



# Social Research Practice

ISSUE 12 SPRING 2022

The Social Research Association journal for methods in applied social research

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# Editorial

**Richard Bartholomew**  
Editor

Welcome to Issue 12 of Social Research Practice, the SRA's research methods journal.

This issue features a diverse range of articles.

Firstly, **Joel Williams** (Kantar Public UK) discusses the creation of the Public Voice random sample panel, and the choices and challenges this involved. Over the last decade surveys have, for reasons of cost, accessibility and speed, increasingly come to be conducted through online panels. But this increasing reliance on panels has brought with it the challenge of how, at the same time, to preserve the clear statistical advantages of being able to use random probability samples. Random sample panels such as that developed by Kantar Public but also similar (albeit not identical) models developed in the UK by NatCen and Ipsos MORI, have offered a way forward. There are similar initiatives in other European countries and the USA but also in some African nations. These initiatives are especially important for public sector and academic commissioners who need to be able to have precise estimates of the size and characteristics of population sub-groups.

In our second article, **Naomi Clemons and her colleagues** at Kent County Council and the Kent Fire and Rescue Service analyse the socio-economic and behavioural factors which lead to people being involved in accidental dwelling fires, including those which result in a fatality. A key focus of their work has been examining the links between personal health factors and fire risk. Health conditions such as limited mobility and poor mental health have a bearing on the risk of experiencing a dwelling fire but health-related behaviours, notably smoking, also play an important role. Underlying all these factors are the familiar associations with social deprivation. This research has important practical implications for improving the linkage of data between the health and fire and rescue services to be better able to target preventative work on those local areas and individuals most at risk. More generally, this research provides a good example of the vital role social researchers working within local government can play in influencing policy and service design.

In our final article, **Jill Dickinson and colleagues** at Sheffield Hallam University explore how processes of collaborative reflection can be used to address the ethical issues raised in using creative research methods. They explore this through a case study of photo-elicitation methods used in the context of a higher education institution. When creative research methods such as these are being used there may be a significant difference between the standpoints of ethics review boards and researchers – the traditional solitary ethics review board model being ill-suited to assessing visual research because ethical issues can develop throughout the course of the project. The authors argue that approval processes should instead aim to be a continual dialogue between researcher, reviewer and participant. They conclude with a very useful set of recommendations for developing an ethical process for creative research.

We welcome proposals for new articles or shorter research notes. If you are interested in offering a research note or a full article you can find more information on the [SRA website](#).

# How we built Public Voice: Kantar Public's random sample panel

By Joel Williams, Head of Methods, Kantar Public (UK)

## Abstract

This article describes how Kantar Public built its UK random sample panel 'Public Voice'. It focuses on the principal design issues underpinning such panels, such as scale, recruitment method, management approach, survey sample and fieldwork design, and the use of models to understand – and compensate for – residual sample bias.

The article is intended as an introduction not only to the Public Voice panel but also to the wider issues governing the design of random sample panels. The Public Voice panel is one of at least three such panels in the UK. Each is different, but the combined financial and methodological commitment to these tools represents a significant intervention in the UK research marketplace.

## Introduction to this paper

In this article, I will describe how the organisation I work for – Kantar Public – built its UK random sample panel Public Voice, highlighting the many design issues we have had to address; for example: scale, recruitment method, panel management approach, survey sample and fieldwork design, and the use of models to understand – and compensate for – residual sample bias.

There are two other random sample panels in the UK,<sup>1</sup> and they differ from each other and from Public Voice in several respects. To avoid the risk of misrepresentation, I will focus solely on the Public Voice panel, but readers should be aware that it is only one part of a broader landscape, and one not limited to the UK.

There are more than 20 random sample panels in operation across the planet. Most have been built by academic or not-for-profit institutions but commercial research suppliers – in particular, Kantar Public and Ipsos – have also started to build such panels, suggesting genuine commercial viability in some marketplaces. Non-UK examples include LISS in the Netherlands,<sup>2</sup> GIP<sup>3</sup> and GESIS<sup>4</sup> in Germany, ELIPSS in France,<sup>5</sup> CRONOS in several European countries (derived from the European Social Survey), and several in the US, including the well-known American Trends panel owned by the Pew Research Center.<sup>6</sup>

Most random sample panels are located in countries with near-universal internet connectivity and rely primarily (some completely) on web surveying methods. However, there is no mandate on mode: for example, Kantar Public has built one in Kenya and another in Nigeria that use mobile phone interviews and SMS data collection.

