expression supplemented the textual data. For example, he raised the issue of votes at 16 without stating whether he was for or against it. The quotation below shows the full sentence with a different emphasis added to the points at which the facial expression and tone apply.

*A: I knew a few of my mates actually went on a protest march actually to try and get 16-year-olds to vote and I saw a few petitions too and **if I had voted I definitely would have voted remain.***

Facial expression: eyebrow raised

Tone: upward inflection

The text does not mention being in favour of votes at 16. However, the combination of a sceptical eyebrow raise at the word 'had', coupled with an upward inflection implying sarcasm or scepticism, highlights a dissatisfaction with the fact that he didn't vote. In short, body language and tone together paint a picture of dissatisfaction with the voting age applied to the EU referendum, while the text alone does not.

For Sarah, supplementation in the form of 'degree of worry' is visible in film two. For example, she uses the phrase 'we will see twice', once when referring to a 'hard Brexit' and once referring to potential loss of ERASMUS funding for her local youth parliament. However, different body language allows us to gauge, with some certainty, which of these worries her most: loss of funding to the youth parliament:

*S: [free movement] is probably not going to happen quite as well as we hoped, but **we will see.***

Body language: turn of head to the right

Facial expression: smiling

*S: funding goes into things like the British Youth Council which is UK wide paid, so Youth Parliament and so I am a little bit worried about where the funding from that might come from in the future, but yes **we will see.***

Body language: quick nodding of the head, leaning backwards

Facial expression: widening eyes, pursing lips, nervous expression

Here, the same words are given very different emphasis thus supplementing the meaning of the text with the visual data.

Reflections

Use of films as a research method to capture young people's political views has been explored in this paper, using the case of Brexit. The (cautious) advantages of these are categorised under the three headings: contradiction, consolidation and supplementation.

Contradiction refers to mismatch between assumed textual meaning and/or body language, facial expression and tone. For example, interpretation of emotion, feeling or enthusiasm from the text can contradict the body language. On more than one occasion, participant dialogue and interaction were formal and stiff, while their body language expressed emotion, agreement, disagreement or simply acknowledgement of another view. Caution is required in acknowledging the fundamentally subjective nature of the research interview and the role of the researcher in the field and during analysis. However, this is true of any method of this type. By bringing in a visual dimension, our awareness of these complexities is broadened.

Consolidation is visible when the assumed meaning of the text matches the body language, facial expression and tone, giving the assumed meaning more emphasis. In the case of the data presented here, consolidation reveals the subtle difference between degrees of emotion or feeling on a particular issue, identified through two or three forms of emphasis. While a number of potentially emotive or divisive issues are discussed about Brexit, only some are backed-up by facial expressions or gesticulation for example. This gives us more indication of the degree to which particular events relating to Brexit affect the participants personally.

Finally, supplementation of text with body language is shown here as another route to a better understanding of views and opinions on Brexit. Additional meaning (rather than emphasised meaning) is gauged here using text and body language. Two similar phrases relating to two separate issues are compared, and seem to be of differing importance to the participant. In this way, increased understanding of the issue in question, particularly one as complex as 'political views' or 'engagement', is possible. In many of the interviews, as well as the example given, verbal phrases or expressions took on increased or decreased importance, or became core or peripheral issues in the discussion, when body language, tone or facial expressions were examined alongside the text.

Six practical reflections also emerged from this study.

First, the formal body language could have been caused by discomfort from the camera, the young people's age, the topic, the researcher, the setting or the camera operator among a number of other unseen factors. However, the topic is particularly important when considering use of film as data in the political sciences. The research questions could be adapted in future to pursue a more conversational or relaxed interview process, and to take advantage of the body language or facial expressions as prompts. For example, the young people could have been asked to expand their views on one aspect of the EU referendum and Brexit and given more autonomy over the direction of conversation. More exploration of a particular area of interest could be pursued, for example, parental influence on views. In addition, future research could aim to put participants at ease through a pre-interview conversation, use of a tripod or a part-audio, part-audio-visual interview.

Second, it was important and useful to take the full footage into account before beginning analysis in order to distinguish between patterns of body language and facial expression which matched or mismatched with the text. For example, repeated or habitual facial expressions with little link to the text were only identified through full and repeated examination of the data.

Third, potentially useful interaction between participants and researcher could have been gathered by including both parties in the footage. For all 19 films, the researcher was out-of-shot and, therefore, the interaction, and perhaps instigation of body language between the interviewees and interviewer, are lost in analysis.

Fourth, barriers to using film as a data-collection method must be acknowledged. This method can be more expensive, more time-consuming, more difficult to recruit to and more technically likely to go wrong than a Dictaphone or notes. Alternatives to the approach taken here could involve the researcher setting up a camera on a tripod which would cut cost. The quality of the films would be lower, but for the quality of the data, this

is not likely to be problematic. For recruitment, if filming is a deterrent to taking part, then it can be offered as one way of capturing the data alongside a Dictaphone or notes. Analysis can also be more time-consuming than for audio-text alone. However, the advantages and added value to the data, arguably, make this worthwhile.

The fifth practical reflection relates to feedback on the process. Informal discussions with the young people took place after interview in order to understand their experience better. However, these discussions were not included in the data or analysis. Future studies could benefit from a more formalised, short feedback session on the experience itself, which would add to the data.

Finally, and going back to Pink's (2001) point on the superiority of the written word, while film allows a 'fuller' presentation of self during data-capture and analysis, the presentation of the data is written. A move away from the written word as the dominant medium of expression could be accomplished through showing raw or edited footage at a conference presentation, seminar or public talk. However, this would require additional ethical permission, and would not be possible to present within academic journals. Another option would be to show clips in the form of images exemplifying aspects of the body language. However, this would also require additional ethical approval as it would break confidentiality, and would not exemplify the movements and changes to body language as effectively as the moving image. One final alternative could be to anonymise the data by using the voices but not the images of the people taking part, and perhaps to use infographics or animation alongside the voices.

Conclusion

Using film as a research method to capture young people's political views adds depth to analysis and additional insights to the findings through contradiction, consolidation and supplementation within the data. While caution must be exercised when discussing meanings and implications, use of visual data to capture political views and perspectives among young people is shown here to be capable of broadening our understanding and highlighting avenues of further exploration not possible through verbal data alone, which could be pursued through quantitative techniques. Audio-visual data in the form of film can expand the parameters of political research, particularly through the question-answer format, by identifying with increased accuracy particular areas of concern which could guide future survey question design within the political sciences.

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Learning from the National Transition Worker Network

Cathy Street, Division of Mental Health and Wellbeing, Warwick Medical School, University of Warwick; Moli Paul, Coventry and Warwickshire Partnership Trust; and Swaran P Singh, Division of Mental Health and Wellbeing, Warwick Medical School, University of Warwick

Abstract

Ensuring appropriate transfer and quality of transitional care for young people moving from Child and Adolescent (CAMHS) to Adult (AMHS) Mental Health Services is a health policy and practice imperative. This paper describes a research study – the Bridge Project – which used an action research methodology to gather information on different transition worker roles and transition services in place from 2011 to 2013.

The Bridge Project established and facilitated a network made up of 28 transition practitioners from across England and Wales who met every six months. There is a lack of published data about the transition worker role, and sharing and collating ‘real life’ experiences of delivering transition support by network members played an important role in the research. The information helped to build up a national picture of an evolving role and through this, identify the key issues and variations in practice to explore in the fieldwork. It also challenged the researchers to think about the practice studied in the West Midlands, and whether the challenges and successes reported were peculiar to the local CAMHS and AMHS or reflected more widespread systemic challenges in the role: that is, to what extent the findings could be generalised. Findings from the Bridge Project included that transition roles and services vary but have some common features. Significant cultural and practical differences exist between CAMHS and AMHS, and effective transition worker posts often require high levels of management facilitation and support, with experienced post-holders who demand respect from clinicians and clarity of roles and responsibilities.

Funding acknowledgement

The Bridge Project received funding from the NHS West Midlands Innovation Fund, NHS Midlands and East. The National Research Ethics Service West Midlands – Coventry & Warwickshire Committee approved the study. We would like to acknowledge, with gratitude, the contributions of the members of the Transition Worker Network for agreeing to the documentation and analysis of their meetings and communications during the course of the Bridge Project; the project steering group (Fran Tummey, Helen Hipkiss, Clive Rostill, Sue Crabb, Elijah Collins, Loraine Roberts, Janet Kennedy and Kam Kaur); Paul McDonald, research manager, Birmingham and Solihull Mental Health NHS Foundation Trust Research and Development Unit, and Nicola Wheeler, Ruth Paul and Kamel Mansi, additional researchers on the project.

Introduction

The need to ensure appropriate transfer and quality of transitional care for young people at the transitional boundary between Child and Adolescent (CAMHS) and Adult Mental Health Services (AMHS) has been highlighted in government policy, practice-orientated guidance and research. It is prominent in the Department of Health (DH) and NHS England 2015 report ‘Future in Mind – promoting, protecting and improving our children and young people’s mental health’ (Department of Health and NHS England, 2015).

The 2016 NICE guidance and guidelines 'Transition from children's to adults' services for young people using health and social care services' (National Institute for Health and Care Excellence, 2016) gave further impetus to improving transitions, and highlighted the need for good quality research on 'what works'. The guidelines recommended that young people leaving children's services should have a 'named worker', who could be a health or social care practitioner, to coordinate care and support to the young person.

This paper describes the development of a transition worker network in England and Wales. Using an action research methodology, it summarises information about different transition worker roles and transition services gathered from the network members, alongside considering how their 'real life' experiences of delivering transition support added a new dimension to fieldwork undertaken in two areas of the West Midlands. Firstly, it helped to identify key issues to explore (and updated these over the life of the project as practice evolved nationally); secondly, it provided an important backdrop of knowledge, skills and experience against which to consider the extent to which the findings from mental health practitioners in the West Midlands could be generalised to services in other parts of the country.

Defining action research

Although the definition of 'action research' varies between contexts, it is essentially a methodology used to combine research and practice (Hampshire et al, 1999), generating knowledge about a system whilst trying to change it (Meyer, 2001). Participatory action research has been successfully used by and with young people with mental health needs to improve transitional care (Costa et al, 2015; Street et al, 2015).

The Bridge Project methodology was based on mixed methods, and included a review of the literature about young people's mental health transitions and analysis of quantitative data (number of referrals in the relevant CAMHS and services referred to) concerning young people in transition in two areas of the West Midlands. At all times, the researchers aimed to work as flexibly as possible in order to promote engagement in the study and minimise the burden on busy practitioners (to optimise acceptability of the data collection requirements). They therefore tried to draw on routinely collected data as much as possible. Regular site visits and attendance at team meetings were undertaken, as well as qualitative semi-structured individual interviews with mental health practitioners from CAMHS, AMHS and other local services working with young people with mental health needs, and interviews with young people with experience of transition and their families. Scheduling of these was as flexible as possible, with all interview data being thematically analysed. An added dimension to the study was recruiting a national network of transition workers, which, it was hoped, would provide a broader picture of the role of transition workers, and would allow for a wider range of practice to be considered.

Transitional care

In this paper, we use the terms 'transition' or 'transitional care' as related to but different from 'transfer' (Paul et al, 2013). Transition is a process, the quality of which can vary. It requires therapeutic intent and can have elements including preparing the young person for transfer between child-orientated and adult-orientated services; a period of handover/joint care; transition planning meetings (involving the young person and/or carer, key children and adult service professionals); and appropriate transfer of clinical information. The process should result in the established engagement of the young person with adult services.

Establishing the transition worker network

The Bridge Project research team initially reviewed a range of transition-related reports to identify possible transition services to approach to join the network. This included the findings of a national practice enquiry undertaken for the Social Care Institute for Excellence (SCIE) (SCIE, 2011). A snowballing technique and consultation with experts was also used to identify practitioners who agreed to attend six-monthly network meetings over the two-year life of the Bridge Project. Planned, newly established and longstanding operational transition posts were identified. By the end of the project, 28 transition workers were part of the network, with on average, ten workers attending the various network meetings.

Overall, it appeared that the network provided good representation from across the country with participants from the north, south, east and west of England; both rural and urban geographic areas; and one practitioner from South Wales. Different professional backgrounds were included. 17 members of the network came from psychology, psychiatry and nursing backgrounds, and had clinical responsibilities/caseloads in these areas; other professional backgrounds included social work and occupational therapy. All but three were sole practitioners in dedicated transition posts. Three had a local authority-wide remit to implement and co-ordinate cross-agency transition protocols and processes or worked regionally providing consultation, advice and training to other mental health professionals. All of the key service settings were also covered including multi-disciplinary CAMHS teams, community AMHS and voluntary sector projects. The latter reported providing buddying, mentoring or outreach support to young people, often focusing on those young people who had not engaged with mainstream NHS mental health services.

In the network, there were examples of 'extended' CAMHS services that worked with young people up to the age of 25 years; of transition workers providing dedicated transition clinics (where practitioners from CAMHS, AMHS, social care and the voluntary sector might meet to plan and co-ordinate a young person's transition); and of some transition workers having responsibility to develop new care pathways for specific groups of young people such as those with autism spectrum disorders (ASD).

Collecting, comparing and contrasting roles and transition services

Early in the process of establishing the network, significant variation in roles and responsibilities were apparent. There was no unitary job description or service specification. A bespoke template was, therefore, designed at the first network meeting to gather quantitative and qualitative information on job descriptions, roles and responsibilities, services within which transition workers were based, and the age range they worked with.

Data was collected on the duration of established posts and whether they were sole practitioners or one of a team. Where teams existed, information on staffing, commissioners and providers (statutory, voluntary/community or social care sector) was sought. Qualitative data was thematically analysed and some descriptive statistics were produced from quantitative data, for example, illustrating 'average' caseloads and types of support or therapeutic activity offered.

To ensure that the data collected was as objective as possible, information shared by network members was documented throughout the project. Communication by group members with the Bridge Project researchers both at and between meetings, by telephone, email or face-to-face, contributed to an iterative and cyclical process of collecting, analysing, feeding back and reflecting on data. On average, ten of the transition workers maintained an active dialogue with the researchers, and this process challenged the practitioners in the network to think through some of their assumptions as to what worked and why. It also encouraged group reflection, and generated knowledge and understanding of possible ways to improve the role. In turn, this encouraged the researchers to think more widely about some of the issues emerging from the fieldwork: for example, how transition workers could support young people experiencing long waiting times for a first appointment in AMHS.

Identifying barriers and facilitators

In both the fieldwork and the network meetings, transition workers' experiences of, and perceptions about, barriers and facilitators to the impact of their role in supporting young people were a key focus. In the network meetings, themes and connections were often collated into diagrams on flipcharts to clarify, develop and refine understanding of common and outlying barriers and facilitators. Where challenges were identified, narratives about how solutions were reached provided additional themes and learning opportunities. Challenges to manage during the life of the project included the emergence of new posts and services, or, posts ceasing because of short-term contracts ending, funding cutbacks or re-prioritisation of local resources. This resulted in some reduced attendance at network meetings in the latter stages of the study.

Results

Transition worker roles and responsibilities: similarities and differences

At early network meetings, a number of practitioners were in newly-created roles and much of their activity was mapping local provision for young people in transition, building inter-agency links and beginning to develop transition protocols. Many also had responsibility for creating new information materials for young people and their families.

Across the group, the following areas of work were quite common: the development of transition protocols and processes (both in-service and on a cross-agency basis); training, advice and consultation to other staff in their local area; and awareness-raising work about young people's needs when in transition from CAMHS.

A significant variation was whether or not the transition worker held a caseload and/or offered direct work with young people in transition (approximately two thirds of the network members had caseloads) or held a mainly co-ordinating or managerial role, which might include convening and/or chairing transition planning meetings. Three of the network's transition workers were more actively involved in gathering information about young people in transition and their service use, auditing service activity data and gathering service user feedback on transition. These practitioners also had a training remit. A number worked at a senior level on wider CAMHS redesign and modernisation programmes, within which improving young people's transition was a priority area.