<sup>1</sup> These have been built by NatCen (<https://www.natcen.ac.uk/our-expertise/methods-expertise/surveys/probability-panel/>) and Ipsos MORI (<https://www.ipsos.com/ipsos-mori/en-uk/uk-knowledgepanel>). There is also one that is part of a multi-country panel (CRONOS) and used only for the European Social Survey: [https://www.europeansocialsurvey.org/methodology/methodological\\_research/modes\\_of\\_data\\_collection/cronos.html](https://www.europeansocialsurvey.org/methodology/methodological_research/modes_of_data_collection/cronos.html)

<sup>2</sup> <https://www.lissdata.nl/>

<sup>3</sup> <https://www.uni-mannheim.de/gip/>

<sup>4</sup> <https://www.gesis.org/en/gesis-panel/gesis-panel-home>

<sup>5</sup> <https://cdsp.sciences-po.fr/fr/projets/panel-elipss/>

<sup>6</sup> <https://www.pewresearch.org/our-methods/u-s-surveys/the-american-trends-panel/>

## Structure of this paper

The paper is structured around a set of frequently asked questions on this topic:

1. What is the value of a random sample panel?
2. How was the UK Public Voice panel recruited?
3. How are samples drawn from the panel for particular surveys?
4. What methods are used to survey panel members?
5. How is the Public Voice panel maintained?
6. Can you use this panel for longitudinal research, or to collect non-questionnaire data?
7. What limitations does the panel have?

Answering any one of these questions could form the basis of a substantial paper. This article is introductory, focusing on the principles, and summarising practice rather than getting into the thick weeds of detail beloved of survey methodologists (including me!).

### 1. What is the value of a random sample panel?

In the UK, a great deal of questionnaire-based research is carried out by surveying members of panels. These panels consist of individuals who have been recruited to regularly complete questionnaires (or supply other forms of data), usually in exchange for cash-equivalent vouchers. Because the recruitment cost can be spread across multiple surveys, it is cheaper to survey a pre-existing panel than to recruit and survey a new sample from the target population.

The typical panel is based on a convenience sample: a pool of individuals who have responded to general advertisements (online or offline) to participate in surveys. ‘Representative’ samples may be drawn from such panels, but inference remains entirely dependent on a ‘selection’ model of how each sample relates to the wider population it is meant to represent. In practice, these models are general in form and make the assumption that, controlling for a small number of demographic variables (typically age, gender, region and perhaps working and education status), any remaining bias in the sample profile will be uncorrelated with anything of substantive interest. This model-based validity is rarely verifiable although it may be a reasonable assumption in some circumstances.

In contrast, inferences based on data from a random sample panel rely, in part, on design-based validity. This is primarily due to the highly controlled sampling of individuals to go forward to the panel recruitment stage. In contrast to the ad-response recruitment method described above, nearly every individual in the population will have a known and nonzero chance of being sampled for a random sample panel. This knowledge limits the demands placed on the selection model: it only needs to explain variation in the likelihood that a sampled individual will join the panel and respond to a particular survey request, not variation in the likelihood of being sampled in the first place. Furthermore, those researchers building and managing random sample panels usually make great efforts to maximise both the panel recruitment and survey response rates, thereby limiting response variation at source.

This reduced reliance on selection models for inferential validity gives random sample panels a substantial technical advantage over convenience sample panels: an advantage valued by many government and academic research commissioners.

## 2. How was the UK Public Voice panel recruited?

The only critical condition for a random sample panel is that every individual in the target population should have a known and nonzero chance of being sampled. In practice, there will be individuals on the margins who are difficult to sample via any of the standard methods so the target population for a general population panel is better described as including everyone living in a private residence or, more honestly, everyone accessible via the selected sample frame.

In the UK, there are two sample frames that can be linked to this population that are both accessible and sufficiently comprehensive: (i) the Postcode Address File (PAF) and (ii) an Ofcom-derived database of all possible residential mobile and landline telephone numbers. Neither is perfect – and both require careful handling – but the advantages of the PAF over the telephone number frame are so substantial that it is used for almost all serious general population research in the UK.<sup>7</sup> The Public Voice panel is based on PAF samples drawn in 2019, 2020 and 2021.

There are many different ways to recruit a panel based on a PAF sample. The lowest cost option is to recruit off the back of an existing random sample survey, preferably one with a highly inclusive data-collection method and expected to achieve a strong response rate. This approach allows the panel recruitment module to benefit from the response characteristics of the parent survey. However, there is little scope for bespoke survey design, either in terms of the sample or in terms of the data initially collected about each potential panel member. It is also far from straightforward to identify a suitable parent survey of sufficient scale and regularity. In the UK, almost all random sample surveys are commissioned using public money, and commissioners may regard the addition of a panel recruitment module for a particular organisation as unwarranted market interference.

Although the apparent benefits of a random sample panel have grown over time, this last barrier – no suitable parent survey – had proven insuperable for Kantar Public. Consequently, a decision was made in 2019 to invest in a bespoke recruitment survey for Public Voice, using an affordable mixed-mode (web/paper) data-collection method. The response rate for this survey was expected to be relatively low, meaning greater reliance on a selection model for inferential validity than would be the case with a higher response rate interview-based parent survey. However, identifying a selection model in this scenario is challenging. Although we know quite a lot about the demographic biases that follow from this mixed-mode data-collection method, we know much less about non-demographic biases, for example with respect to behaviours or attitudes. Although benchmarks for these characteristics exist, they derive from interview-based surveys which tend to lack measurement equivalence with web/paper questionnaire surveys. However, without any benchmark behavioural or attitudinal data, the selection model would have been rather thin.