Learning from the past

In some cases, transition worker posts or services had been developed over time. Each iteration had aspects of the job description or person specification that had been 'learnt' from implementing the last version. Key learning from the past included that employing someone junior did not work because the post-holder needed to have a 'voice of authority'. It was also important to guard against practitioner isolation and to ensure that there was good line management support and, if at all possible, that the worker was attached to a specific team or service. Some direct clinical activity (or at least past experience of this) was also thought to be helpful in that this engendered a sense of accountability to patients and an element of respect from other clinicians.

Difficulties and barriers

It was striking that, despite the diversity of transitions-related posts and services, many issues and dilemmas raised by network members, and echoed in the fieldwork, were similar. Several network members described experiencing some resentment, particularly on starting in post, from practitioners in CAMHS and AMHS who felt they were already doing transition work; such feelings may have been exacerbated by 'new' transition worker posts being created whilst job cuts were made elsewhere. In later network meetings, resentments were less frequently raised, and it appeared that roles were becoming more appreciated and understood. Staying in post and doing an effective job, however, continued to be challenging in a climate of constant service reorganisation and stretched budgets.

There was a perceived danger that transition workers could be seen as 'all things to all people' and subject to unrealistic expectations. This was particularly challenging given that all network members (and those interviewed in the fieldwork) were working in services, or trying to develop cross-agency protocols and processes, or audit provision, or offer training about transition, against a backdrop of increased referral rates and greater numbers of young people presenting in crisis.

Members of the transition network provided valuable insights into cultural and practical differences between CAMHS and AMHS which created difficulty. These included the degree of flexibility in how the service worked (such as where a young person could be seen and whether digital media could be used to remind and communicate with young people); the use of different mental health terminologies/diagnostic labels; and the involvement of families/carers. Poorly detailed or inconsistent paperwork and incompatible IT systems were highlighted. These often resulted in blockages to information sharing between CAMHS and AMHS.

Network members also reported inconsistencies and discontinuities in referral criteria between services and increasingly restrictive (high) referral criteria. These issues helped inform the focus of interviews with CAMHS and AMHS practitioners in the two West Midlands areas and with young people using these services, and to consider the impact of such issues on both service users and the mental health practitioners working with them, for planning a young person's transition.

Strengths, facilitators and progress

Factors perceived to improve transitional care included the integration of CAMHS and AMHS in some parts of the country; development of care pathways; the creation of more shared posts spanning CAMHS and AMHS; and 'joined up' commissioning. A widely held view amongst the network members was that senior management support and understanding of young people's difficulties was key to getting transition-related work prioritised, supported, resourced and promoted as part of every practitioner's work, rather than the sole responsibility of a transition worker.

Discussion

This paper adds to the literature and the understanding of evolving mental health practice by describing differences and similarities between transition worker posts in England and Wales, identifying facilitators and barriers to their effective functioning. The transition worker network established through the Bridge Project succeeded in enabling the generation and sharing of information about practice across the country; promoted individual and peer reflection; challenged both practitioner and researcher assumptions about what works in transitional care; and facilitated the acquisition of knowledge and experience. Careful documentation of national practice as it evolved over the life of the study attempted to ensure that data was objectively appraised throughout the research. Through facilitated network discussions, detailed accounts of historical practice as well as the difficulties in offering transition support were captured from a diverse group of practitioners.

Comparison of findings with previous research

We are not aware of any comparable research on transition workers in mental health services. Cultural and practical differences between CAMHS and AMHS, impairing transfer and good quality transition, have been identified previously (Vloet, et al, 2011; Belling et al, 2014). CAMHS and AMHS are usually commissioned differently and have differing referral criteria, resulting in gaps in provision, especially for young people with ADHD and ASD (Singh et al, 2010).

In 'Future in Mind' (Department of Health and NHS England, 2015) the importance of 'a system without tiers' and of flexible, joined up approaches to mental health service provision, are prominent underlying themes. Commissioning and delivery of youth mental health services and 0-25 (years-old) services may be ways of addressing this gap, and are increasingly being considered by commissioners in some areas of England. As yet, service evaluations are awaited, and research comparing them with treatment as usual or other transitional care programmes is lacking.

Implications for research methodologies

Whilst this paper provides evidence from action research on factors that might facilitate the sustainability and effectiveness of transition posts and services, the variation in posts and services currently precludes using methodologies such as randomised controlled trials (RCTs). Future research will require specific definitions of the roles, responsibilities and context within which transition or 'named workers' operate, if any such transition intervention is to be reliably evaluated. The methodology used in the Bridge Project provides a valuable preliminary to exploring this area of practice. A process evaluation approach to assessing complex interventions (Moore et al, 2015) may be a suitable next step.

Conclusions

Findings from the Bridge Project highlight that transition worker roles and services vary but have common features. Post-holders, both in the network and in the West Midlands services involved in the Bridge Project, faced common challenges, including cultural and practical differences between CAMHS and AMHS and systemic discontinuities in commissioning and providing services to children, young people and adults. Successful and effective posts were identified as requiring a high level of management facilitation and support, experienced senior-level post-holders who can demand respect from other clinicians and clarity of roles and responsibilities. The collaboration of a diverse group of practitioners through the network provided a constant source of up-to-date data, as well as providing an invaluable sounding board for the researchers to discuss their findings and consider practice implications. The methodology used in the study helped to ground local findings in the national context. This, it can be argued, helped strengthen a study in an area where not much published UK data could be drawn upon. Furthermore, it provided an avenue for considering how generalisable the findings from one area of the country might be for other areas – an approach which could certainly be used in research on other new or evolving roles in services for children and young people.

With regard to improving transitional care, future research will require specific definitions of the roles, responsibilities and context within which transition workers or ‘named workers’ operate if interventions are to be reliably and robustly evaluated. The variation in transition posts and services, and the constantly changing nature of the role (in part a response to the widespread changes in mental health service configuration) pose particular methodological challenges. However, as demonstrated through the Bridge Project, approaches that combine research and practice, are feasible, acceptable to practitioners, and offer considerable potential to produce detailed insights into this important area of mental healthcare provision.

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Does reissuing unproductive cases in a face-to-face survey reduce non-response bias? Evidence from the Citizenship Survey

John D'Souza, HM Treasury; Patten Smith and Kevin Pickering, Ipsos MORI; Kathryn Gallop, KSG Research; and Angela Thompson, Royal College of Occupational Therapists

Abstract

It is common practice in UK face-to-face random probability surveys to reissue a subset of non-responding sample members to another experienced interviewer in order to improve response rates. This study examines the impact of reissuing on survey error on selected variables in the UK Government Department for Communities and Local Government's 2010 Citizenship Survey. Reissuing increased the number of respondents from 8,355 to 9,305, increasing the response rate from 50% to 56%. Compared to the first-issue sample, the reissue sample was younger and contained more members of minority ethnic communities, fewer home-owners and fewer people in the higher National Statistics Socio-economic Classification (NS-SEC) classes, more residents in London and the most deprived areas of England, and more living in urban areas. Estimates for the first-issue sample were compared to those for the overall (first-issue plus reissue) sample (i) after applying selection weights only and (ii) after applying the full weighting scheme (including non-response and calibration weights). Differences between selection weighted estimates for the first-issue and the full responding sample were significant for around a third of variables including some of the economic downturn variables, most of the volunteering variables, and some of the age/gender and geographical variables. Applying the full weighting scheme reduced the number of significant differences for demographic variables but had little impact on differences for key survey estimates, of which nearly four in ten were significant.

Introduction

Nowadays, it is common practice in UK face-to-face random probability surveys to reissue a subset of non-responding sample members to another interviewer in order to improve response rates. Cases for reissue are generally selected from non-contacts and 'soft' refusals (where reasons offered for refusing are circumstantial rather than firm). Generally, reissued cases are given to highly experienced interviewers who have a good track record in obtaining high response rates. Reissuing is found consistently to improve overall response rates: typically, some 10-25% of reissued cases are 'converted' into productive cases. The practice is, however, expensive to implement, both because (i) interviewers are paid at higher rates for covering reissued cases and (ii) interview productivity¹ is considerably lower for reissued cases, (both because the majority of reissued cases still decline to take part and because reissued cases are necessarily more dispersed than first-issue cases). Furthermore, although reissuing increases response rates, we know very little about its impact on the main component of survey error which derives from non-response, namely non-response bias.

It is reasonable to ask the question as to whether reductions in survey error ensuing from reissuing are worth the additional expense. Although we cannot answer this question fully in this paper because we did not collect useable cost data at the time, we do present evidence relevant to a closely related question: whether reissuing initial non-respondents helps reduce non-response bias.

¹ That is the number of interviews achieved for a day worked by an interviewer.

Non-response bias for a given statistic is defined as the average difference over all possible samples (of a given design) between (i) the value of that statistic for eligible sample members as selected and (ii) its value for respondents only. Within a single survey implementation, it is estimated as the difference between the value of a statistic as measured for the whole sample and as measured for the responding part of the sample.

Across the survey population, non-response bias for an estimate (say \bar{Y} , the mean of variable Y) can be approximated (Bethlehem, 2002) as the average across all possible samples of:

$$\frac{\text{Corr}(PY) \times SD(Y) \times SD(P)}{\bar{p}}$$

where:

Y = statistic for population of all eligible units

P = propensity to respond of all eligible units (taking values between zero for cases who never respond and one for cases who always respond)

The formula shows that non-response bias for variable Y increases with (i) the correlation between likelihood of responding (P) and the variable (Y); (ii) the standard deviations of propensity to respond and of the variable; and (iii) the inverse of response rate ($1/\bar{p}$).

Despite the importance often attached to response rate by researchers and survey funders, it can be seen from this formula that there is no guarantee that increases in response rate will lead to decreases in non-response bias. Furthermore, the survey literature demonstrates that, in practice, the relationship between non-response rate and non-response bias is often weak (for example Teitler et al, 2003; Keeter et al, 2000; Merkle, and Edelman, 2002, Curtin et al, 2000; Groves, 2006; Groves and Peytcheva, 2008; Hall et al, 2013 Sturgis et al, 2016). It is, therefore, by no means certain that practices like reissuing, which are primarily designed to increase response rates, will also be effective in reducing non-response bias.

Any research on non-response bias is subject to the major difficulty that non-response bias is, by definition, very hard to measure because it requires us to know the values of survey variables for non-respondents as well as for respondents. Because such information is generally unavailable, it is usually impossible to estimate non-response bias as specified in the above formula. However, given that our objective is to assess the impact of reissuing on non-response bias, we do not need to know absolute values of non-response bias if we are prepared to make a major (but reasonably plausible) assumption: that non-response bias cannot increase as response rate increases. Making this assumption allows us to interpret all observed changes in survey estimates arising after reissuing as indicative of reductions in non-response bias.

Here we use data from one large face-to-face interview survey – the 2009/10 Citizenship Survey (Department for Communities and Local Government and Ipsos MORI, 2011) – to address the question of whether key survey estimates for productive interview cases differ depending on whether interviews were obtained on first issue or after reissuing.

The Citizenship Survey

The Citizenship Survey was carried out on behalf of the Department for Communities and Local Government between 2001 and 2011. It was designed to provide measures of a range of important policy areas including cohesion, community empowerment, race equality, volunteering and charitable giving. The 2009/10 survey was based on a nationally representative core sample of 9,305 adults (aged 16 years and over) in England and Wales. The survey also boosted numbers of adults from ethnic minority groups and Muslims, although neither boost provided cases for the analyses reported here. The core sample was selected by means of a stratified two-stage design in which statistical wards formed the basis of primary sampling units (PSUs) and the Postcode

Address File (PAF) constituted the address sample frame. One eligible adult was selected at random for interview at each sampled address.

Results were weighted both to correct for selection inequalities, and to reduce non-response bias. The weighting of the survey followed a three-step procedure that is common in many UK face-to-face household surveys:

1. Selection weights were calculated to correct for unequal selection probabilities (arising from respondent selection procedures)
2. Initial non-response weights were then calculated, based on Government Office Region (GOR), Acorn group² and proportion of non-white-residents in the local area using a logistic regression model
3. Calibration weights were calculated which aligned sample totals to population totals for age, gender and GOR

The data reported here was collected on a quarterly basis by means of face-to-face interviews fieldwork conducted between April 2009 and March 2010. Fieldwork was conducted jointly by interviewers from Ipsos MORI and TNS-BMRB.

The survey interview was structured in 14 sections³. The first collected demographic information about the respondents whilst the other 13 collected data of substantive interest. In addition, geographic and geo-demographic variables were added to the data file. In consultation with the Citizenship Survey research team, we identified a set of variables which could reasonably be regarded as key survey estimates. These are summarised in table 1, below. A more detailed description is given in the annex.

Table 1: Summary of key survey questions on Citizenship Survey

Section	Description
Demographics Part 2	Variables measuring the effects of the economic downturn on the respondent or the respondent's family
Your community	Five variables measuring the respondent's assessment of their community and their strength of belonging
Influence	Two variables measuring the respondent's views on their ability to influence decisions on their community
Volunteering	Thirteen variables measuring the type and frequency of the respondent's volunteering activities
Race	Ten variables concerning the respondent's perceptions or experience of racial discrimination
Mixing	Variables measuring the respondent's frequency and experience of mixing with people of other races
Violent extremism	Two variables measuring the respondent's views on the acceptability of violent extremism

² ACORN (A Classification Of Residential Neighbourhoods) is a geo-demographic classification system. The five-category grouping classifies neighbourhoods as *Wealthy Achievers*, *Urban Prosperity*, *Comfortably Off*, *Moderate Means*, or *Hard Pressed*.

³ The 14 sections were: Demographics, Identity and social networks, Your community, Influencing political decisions and local affairs, Volunteering, Objective empowerment, Race, Religion, Mixing, Respect, Self identity, Violent extremism, Media usage, Demographics part 2.

Response rates

Table 2 shows the response breakdown for both first and second issues in 2009/2010. 18,120 addresses were issued for fieldwork. Of these, 1,499 were classified as ineligible as they did not contain an occupied private household. Of the remaining 16,621 addresses, a total of 8,355 interviews (50.3%) were achieved before reissuing non-contacts and soft refusals. Of the 8,266 first-issue non-responders, 5,030 non-contacts and refusals were reissued. Interviews were obtained with 950 (18.9%) of the reissued cases. Overall, first-issue and final (post-reissue) response rates were 50% and 56%. Table 2 shows the response breakdown for both first and second issues.

Table 2 Response breakdown to citizenship core sample 2009-2010

	Number of cases	Percentage of all issued (%)	Percentage of eligible (%)
Full sample			
Total issued	18,120	100.0	
Ineligible	1,499	8.3	
Eligible	16,621	91.7	100.0
<i>Responders</i>	9,305	51.4	56.0
<i>Non-responders</i>	7,316	40.4	44.0
First issue			
Total issued	18,120	100.0	
Ineligible	1,499	8.3	
Eligible	16,621	91.7	
<i>Responders</i>	8,355	46.1	50.3
<i>Non-responders</i>	8,266	45.6	49.7
Reissues			
Total first-issue non-responders	8,266	45.6	
Re-issued	5,030	27.8	
<i>Responders</i>	950	5.2	5.7
<i>Non-responders</i>	4,080	22.5	24.5
Not re-issued	3,236	17.9	19.5

Analysis

The analyses involved three stages. First, we compared estimates based on first-issue interviews with those based on reissue interviews. Clearly, if these differences are small the impact of reissuing on overall estimates will also be small. Second, we compared estimates obtained from the first-issue sample with those obtained from the final overall sample. Differences between these estimates show the extent to which reissuing changed survey estimates. These analyses were conducted on data weighted by selection weights but not non-response weights. Selection weights compensate for sample biases attendant upon survey design features (notably the respondent selection procedures), and are appropriate to these analyses. However, because selection weights have no impact on non-response bias, these analyses show how reissuing affected estimates *before* efforts were made to reduce non-response bias through non-response weighting.