Kantar Public tackled this problem by carrying out a relatively small high-response rate interview-based recruitment survey in parallel with the larger, more affordable but lower response rate mixed-mode (web/paper) recruitment survey. The interview survey included an extensive self-completion module, containing all those questions that might yield systematically different responses if asked in an interview as opposed to a self-completion questionnaire. The interview survey sample was then compared to the mixed-mode recruitment survey sample with respect to every question, whether demographic or non-demographic. This allowed a multi-dimensional selection model to be generated, operationalised through a set of ‘calibration’ weights applied to the mixed-mode survey sample. These calibration weights have been used to inform sampling from the panel for particular surveys (see below). We hope – and expect – that this approach limits the influence of recruitment method on the validity of the survey estimates.<sup>8</sup>

<sup>7</sup> In particular, the PAF can be augmented with extensive and relevant auxiliary data (at both the neighbourhood and address level). This allows quite refined sample designs to be developed, something very difficult to do with anonymous telephone numbers. Secondly, the probability of achieving contact – via a posted letter or interviewer visit – is high, or at least much higher than via a telephone call.

<sup>8</sup> An extension of this approach would be to use a two-step rather than a one-step approach: a short recruitment-focused web/paper questionnaire survey followed by a separate, more substantial web-only profiling survey. This two-stage approach has its advantages: (i) everyone recruited to the panel will have completed two separate surveys, not one, demonstrating a clear willingness to participate in more than one survey, and (ii) collecting the profile data via a single (web) mode will have minimised mode-specific measurement effects. Less positively, the limited nature of the initial recruitment questionnaire would make it hard to model attrition between steps one and two and to compensate for it with weights.

The Covid-19 pandemic affected recruitment for the Public Voice panel in both 2020 and 2021 as no benchmarking interview survey was possible. We nevertheless made use of the data from the original recruitment surveys in 2019 to estimate a period effect that could be layered across the original selection model.<sup>9</sup> Although this was a statistically justifiable approach to take, it is quite likely that the selection models developed for 2020 and 2021 have greater potential for error than they would have had in the absence of the pandemic.

### 3. How are samples drawn from the panel for particular surveys?

The Public Voice panel now has more than 25,000 members. Even this number is small compared to the largest convenience sample panels but, combined with strong survey completion rates, there is plenty of scope for (i) stratified sampling to compensate for known biases in the panel, and (ii) subpopulation sampling and ‘boost’ sampling.

Our general approach has been to stratify the Public Voice panel based on each panel member’s expected statistical value should they respond to the survey. Panel members from under-represented groups have greater statistical value than panel members from over-represented groups so they are sampled for surveys at a higher rate.

One practical consequence of this procedure is the identification of a 20% subset of the panel that would ideally be included in every survey sample (setting aside the risk of panel fatigue). Collectively, these panel members were relatively difficult to recruit and/or hard to engage in the subsequent surveys. However, they have an outsized effect on the surveys’ sample quality, reducing the reliance on weights to generate unbiased survey estimates.

This observation influenced the design of our third recruitment survey in 2021. The sample design – as well as the distribution of resources for contacting and persuading people to join – was deliberately skewed towards neighbourhoods and addresses where the most statistically valuable people live. In short, these were (i) the most deprived 20% of UK neighbourhoods, (ii) the most ethnically diverse neighbourhoods, (iii) addresses expected to contain people aged under 35, and (iv) addresses expected to contain people aged 75+. It remains a random sample but a disproportionately stratified one, designed to complement the first and second recruitment ‘cohorts’. It will take the pressure off the statistically most valuable 20% of the existing panel as well as allowing more targeted surveying. For example, achieving a respondent sample of 1,000 adults from across the various Asian ethnic groups should be quite feasible.

#### Sampling for time series surveys

Some research commissioners are interested in repeated surveying of the panel, to form a time series, but will specify either that no panel member completes the survey more than once within the time series or that there is a minimum interval between completed surveys.<sup>10</sup> The minimum standard for any random sample is that every member of the target population has a known nonzero sampling probability. This means that allocation to a particular wave of a time series survey should not be dependent on response to another, given that response probabilities can only be estimated, not known. This rules out a sample design based on when the panel member last completed the survey and forces one based on when they were last sampled for it.

<sup>9</sup> The period effect was estimated by comparing the web/paper recruitment survey data collected in 2020 (and 2021) with the equivalent data from 2019. This is justified by the methodological similarity of these three surveys. However, we had to make the unverifiable assumption that the direction and degree of change recorded in these surveys is fully reflective of what was happening in the wider population, not just among the subset likely to respond to this type of survey.

<sup>10</sup> This is particularly important if topic awareness is a measurement objective: asking panel members about a topic will raise their awareness of that topic, even if it does not change their opinions or behaviours with respect to that topic. This raised awareness may fade over time but surveying the same people at frequent intervals is likely to lead to an inflated estimate of population-level awareness.



This mandates a structural approach to the sample design, in which the panel – or a relevant subset of it – is systematically divided into a number of equal-sized ‘replicates’, each with the same profile as the full panel. The number of replicates is equal to the number of survey waves that must elapse before a panel member can be sampled for the survey again. A sample is then drawn from each replicate and allocated to a particular wave in the time series. Even with a large, responsive panel, a problem of scale emerges because the maximum sample size per wave is equal to the maximum sample size divided by the number of replicates required to meet the exclusion criteria.<sup>11</sup>

### Sampling for niche population surveys

Although extensive profiling information is available for every panel member, there are occasions when the eligible subset for a study cannot be pre-identified – even approximately – from the existing data. With standard convenience sample panels, members might be invited to complete one or more screening questionnaires and will then be allocated by algorithm to the survey most in need of them at that time. It is rare for them to fail to qualify for any survey.

With random sample panels, the logistics are quite different. To maintain the condition of a known nonzero sampling probability for every panel member for every relevant survey, panel members must be pre-assigned to specific surveys. This means that panel members can only be screened for the subset of surveys to which they have been pre-allocated, not all open surveys. This constraint increases the chance that they will qualify for none.

This is a logistical challenge, given panel members’ general expectation of at least a small financial incentive for participation. It is of course possible to offer the same incentive regardless of screen outcome, but it may be prohibitively expensive to do this if the ‘pass rate’ is low. A compromise between offering nothing or a full-scale incentive is to offer a small incentive to complete the screening questionnaire but a larger one to those who pass into the main questionnaire. However, this has its drawbacks too. First, it presents participation as a wholly transactional affair (more money for more work) rather than something that also has social or personal value. Second, it may motivate some panel members to provide false screen data, either to ‘pass’ and obtain the larger incentive or to ‘fail’ and obtain the smaller incentive but for minimal effort.<sup>12</sup>

Whichever approach is taken, managing panel members’ expectations with respect to the screening task is critical for the long-term health of the panel.

## 4. What methods are used to survey panel members?

For the Public Voice panel, web surveying is the main data-collection method but members may also participate by telephone interview.

We generally use a three-week fieldwork period for Public Voice surveys, with telephone interviewing in the final week alongside the open web survey. A combination of emails and SMS messages is used to invite – and remind – panel members to take part in the web survey and, at the start of the second week, we send a letter too. In total, we make use of four contact modes and two data-collection modes to maximise response from the panel. Naturally, this core design must be tailored to specific research objectives, so is not fixed in stone.

This mixed-mode approach is not the only available approach; it is not even the most common. An alternative is to use online contact and data collection methods only, an approach that – among other things – would allow fieldwork to be compressed into a shorter timeframe than three weeks.

<sup>11</sup> A partial solution to this is to construct an overlapping sample design that allows the analyst to estimate the effect of repeat surveying on the data and then account for it when drawing inferences. However, any substantial effects will render the ‘repeat’ data less valuable than the ‘fresh’ data and the scale of the effects is only known after all the data collection costs have been accrued.

<sup>12</sup> There are question design techniques available to minimise the risks of false screen data, but longer-term panel members may work (some of) them out.



An important element of this approach is to provide tablet devices and data subscriptions to offline panel members, allowing them to complete surveys online via a simplified user interface. There are certainly advantages to this approach: single mode surveying is easier to manage than mixed-mode surveying, and there are no concerns about measurement equivalence (between web and telephone, for example). However, the experience of other (non-UK) panel owners is salutary.

First, the take-up rate has tended to be low: most offline people are offline because they do not want to – or are unable to – engage with even the most basic technology to get online. Second, survey response tends to be weak even among those who take up the offer. Third, among those who do respond, a substantial proportion go on to do other online activity beyond simply completing surveys.<sup>13</sup> When this happens, it is questionable whether these individuals still properly represent the offline part of the population.

It remains a live question whether this approach or the mixed-mode approach is the best way to cover the offline population, but one approach must be taken. It is not a good solution to simply ignore this part of the population: the number of offliners may be shrinking over time but they have also become more distinctive, tending to have poorer socio-economic backgrounds than their online peers and to have quite different values and behaviours.

## 5. How is the Public Voice panel maintained?

### Minimising attrition

Panel attrition is a significant problem for panel owners, particularly among subpopulations that are hard to engage in any form of research (for example people aged under 25). The scale and profile of this attrition differ between panels and will be a mix of those trying a survey once and deciding against doing another, and those willing to do more than one survey but put off by one or more negative experiences. This attrition will not always be explicit: some panel members simply allow their membership to lapse through repeated non-participation.

When building the Public Voice panel, we held to four principles to minimise attrition: (i) limit the volume of ‘work’ asked of any one panel member, (ii) reward well, certainly in comparison with membership of convenience sample panels, (iii) exert as much quality control as possible over each survey questionnaire, and (iv) make the participation process as smooth as possible but without over-engaging with panel members.

Principle (iv) is worth expanding on: every panel owner wishes to minimise attrition, but some choose to do this by seeking to maximise commitment, making the panel a virtual community that would be almost transgressive to leave. This can work if the target is simply to maximise the efficiency of fieldwork but, from a statistical point of view, the most valuable panel members are those who don’t care much about completing surveys. It seems fair to assume that these people are less motivated than average by engagement strategies and interesting topics and more motivated than average by the financial reward and by a straightforward user experience. In building Public Voice, our motivating philosophy was to ensure a good enough experience for each panel member such that the small benefits of participation to them were not outweighed by debits such as: a multistep process to start a survey; receiving communications without a clear call to action; or delayed incentive pay-outs. Naturally, this ideal is not always achieved in practice, but it provides a clear framework for evaluating our processes and assessing developments to them even if it cannot be proved that this is the best way to minimise attrition.