Non-response weights were applied in the Citizenship Survey, and their application will have changed survey estimates (in a manner that it is hoped will have reduced non-response bias). It is, therefore, possible that any differences observed between first-issue estimates and whole-sample estimates would change after non-response weights were applied. For this reason, for our third stage of analysis, we compared estimates obtained from the first-issue sample with those obtained from the final overall sample *after separate non-response weights had been applied* to both first-issue and final overall samples.

Our initial analyses give a direct indication of whether or not reissue respondents differ in their characteristics from first-issue ones. Table 3 compares estimates of basic demographic variables for first-issue and reissue respondents, weighted by selection weights only. The table shows that the reissue sample was younger, contained more members of minority ethnic communities, contained fewer home-owners and fewer people in the higher NS-SEC classes. The reissue sample also had more residents in London, in the most deprived areas of England and in urban areas. This suggests that reissuing was disproportionately adding respondents who are typically found to be harder to reach.

However, our main interest is in examining, not whether the first-issue sample differs from the reissued sample, but by how much estimates based on the first-issue sample differ from those based on the combined sample. There are two reasons for believing a difference between the first-issue and reissued samples might not result in a large difference in corresponding estimates. First, the reissued sample comprises only a small proportion (about 10%) of the combined sample, thereby limiting its maximum possible impact on the estimates. Second, final estimates are calculated not using selection weights, but using a more sophisticated weighting scheme designed to reduce non-response bias which may have had the impact of reducing differences between first-issue and complete-sample estimates. This is necessarily true for the variables used to construct the weights (age, gender and region) for which first-issue and final estimates were forced to be equal; it is hoped that one impact of non-response weighting was also to reduce differences for other variables.

Table 3: Tabulation of main demographic variable by issue status

Variable	First issue (%) (n = 8355)	Reissue (%) (n=950)
Tenure		
Owner	33.3	28.9
Buying with a mortgage	36.2	37.0
Renting	29.1	32.4
Other	1.4	1.7
Age within gender		
Male 16-44	20.2	24.0
Male 45-64	16.2	18.8
Male 65+	10.6	7.4
Female 16-44	24.0	26.3
Female 45-64	17.5	16.2
Female 65+	11.6	7.4
Ethnicity		
White	90.6	87.5
Asian	4.7	6.3
Black	2.5	3.4
Mixed	0.9	0.7
Chinese or other	1.3	2.0
National Statistics Socio-economic Classification (NS-SEC)		
Manager	32.6	27.5
Intermediate	28.4	30.4
Semi-routine and routine	26.8	24.0
Other	12.1	18.1
Urban		
Urban	78.6	86.3
Region		
London	10.2	19.7
North East, North West England and Yorkshire	29.4	25.5
South East and South West England	25.3	21.5
East England and the Midlands	28.8	29.4
Wales	6.2	3.8
English Index of Multiple Deprivation		
Most deprived decile	10.2	11.0
Second most deprived decile	8.9	9.9
Least deprived deciles	74.7	75.3
Not England (Wales)	6.2	3.8

Our next set of analyses more directly addressed the question that is likely to be in the minds of survey commissioners: ‘How much worse would our estimates on key survey variables be if we did not reissue?’ We considered the properties of four different estimators. For each variable under consideration, we compared estimates for respondents interviewed after first-issue with estimates based on the complete sample. We calculated the estimates after first weighting the sample by selection weights only, and then after applying the full weighting system. The full weighting procedure (applied separately to the first-issue sample and to the final overall sample) used the same three steps as were used to obtain the original estimates (selection, non-response and calibration).

Four estimates for each survey quantity are given in tables 4 and 5 (differences significant at the 0.05% significance level are underlined).

Table 4: Demographic and geographic variables: first-issue and complete sample compared

Variable	Selection-weighted sample			Full weighted sample			95% CI for the difference in (f)	
	(a) Full sample (%)	(b) First issue (%)	(c) Difference (%)	(d) Full sample (%)	(e) First issue (%)	(f) Difference (%)	(g) lower limit (%)	(h) upper limit (%)
Tenure								
Owner	32.8	33.3	<u>-0.5</u>	31.0	30.9	0.1	-0.22	0.54
Buying with a mortgage/ Shared ownership	36.3	36.2	0.1	36.2	36.4	-0.2	-0.69	0.24
Renting	29.5	29.1	0.3	31.2	31.2	0.0	-0.45	0.58
Other	1.4	1.4	0.0	1.5	1.5	0.0	-0.10	0.27
Demographics								
Male Aged 16-44	20.6	20.2	<u>0.4</u>	24.8	24.8	0.0	0.00	0.00
Male Aged 45-64	16.4	16.2	0.3	15.2	15.2	0.0	0.00	0.00
Male Age 65+	10.2	10.6	<u>-0.3</u>	8.7	8.7	0.0	0.00	0.00
Female Aged 16-44	24.2	24.0	0.2	24.4	24.4	0.0	0.00	0.00
Female Aged 45-64	17.3	17.5	-0.1	15.6	15.6	0.0	0.00	0.00
Female Age 65+	11.2	11.6	<u>-0.4</u>	11.2	11.2	0.0	0.00	0.00
Ethnicity White	90.3	90.6	-0.3	89.0	88.7	0.2	-0.13	0.59
Ethnicity Asian	4.9	4.7	0.2	5.4	5.5	-0.1	-0.35	0.16
Ethnicity Black	2.6	2.5	0.1	3.1	3.2	-0.1	-0.30	0.11
Ethnicity Mixed	0.8	0.9	0.0	1.0	1.1	-0.1	-0.19	0.00
Ethnicity Chinese/Other	1.4	1.3	0.1	1.5	1.5	0.1	-0.09	0.26
Education Degree	23.8	24.2	<u>-0.4</u>	24.4	25.0	<u>-0.6</u>	-1.04	-0.21
Education Below degree	56.5	56.1	0.4	56.8	56.4	0.5	-0.04	1.00
Education No qualifications	19.8	19.7	0.0	18.8	18.6	0.1	-0.28	0.55
NS-SEC								
Manager	32.0	32.6	<u>-0.5</u>	31.6	32.2	<u>-0.6</u>	-1.01	-0.18
Intermediate occupation	28.6	28.4	0.2	27.9	27.6	0.3	-0.16	0.65
Semi-routine and routine occupation	26.6	26.8	-0.3	26.0	26.1	-0.1	-0.52	0.34
Other	12.8	12.1	<u>0.6</u>	14.5	14.1	<u>0.4</u>	0.05	0.86

Variable	Selection-weighted sample			Full weighted sample			95% CI for the difference in (f)	
	(a) Full sample (%)	(b) First issue (%)	(c) Difference (%)	(d) Full sample (%)	(e) First issue (%)	(f) Difference (%)	(g) lower limit (%)	(h) upper limit (%)
Geographical								
Urban	79.6	78.8	<u>0.8</u>	81.0	80.7	<u>0.4</u>	0.05	0.66
Region								
London	11.2	10.2	<u>1.0</u>	14.0	14.0	0.0	0.00	0.00
NE, NW England and Yorkshire	29.0	29.4	-0.4	26.9	26.9	0.0	0.00	0.00
SE and SW England	24.9	25.3	-0.4	25.0	25.0	0.0	0.00	0.00
East England and the Midlands	28.9	28.8	0.1	28.6	28.6	0.0	0.00	0.00
Wales	6.0	6.2	<u>-0.3</u>	5.5	5.5	0.0	0.00	0.00
English Index of Multiple Deprivation								
Most deprived decile	10.3	10.2	0.1	10.2	10.3	-0.1	-0.38	0.29
Second most deprived decile	9.0	8.9	0.1	9.1	9.2	-0.1	-0.37	0.21
Least deprived deciles	74.7	74.7	0.1	75.3	75.1	0.2	-0.24	0.57
Not England (Wales)	6.0	6.2	<u>-0.3</u>	5.5	5.5	0.0	0.00	0.00
Acorn Category								
Wealthy Achievers	26.7	27.2	<u>-0.5</u>	24.8	24.8	0.0	-0.18	0.20
Urban Prosperous	9.6	8.8	<u>0.8</u>	12.4	12.2	0.3	-0.03	0.61
Comfortably Off	28.8	29.0	-0.2	28.6	28.6	-0.1	-0.31	0.11
Moderate Means	14.3	14.1	0.2	14.6	14.6	0.0	-0.24	0.28
Hard Pressed	20.0	20.3	-0.2	19.2	19.4	-0.1	-0.36	0.04
Unclassified	0.5	0.5	0.0	0.5	0.5	0.0	-0.10	0.00