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<sup>13</sup> See for example Revilla, M. et al. (2015). ‘What is the gain in a probability-based online panel of providing internet access to sampling units who previously had no access?’. *Social Science Computer Review*; Struminskaya, B. and Bosnjak, M. (2015). Attrition in a probability-based mixed-mode panel: Does survey mode matter? 70th Annual Conference of the AAPOR: [https://www.aapor.org/AAPOR\\_Main/media/AnnualMeetingProceedings/2015/H7-3-Struminskaya.pdf](https://www.aapor.org/AAPOR_Main/media/AnnualMeetingProceedings/2015/H7-3-Struminskaya.pdf); and research from the Pew Research Center: <https://www.pewresearch.org/fact-tank/2017/12/01/first-time-internet-users-who-they-are-and-what-they-do-when-they-get-online/>, [https://www.pewresearch.org/wp-content/uploads/2017/12/REPORT-ATP-Mail-to-Web-Conversion-Methodology\\_FINAL\\_NEW\\_DK-FOR-LOAD.pdf](https://www.pewresearch.org/wp-content/uploads/2017/12/REPORT-ATP-Mail-to-Web-Conversion-Methodology_FINAL_NEW_DK-FOR-LOAD.pdf) and <https://www.pewresearch.org/methods/2021/04/08/confronting-2016-and-2020-polling-limitations/>

## Refreshing the panel to compensate for attrition and growing non-coverage

There is a refreshment strategy for Public Voice to ensure the panel does not drift and lose its ability to represent the population. Our third recruitment survey – summarised earlier – was specifically designed to expand panel membership among otherwise under-represented groups and among other groups that receive greater than average policy attention. However, although lots of auxiliary information can be attached to the PAF sample frame, little of it is directly about the current occupants, and this limits the scope for targeted recruitment.

One particular problem is ensuring representation of the youngest part of the target population (those aged 16 or 17). Every panel ages between recruitment surveys so the population coverage of each recruitment cohort shrinks over time. For example, the first recruitment cohort from 2019 now has no coverage of current 16- to 17-year-olds. When sampling from the panel for a particular survey, we have to over-sample current 16- to 17-year-olds from the second and third recruitment cohorts to compensate for their absence in the first recruitment cohort. In tandem, we can also recruit young people who were co-resident at the time existing panel members were sampled but were too young to survey at the time. This approach allows us to calculate within-cohort sampling probabilities for these new panel members, maintaining this critical requirement for a random sample panel.

Covering immigrants to the UK is more challenging. Any panel with recruitment cohorts from different years (2019, 2020 and 2021 in the case of Public Voice) will under-represent the immigrant population as it is now. The ‘same household’ sampling approach described above to bring in more 16- to 17-year-olds cannot be utilised to bring in new immigrants. There is no obvious solution to this problem, only recognition of it. When sampling from the panel for a particular survey, new immigrants must be oversampled from the newer recruitment cohorts to compensate for their absence in the less recent recruitment cohorts.

## 6. Can you use the panel for longitudinal research, or to collect non-questionnaire data?

In theory, the low level of attrition – at least relative to convenience sample panels – should make it feasible to do longitudinal data collection via a random sample panel. We have not yet done this via Public Voice but, in January 2021, we carried out a study of the response data across the first seven surveys to make a preliminary judgement. That work suggested that at least two in three of those completing the first wave of a study would also complete a second wave eight to 12 months in the future, without any extension of contact methods from the standard approach. Researchers on the CRONOS study found an even higher second wave participation rate – 77% – based on a nine-month interval,<sup>14</sup> albeit with a more extensive (six-week) fieldwork protocol than is used for Public Voice. These studies suggest that longitudinal research is feasible via random sample panels but that a longer-than-average fieldwork period and an extended contact protocol would be beneficial if that is the objective.

Another potential use is content extension, in which a long questionnaire is split into two or more parts, with a short interval between two data-collection sessions. Again, we have not yet implemented this but assessed this as part of the same study into the feasibility of longitudinal research via Public Voice. The general analysis method described above was extended to any pair of adjacent surveys that have common sampled panel members. On average, 81% of those panel members completing the first survey of the pair also completed the second survey, conditional on being sampled for it. The range across survey pairs was small: from 77% to 83%, suggesting that extending content across two surveys is quite feasible and that the response structure is quite predictable. Over-sampling for the first survey in the pair by a factor of 1.3 ought to ensure an overall survey sample size that meets the research commissioner’s requirement.

<sup>14</sup> This is based on a cross-tabulation of wave 2 (April to June 2017) and wave 6 (January to February 2018) CRONOS GB response status data.

A quite different question is the feasibility of collecting non-questionnaire data. Examples include: (i) asking panel members to keep a topic-specific diary for a week or two, (ii) asking panel members to install an app to monitor web and app usage over a set period (or to extract webpage histories), (iii) making use of accelerometer and/or GPS data to track movement, and (iv) inviting panel members to take part in qualitative research. Every one of these things is technically feasible – and we have carried out some small-scale studies of types (ii) and (iv) via the Public Voice panel. But we have some concerns about the potential for knock-on effects for other research, especially the ‘bread and butter’ of questionnaire surveys.

I have not been able to obtain specific evidence about the scale and nature of such knock-on effects (if they even exist) but it is easy to imagine how they might come about. Requests like these can come across as a change in the membership agreement which will have stressed the nature of participation as mainly the completion of questionnaire surveys. As discussed above, many of the most valuable panel members are the least engaged in the purpose of the panel so suggesting a new type of task may cause them to re-evaluate their membership. Secondly, some tasks – even the completion of some questionnaire surveys – may work as interventions, changing the opinions and/or behaviours of subject panel members. The particular value of a random sample panel is in how well it represents the target population. Anything that degrades that status is a problem. For example, it is certainly possible to recruit for a deliberative research event, in which participants experience a ‘deep dive’ into a complex topic area (for example how to minimise CO<sub>2</sub> omissions via personal behaviour change). This experience is much more substantial than simply completing a short questionnaire and much more likely to have an impact on opinions or behaviours. In this case, would the deliberative research participants be worth sampling for a survey on green issues?

## 7. What limitations does the panel have?

It goes without saying that every single research tool has its limitations. Random sample panels have been built in reaction to sample quality and data quality concerns with existing convenience sample panels but with a desire to replicate some of the speed and cost advantages these panels have over classic offline survey tools. However, any survey tool optimised for speed and cost control will have its limitations, perhaps with respect to the range of people who can participate or what they can be asked to do. Two particular limitations should be laid out in full.

First, like almost every other random sample panel, the Public Voice panel is designed principally for web data collection. Use of the telephone interview mode is limited to a subset of panel members, or to persuade a relatively small number of web survey non-responders to take part. Consequently, the Public Voice panel shares some of the limitations of web and other self-completion surveying: reliant on a minimum reading level; limited to relatively straightforward data-collection tasks; and only semi-flexible to respondents’ varying visual or motor function capabilities.

Second, research commissioners may also worry about the cumulative response rate, given all the various points where sampled individuals can drop out: they may (i) not participate in the original recruitment survey, (ii) refuse to join the panel when asked, (iii) drop out of the panel (or be removed from it) even if they join, or (iv) not respond to a particular survey when sampled for it. The selection model may have a lot more validity than the equivalent for a convenience sample panel, but it still has a lot of work to do, given that the cumulative response rate may be low.

The Public Voice recruitment method – parallel interview and web/paper surveys combined with a multi-dimensional calibration procedure – was designed to help us generate a well-evidenced selection model, even in the face of a relatively low response rate. Belief in such a model is a critical justification for carrying out research via a random sample panel. For much of the last decade, survey researchers have been pointing out that the response rate should be treated as a fall-back indicator only, to be referenced in the absence of better information about the patterns of response.<sup>15</sup> Building the Public Voice panel demonstrates our full commitment to that viewpoint.

<sup>15</sup> See for example <https://www.mrs.org.uk/pdf/rpslides.pdf> (especially slides 49-65), delivered as part of a multiagency roundtable event in 2017, organised by the ESRC, SRA and the Campaign for Social Science.

## Last word

I hope this article has worked as an introduction not only to the Public Voice panel but to the wider issues governing the design of random sample panels. Now that each of the three largest UK social research agencies has built one, I would expect random sample panels to carry much of the most interesting survey research of the next decade. In fact, I suspect the UK research marketplace has been irrevocably changed by these agencies' commitment – financial and methodological – to such panels. However, they are still new tools: each panel owner is engaged in a continuous programme of development, refining the panel's core processes whilst also expanding the range of research that can be done with it. Market forces will play a role too, although it is hard to predict whether that will lead to a narrowing of methods or further diversification. It will at least be an interesting space to watch.

# Accidental dwelling fires: a public health approach to risk factors

Naomi Clemons, Kent County Council; Lynsey Mahmood, Kent Fire and Rescue Service; Joshua Stroud, Kent County Council; and Richard Stanford-Beale, Kent Fire and Rescue Service

## Abstract

This paper explores the role of health-based factors in predicting the prevalence and outcome of accidental dwelling fires (ADFs). Cohorts were created using linked health data, based on previously identified risk factors, and subsequently subdivided into risk categories based on health conditions, behaviours and social factors. These cohorts were then compared with an established ADF risk model. Using health-based cohorts to predict the prevalence and outcomes of ADFs had a varying success rate. There was substantial overlap with the health-based cohort identified as being likely to experience ADFs resulting in injury. This gives weight to the notion that having access to information to identify individuals who are male, living alone, aged 45 to 64, smoke and who have a combination of long-term health conditions, a mental health issue and experience deprivation, can help with targeting at-risk groups. Identifying those at risk of a fatal fire from a purely health-based approach is not as clear. Whilst health-related factors can play a role in the fatal outcome of an ADF, further analysis is needed to establish a more specific combination of health, social and environmental factors to explore the predictive strength of factor combinations.