Table 5: Key survey estimates: first-issue and complete sample compared

Variable	Selection-weighted sample			Full weighted sample			95% CI for the difference in (f)	
	(a) Full sample (%)	(b) First issue (%)	(c) Difference (%)	(d) Full sample (%)	(e) First issue (%)	(f) Difference (%)	(g) lower limit (%)	(h) upper limit (%)
Result of economic downturn: Respondent has:								
Experienced a drop in income	19.7	19.7	0.0	19.5	19.5	0.0	-0.44	0.48
Fallen into arrears with bills or credit cards	5.5	5.7	<u>-0.2</u>	5.6	5.9	<u>-0.3</u>	-0.49	-0.13
Fallen into arrears with rent or mortgage	2.1	2.1	0.0	2.1	2.1	0.0	-0.14	0.07
Cut back on socialising	18.1	18.4	<u>-0.4</u>	18.0	18.5	<u>-0.5</u>	-0.81	-0.14
Cut back on any other non-essential spending	20.3	20.6	-0.3	20.0	20.3	-0.4	-0.72	0.02

Variable	Selection-weighted sample			Full weighted sample			95% CI for the difference in (f)	
	(a) Full sample (%)	(b) First issue (%)	(c) Difference (%)	(d) Full sample (%)	(e) First issue (%)	(f) Difference (%)	(g) lower limit (%)	(h) upper limit (%)
Fallen into greater debt	2.7	2.8	<u>-0.1</u>	2.8	2.9	<u>-0.2</u>	-0.30	-0.07
Lost a home	0.3	0.3	<u>0.0</u>	0.3	0.3	<u>0.0</u>	-0.05	-0.01
Lost a job	4.7	4.7	-0.1	4.8	4.9	-0.1	-0.29	0.06
Cut back on food bills	12.6	12.7	-0.2	12.3	12.5	-0.2	-0.46	0.12
Cut back on utility bills	12.8	13.1	<u>-0.3</u>	12.3	12.6	<u>-0.3</u>	-0.53	-0.01
Cut back on donations to charity	6.3	6.6	<u>-0.3</u>	6.1	6.3	<u>-0.3</u>	-0.44	-0.10
Your community								
Belonging to neighbourhood (very/fairly strongly)	77.3	77.5	-0.2	76.3	76.3	0.0	-0.48	0.43
Belonging to GB (very/fairly strongly)	87.5	87.6	-0.1	87.3	87.3	0.0	-0.45	0.33
Satisfaction with local area (very/fairly satisfied)	83.9	84.1	-0.1	83.7	83.8	-0.1	-0.52	0.31
Agree different backgrounds get on well	84.7	84.7	0.0	84.7	84.6	0.1	-0.33	0.42
Believe problem of racial/religious harassment	6.9	6.9	0.0	7.3	7.5	-0.2	-0.42	0.11
Influence: Agree/tend to agree can influence decisions								
Affecting local area	37.0	37.0	-0.1	37.4	37.5	-0.1	-0.57	0.44
Affecting Britain	19.5	19.4	0.1	20.2	20.3	-0.1	-0.50	0.30
Volunteering: Respondents' activities								
Did not give to charity in past 4 weeks	27.2	26.7	<u>0.5</u>	28.1	27.7	0.4	-0.15	0.91
Civic participation at least once a month	2.8	2.9	<u>-0.2</u>	2.6	2.8	<u>-0.2</u>	-0.25	-0.06
Civic participation in past 12 months	35.1	35.8	<u>-0.6</u>	34.2	34.6	-0.5	-0.93	0.02
Civic consultation at least once a month	1.6	1.7	<u>-0.1</u>	1.5	1.6	<u>-0.1</u>	-0.15	-0.03
Civic consultation past in past 12 months	18.7	19.4	<u>-0.6</u>	18.1	18.6	<u>-0.6</u>	-0.90	-0.26
Civic activism in past 12 months	10.4	10.6	-0.2	10.2	10.4	<u>-0.2</u>	-0.41	0.13
Civic engagement in past 12 months	60.0	61.0	<u>-1.0</u>	59.2	60.1	<u>-0.9</u>	-1.47	-0.47
Informal help at least once a month	29.9	30.4	<u>-0.5</u>	29.7	30.1	<u>-0.4</u>	-0.80	-0.02
Informal help in past 12 months	54.5	55.4	<u>-1.0</u>	54.3	55.3	<u>-1.0</u>	-1.50	-0.57
Formal volunteering at least once a month	25.8	26.6	<u>-0.8</u>	25.3	26.0	<u>-0.7</u>	-1.06	-0.32
Formal volunteering in past 12 months	40.7	41.7	<u>-1.0</u>	40.4	41.4	<u>-1.0</u>	-1.50	-0.56
Formal volunteering or informal help in past 12 months	65.9	67.1	<u>-1.2</u>	65.6	66.8	<u>-1.2</u>	-1.69	-0.70

Variable	Selection-weighted sample			Full weighted sample			95% CI for the difference in (f)	
	(a) Full sample (%)	(b) First issue (%)	(c) Difference (%)	(d) Full sample (%)	(e) First issue (%)	(f) Difference (%)	(g) lower limit (%)	(h) upper limit (%)
Race: Respondent thinks they would be treated worse by:								
Police	5.8	5.7	0.1	6.0	6.0	0.0	-0.24	0.31
Prison service	3.1	3.0	0.2	3.3	3.2	0.1	-0.10	0.39
Courts	5.0	5.0	0.0	5.1	5.1	0.0	-0.24	0.28
Crown Prosecution Service	4.7	4.7	0.0	4.8	4.8	0.0	-0.21	0.29
Probation Service	3.0	2.9	0.1	3.1	3.1	0.0	-0.18	0.28
Council housing department	17.7	17.8	-0.1	17.5	17.5	-0.1	-0.41	0.35
Local doctors' surgery	1.7	1.8	-0.1	1.7	1.8	-0.1	-0.14	0.05
Local school	2.7	2.7	0.0	2.6	2.6	0.0	-0.11	0.16
One of the eight organisations above	22.2	22.2	0.0	22.1	22.2	-0.1	-0.50	0.36
Race: Discrimination because of race/colour								
Has been refused a job	2.0	2.2	<u>-0.1</u>	2.2	2.4	<u>-0.2</u>	-0.33	-0.09
Mixing: Respondent mixed:								
Socially at home	32.6	32.3	0.3	34.8	35.1	-0.3	-0.77	0.19
At work, school or college	49.0	48.4	<u>0.5</u>	51.8	52.1	-0.3	-0.72	0.10
At child's crèche, nursery or school	10.7	10.9	-0.1	10.7	11.1	<u>-0.3</u>	-0.61	-0.09
At pub, club, café or restaurant	42.0	41.7	0.3	44.6	44.9	-0.3	-0.77	0.12
At group, club or organisation	31.2	31.3	-0.1	32.8	33.4	<u>-0.5</u>	-0.97	-0.04
At the shops	59.4	59.3	0.1	61.1	61.7	<u>-0.5</u>	-0.99	-0.07
At a place of worship	14.6	14.5	0.1	15.4	15.6	-0.2	-0.60	0.16
Views on violence in Britain								
Violent extremism to protest always/often wrong	92.5	92.7	-0.2	92.1	92.3	-0.2	-0.55	0.11
Violence in name of religion always/often wrong	97.9	98.0	-0.1	97.7	97.7	-0.1	-0.27	0.10

Table 4 gives estimates of demographic and geographical variables. These are variables which were not of particular interest to the Citizenship Survey, but which have been included in our analysis because they are collected as standard on many UK government surveys. Table 5 contains the more important key survey estimates.