## Introduction

For over ten years, fire and rescue services have been visiting people's homes, not only to provide advice on how to avoid being the victim of an accidental dwelling fire (ADF) but also to carry out other interventions, such as fitting smoke alarms (National Fire Chiefs Council, 2021). These home visits, often termed 'Safe and Well' visits, are designed not only to identify and support individuals at risk of fire but also to advise on other issues that affect an individual's quality of life. Research suggests that the wider determinants of health, both physical (such as mobility that may impede self-rescue) and mental (such as dementia), can affect ADF risk (Holborn et al, 2003; Taylor et al, 2012). Therefore, the challenge for this research was to develop a method of using linked health-based data to establish populations vulnerable to ADFs, based on multiple health risk factors, and to overlay these findings with an already established Kent Fire and Rescue Service (KFRS) risk model to identify how, or if, health-based factors correlated with ADF risk and outcome.

## Aims

Certain sections of the population are at increased risk of experiencing ADFs, whilst others are at increased risk of fatalities resulting from ADFs when they occur (Mahmood and Stanford-Beale, 2021; Gilbert and Butry, 2018). Health conditions, lifestyles, and behaviours, such as poor mobility or smoking, are understood to play a role in both the cause and outcome of ADFs, although the extent of the influence of these variables is not fully understood. This article, therefore, focuses on two key areas. First, we identified concentrations of the population across Kent that may be at increased risk of ADFs or, at increased risk of fatality resulting from ADF, based on combined risk factors. Identifying at-risk populations can aid with future resource deployment and targeted safety campaigns. We based cohorts on health and lifestyle factors along with other available social and economic information drawn from the literature that identifies such factors as potentially playing a role in ADFs. Second, we overlaid these cohorts with the output of an already established ADF model. We hoped to obtain a greater understanding of the relationship between health-based factors and ADFs by exploring the overlap and correlation between health-based cohorts and a risk model based on established fire data.

## ADF risk indicators

Those at risk of dying in an ADF, are not necessarily at the greatest risk of having an ADF: often they are two distinct groups. Little is known about the specific combination of health-based conditions that may increase the risk of experiencing a fatal dwelling fire or the likelihood of experiencing an ADF. Previous research has indicated that certain factors can predict the prevalence and outcome of ADFs, although not all predictors are of equal strength: there is likely to be random variance due to human behaviour and activity (Hastie and Searle, 2016). What is clear, however, is that ADFs are not distributed evenly through society. Deprivation is a strong predictor of ADFs, especially in single-person households aged over 65. Poorer health behaviours and lifestyles are associated with deprivation. Therefore, the link with health factors is likely influenced by deprivation (Hastie and Searle, 2016). As established by the literature, those who are at greater risk of experiencing an ADF are a separate group from those who are more likely to experience a fatality as a result of an ADF. So, we created two separate cohorts: one for prevalence and one for fatalities.

### Fatality risk indicators

Several risk factors contribute to a higher likelihood of an ADF resulting in a fatality. National fire data indicates that fatalities from ADFs are most common in the over-65 age-group and those living in single-person households. On average, 62% of all fatal ADFs occur in lone person households, with those over pensionable age most at risk (Home Office, 2021). Taylor et al (2012) identified that living alone was a significant factor associated with ADFs. Lone person dwellings where the individual is aged over 65 are, therefore, two key risk factors for fatal ADFs. Additional risk factors include individuals aged over 70, particularly in combination with any pre-existing mental or physical impairment, households with children under 11 but especially under five, smokers, low socio-economic status, disability/mobility issues, single-parent families, and households with more than average numbers of children (Mahmood and Stanford-Beale, 2021).

### Prevalence risk indicators

Risk factors identified as relevant for the ADF prevalence cohort include: living alone, having had a fire before, lack of basic fire safety knowledge, low socio-economic status, alcohol/drug misuse, males in the 40 to 49 age-group. There is little evidence to demonstrate the impact of health-related conditions or behaviours for this cohort, besides smoking and alcohol consumption combined with high levels of deprivation. This paper, therefore, explores whether health-related behaviours and conditions have an impact in predicting the prevalence of ADFs linked to this cohort, in order to add to our limited knowledge about this.



## Methodological approach to risk analysis

This section explores the approach we took to develop the health-based cohorts. It describes some of the challenges with the availability, reliability and validity of the data we used. It also sets out the inclusion criteria for the two cohorts, and their distribution across Kent.

### Development of health-based cohorts

Health-related factors play a role in both the likelihood and outcomes of ADFs, but these are not the sole contributors. Many other social, demographic and environmental factors are in play. Taking a purely health-based approach to identify those at risk of ADFs was, therefore, not likely to result in a model that accurately predicts fire. Rather, it allowed exploration of the contribution of different health-related variables to such incidents. Overlaying an established ADF risk model with health-based cohorts helped establish the role health-based factors and behaviours could play in predicting ADFs.

We created cohorts with either the prevalence of, or the likely outcome of, ADFs in mind. The first cohort was based on the outcome of an ADF resulting in a fatality. With so few fatal fires occurring in Kent, testing the validity of such cohorts presented a challenge. However, the distribution of such cohorts across Kent still provided useful insight to KFRS for potential prevention work. The second cohort was based on predicting ADF prevalence. We incorporated various health-related factors, such as those that affect mobility and health behaviours, such as smoking, within these cohorts in various ways.