In both tables, the first three columns compare first-issue and whole-sample estimates after weighting by selection weights only (the selection weight being equal to the product of the number of households in the address and the number of adults in the household⁴). The next three columns repeat the analysis after the full weighting. The main quantity of interest is the difference in estimates with and without reissuing (columns (c) and (f)). Column (c) is an estimate of the difference between first-issue and final estimates without efforts to correct for non-response bias through non-response weighting, whereas column (f) shows the difference after such weighting had been applied. Small differences in these quantities provide evidence that reissuing

⁴ Following the procedure in the published survey, some large selection weights were trimmed.

does not result in large changes to the survey estimates. As well as estimating the changes in estimates resulting from reissuing, we were also interested in testing for statistical significance and providing confidence intervals for these changes. Calculating the statistical significance of the estimates in column (c) was relatively straightforward, but applying the more complex weighting system made the equivalent test of the values in column (f) more difficult. The approach we took was bootstrapping, and columns (g) and (h) display the bootstrapped⁵ 95% confidence interval for the difference in (f). (The corresponding confidence intervals for the selection weighted estimates are less interesting and are not shown here.)

Estimates based on selection weighting

Many of the differences between *selection weighted* estimates based on the first-issue sample and ones based on the full responding sample are statistically significant (underlined in the table). These differences are seen for most of the volunteering variables, the age/gender variables and some of the geographical variables such as the Government Office Region and the Acorn classification. This implies that if data were weighted by selection weights only, then reissuing would change estimates. However, in practice, such estimates would never be reported and for this reason, the analysis of the data weighted using the full weighting system is of greater interest.

Estimates after complete weighting

Rather than basing estimates only on selection weights, most surveys use some form of post-stratification or calibration. The Citizenship Survey calibrated to two variables: age within gender (a 14-category variable with seven categories for each gender⁶), and Government Office Region⁷ (consisting of ten categories).

Examination of the fully weighted estimates (columns (d) to (f) of tables 4 and 5) show that differences in age, gender and Government Office Region were completely corrected by calibration weighting. This is because these variables were used to set control totals. Estimates of quantities closely related to Government Office Region such as the proportion of adults resident in an urban area, and the proportion in one of the first two Acorn categories, were also improved.

As discussed above, if we are prepared to make the assumption that results obtained after reissuing cannot be more biased than those obtained from the first-issue sample, any statistically significant difference in the estimates in columns (d) and (e) can be seen as evidence showing that reissuing improves estimation.

The results showed that for the demographic and geographic variables (table 4), the effect of re-issuing was fairly small. Differences (column f) were all less than one percentage point, and most were less than half a percentage point. Furthermore, only four were statistically significantly different from zero, implying that, if the aim of the survey was simply to estimate these variables, then reissuing would be a relatively ineffective method for reducing bias.

However, differences were greater for some of the key survey estimates (column (f) of table 5), especially for the variables that measured volunteering and other community oriented activities, and also for some measuring the effects of the economic downturn and those in the mixing section of the questionnaire. Estimates based on the first-issue sample differed from those obtained from the full sample, sometimes by as much as one percentage point. Furthermore, the differences for volunteering seemed to be systematic, such that the first-issue sample produced higher estimates of volunteering levels. Non-response weighting did not correct for these differences, as even after it was applied, there were large differences between the two sets of estimates.

However, table 5 also shows that for most of the attitudinal variables (in the 'Your community', 'Influence', 'Race' and 'Violent extremism' sections) confidence intervals included zero, indicating that, for these, reissuing made little difference to survey estimates.

⁵ Based on 2,000 bootstraps.

⁶ The age-groups were: 16-24, 25-34, 35-44, 45-54, 55-64, 65-74 and 75+.

⁷ North East, North West, Yorkshire and the Humber, East Midlands, West Midlands, South West, East of England, London, South East, Wales.

Discussion and conclusions

The work reported here demonstrates that the impact on non-response bias of reissuing initially unproductive cases is likely to vary across variables, but that in all cases observed, changes were relatively small and none was greater than one percentage point. The largest changes related to volunteering and civic participation, the measurement of which was an important objective of the Citizenship Survey.

The fact that reissuing had a relatively small and variable impact on the magnitude of estimates is perhaps unsurprising for two reasons. First, because the increase in response rate arising from reissuing was small – around six percentage points – as a matter of simple arithmetic, cases brought into the sample through reissuing would have to be very different from first-issue cases if estimates were to change substantially. Second, we know from the survey literature that the relationship between non-response *rate* and non-response *bias* is generally weak (for example Groves, 2006; Sturgis et al, 2016) and we have no reason to expect the Citizenship Survey to be different in this regard.

The question then arises as to whether in this case reissuing was cost-effective: did the reductions in bias justify the associated extra expense incurred? There is, of course, no simple answer to this question. The answer depends on a number of related factors, many of which relate to motivation, and are essentially subjective in character, listed below:

1. Whether or not the most important survey variables were substantially affected: given that in this case the important volunteering variables *were* affected by reissuing, this perhaps partly justifies the decision to reissue
2. The importance of estimate exactitude: the difference between estimates 66% and 67% may be of little consequence especially in the light of the fact that both estimates may be some way off the true population value which is unknown
3. Whether the primary focus of the survey was in obtaining exact point estimates or in measuring change over survey waves. It might be reasonable to assume that non-response bias was largely constant over survey waves (so long as field effort and response rates remained much the same) and that, as a result, levels of observed change would have been similar with and without reissuing. If the priority was to measure change this could constitute partial grounds for not reissuing, so long as this was done consistently across all waves
4. Overall sample size: with a large sample size, sampling variance is relatively small relative to bias. Investment in a large sample such as used in the Citizenship Survey may have been motivated by special concern to minimise total survey error (by minimising variance) for overall population estimates and, if this was the case, further investment in total survey error reduction by minimising bias may have been considered justified
5. Relative costs of first-issue and reissue interviews: without knowing these, it is not possible to determine the optimal distribution of interviewing resources across first and subsequent issue interviews in reducing total survey error

In the light of the above, we suspect that, on balance, reissuing non-respondents for the Citizenship Survey was justified. However, the balance of relevant factors will vary from survey to survey and, as a result, decisions about reissuing should be made on a case-by-case basis.

Of course, the decision about whether or not to reissue in a particular survey needs to be made in the overall context of the full range of procedures it adopts to maximise response rates. Although amending a procedure which has a small impact on error rates in isolation – for example by stopping reissuing – is unlikely to have a substantial impact on survey quality, amending a *number* of such procedures may prove to have more deleterious cumulative consequences.

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Annex: Description of key survey questions

The questions analysed in this paper were identified as key survey questions by the Citizenship Survey research team. This annex gives a more detailed description of the definition of each question.

Demographics – part 2

Eleven binary variables measuring the results of the economic downturn were measured. Respondents were asked if any of 11 items on a showcard had happened to them or someone in their family in the previous 12 months, and, if so: 'You have probably heard people talk about the current recession or economic downturn. Would you say that [the change that you mentioned is / any of the things you mentioned are] as a result of the current economic situation? ... Which ones?'

Variable
Experienced a drop in income
Fallen into arrears with bills or credit cards
Fallen into arrears with rent or mortgage
Cut back on socialising or entertainment
Cut back on any other non-essential spending
Fallen into greater debt
Lost a home
Lost a job
Cut back on food bills
Cut back on utility bills (such as reducing electricity or phone use)
Cut back on donations to charity

Your community

Five questions were analysed from this part of the questionnaire. Answers were collected on a Likert scale and analysed as binary variables.

Variable	Options	Binary variables
Belonging to neighbourhood	(1) Very strongly, (2) Fairly strongly, (3) Not very strongly, (4) Not at all strongly, and (5) Don't know	Very/fairly strongly
Belonging to GB		
Satisfaction with local area	(1) Very satisfied, (2) Fairly satisfied, (3) Neither satisfied nor dissatisfied, (4) Fairly dissatisfied, and (5) Very dissatisfied	Very/fairly satisfied
This local area is a place where people of different backgrounds get on well	(1) Definitely agree, (2) Tend to agree, (3) Tend to disagree, (4) Definitely disagree	Definitely/tend to agree
Believe problem of racial/religious harassment	(1) Very big problem, (2) Fairly big problem, (3) Not a very big problem, (4) Not a problem at all	Very big/fairly big problem

Influence

Respondents were asked if they agreed or disagreed that they could influence decisions affecting their local area (defined as being within 15 to 20 minutes' walk) and Britain. The data were collected on a Likert scale and collapsed into a binary variable for analysis.

Variable	Options	Binary variables
Affecting local area	(1) Definitely agree, (2) Tend to agree, (3) Tend to disagree, (4) Definitely disagree, (5) Don't know	Definitely/tend to agree
Affecting Britain		

Volunteering

Volunteering measured:

1. Giving to charity
2. Civic participation, civic consultation, civic activism, civic engagement
3. Informal help
4. Formal volunteering

Variable	Description
<p>Respondents were shown a showcard specifying 11 ways of giving to charity. They were asked to exclude donating goods or prizes.</p>	<p>(A) Money to collecting tins (for example door-to-door, in the street, in a pub, at work, on a shop counter)</p> <p>(B) Sponsorship</p> <p>(C) Collection at church, mosque or other place of worship</p> <p>(D) Collections using a charity envelope</p> <p>(E) Buying raffle tickets (NOT national lottery)</p> <p>(F) Buying goods from a charity shop or catalogue</p> <p>(G) Direct debit, standing order, covenant or debit from salary, payroll giving</p> <p>(H) Giving to people begging on the street</p> <p>(I) Occasional donations by cheque or credit/debit card</p> <p>(J) Fundraising events (such as charity dinners, fetes, jumble sales)</p> <p>(K) Other method of giving</p> <p>Did not give to charity</p>
<p>Informal help was defined as providing unpaid help for someone who is not a relative. A showcard listed 12 activities defining 'help'.</p>	<p>(1) Keeping in touch with someone who has difficulty getting out and about (visiting in person, telephoning or e-mailing)</p> <p>(2) Doing shopping, collecting pension or paying bills</p> <p>(3) Cooking, cleaning, laundry, gardening or other routine household jobs</p> <p>(4) Decorating, or doing any kind of home or car repairs</p> <p>(5) Babysitting or caring for children</p> <p>(6) Sitting with or providing personal care (e.g. washing, dressing) for someone who is sick or frail</p> <p>(7) Looking after a property or a pet for someone who is away</p> <p>(8) Giving advice</p> <p>(9) Writing letters or filling in forms</p> <p>(10) Representing someone (for example talking to a council department or to a doctor)</p> <p>(11) Transporting or escorting someone (for example to a hospital or on an outing)</p> <p>(12) Anything else</p> <p>(13) No help given in last 12 months</p>

Variable	Description
<p>Formal volunteering was defined as giving unpaid help to one of these organisations opposite. A second showcard listed different methods of help.</p>	<p>Organisation</p> <ul style="list-style-type: none"> (A) Children’s education/schools (B) Youth/children’s activities (outside school) (C) Education for adults (D) Sport/exercise (taking part, coaching or going to watch) (E) Religion (F) Politics (G) The elderly (H) Health, disability and social welfare (I) Safety, first aid (J) The environment, animals (K) Justice and human rights (L) Local community or neighbourhood groups (M) Citizens’ groups (N) Hobbies, recreation/arts/social clubs (O) Trade union activity <p>Method</p> <ul style="list-style-type: none"> (A) Raising or handling money/taking part in sponsored events (B) Leading a group/member of a committee (C) Organising or helping to run an activity or event (D) Visiting people (E) Befriending or mentoring people (F) Giving advice/information/counselling (G) Secretarial, admin or clerical work (H) Providing transport/driving (I) Representing (J) Campaigning (K) Other practical help (such as helping out at school, shopping) (L) Any other help

Variable	Description
<p>Civic participation involved contacting any of the officials or politicians opposite (excluding contact with councillors or council staff for personal issues and contact through work), or taking part in one of the three activities listed.</p>	<p>Officials/politicians</p> <ul style="list-style-type: none"> (1) Local councillor (2) Member of Parliament (MP) (3) Public official working for the local council (4) Government official (5) Elected member of the Greater London Assembly – including the Mayor of London (6) Public official working for the Greater London Assembly/Authority (7) Elected member of the Welsh Assembly Government – including the First Minister (8) Public official working for the Welsh Assembly Government <p>Activities</p> <ul style="list-style-type: none"> (1) Attended a public meeting or rally (2) Taken part in a public demonstration or protest (3) Signed a petition
<p>Civic consultation was defined as having taken part in a consultation about local services or problems in the local area in any of the ways listed opposite.</p>	<ul style="list-style-type: none"> (1) Completing a questionnaire (about local services or problems in the local area) (2) Attending a public meeting (about local services or problems in the local area) (3) Being involved in a group set up to discuss local services or problems in the local area (4) None of these
<p>Civic activism was defined as having been a member of any of the groups opposite or having done any of the activities listed opposite. Activities related to the respondent's job were excluded.</p>	<p>Groups</p> <ul style="list-style-type: none"> (1) A group making decisions on local health services (2) A decision-making group set up to regenerate the local area (3) A decision-making group set up to tackle local crime problems (4) A tenants' group decision making committee (5) A group making decisions on local education services (6) A group making decisions on local services for young people (7) Another group making decisions on services in the local community <p>Activities</p> <ul style="list-style-type: none"> (1) Been a local councillor (for local authority, town or parish) (2) Been a school governor (3) Been a volunteer Special Constable (4) Been a Magistrate

Variable	Description
Civic engagement was defined as formal volunteering, civic activism, civic consultation or civic participation.	

Race

For each of ten types of organisation, respondents were asked whether ‘you would expect to be treated better than people of other races, worse than people of other races or about the same. It doesn’t matter if you haven’t had any direct contact with an organisation, it’s just your opinion I’m after’.

Eight of these were public service organisations and were regarded as key survey questions and were analysed (the two excluded were a private landlord or letting agent, and a local council (apart from the housing department)). The binary variable ‘treated worse than people of other races’ is reported on.

Anyone who had been employed, or who had looked for work in the previous five years, was also asked if they thought they had been discriminated against by having been turned down for a job.

Variable	Options
Race: Respondent thinks they would be treated worse by:	
Police	(1) Treated worse than people of other races (2) Treated better than people of other races (3) Treated the same as people of other races (4) Don’t know/no opinion
Prison service	
Courts – Magistrates and Crown Courts	
Crown Prosecution Service	
Probation Service	
Council housing department or housing association	
Local doctors’ surgery	
Local school	
One of the organisations above	
Race: Discrimination because of race/colour	
Has been refused a job	(1) Yes, (2) No, (3) Don’t know, and (4) Have not applied for any jobs in the last five years

Mixing

Respondents were asked if they had mixed socially with people from different ethnic and religious groups to themselves in the previous year. Seven different areas of their lives were examined. Mixing socially was defined to mean mixing with people on a personal level by having informal conversations with them, as well as meeting up with people to socialise, but not including situations where they interacted with people solely for work or business.

Variable	Options	Binary variables
At your home or their home	(1) Daily	Mixing daily, weekly and monthly were coded as one; all other answers were coded as zero.
At your work, school or college	(2) Weekly	
At your child's crèche, nursery or school	(3) Monthly	
At a pub, club, café or restaurant	(4) At least once a year	
At a group, club or organisation you belong to such as a sports club or social club	(5) Less often than once a year	
At the shops	(6) Never	
At a place of worship	(7) Not applicable	
	(8) Don't know/ No opinion	

Violent extremism

Respondents were asked about violent extremism, defined as taking actions to cause injury or death to people in order to make a political protest. The questions referred to people using violent extremism in Britain (i) to protest against things they think are very unfair or unjust; and (ii) in the name of religion, to protest or achieve a goal. Answers were collected on a five-point Likert scale and reported on as a binary variable with often wrong/always wrong coded as one and all other answers coded as zero.

Variable	Options
Violence in name of religion always/often wrong Violent extremism to protest always/often wrong	(1) Always right, (2) Often right, (3) Sometimes right, sometimes wrong, (4) Often wrong, (5) Always wrong. The spontaneous answer (6) Don't Know was allowed.

The Social Research Association (SRA)

0207 998 0304

admin@the-sra.org.uk

www.the-sra.org.uk

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