To identify where populations fitting the cohort criteria were clustered in Kent we interrogated both open-source data and the Kent Integrated Database (KID). Open-source data was used to add broader context. The data extracted from the KID, however, defined the final cohorts upon which we based the analysis. The KID is a bespoke database upon which anonymised person-level health data is linked with a variety of demographic and geographic data. To identify geographical hotspots, we combined, for the different cohorts, data on long-term health conditions that affect mobility with data on socio-economic status, age, gender, smoking and alcohol use. Data completeness was variable. Smoking status and alcohol use, for example, were not recorded for all individuals. Therefore, this data is indicative only. Health-related conditions and behaviours are also variable and changeable. Therefore, these cohorts will likely change and adapt over time. Socio-economic status was established by the Index of Multiple Deprivation (IMD) which is not a live dataset, and therefore, as with the health-related factors and behaviours, can change over time. Despite these limitations, we consider that the novel opportunity that using a linked dataset to explore health-related conditions, behaviours, social and geographical factors and their relationship with ADFs is worth these methodological risks.

We divided each cohort into different levels of risk category based on varying combinations of health factors, health behaviours and socio-economic factors to assist with potential future targeting. We analysed the results at two geographical levels: district and lower layer super output areas (LSOA). The analysis undertaken at district level was designed to give a broad overview of the local context and population makeup relevant to the cohorts. Analysis was conducted independently of current ADF locations at this stage to ensure that a health-led approach remained the priority. After identifying the key at-risk groups, we cross-referenced them with the KFRS risk model to establish any overlap.

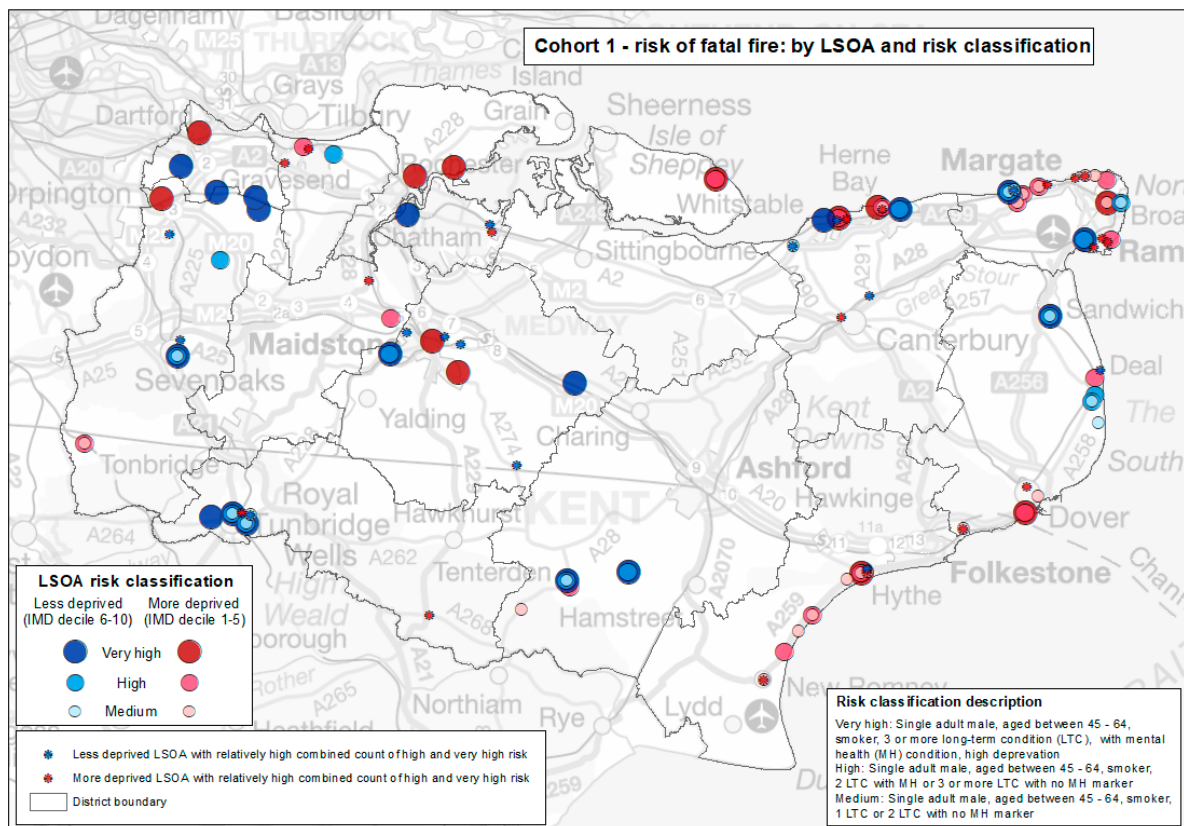


## Cohort 1: Elderly fatal accidental fires

Data was extracted from the KID to identify the spread of individuals who may be at risk of fatality resulting from an ADF. A cohort of 91,889 individuals aged 65 and over, living in a single-person household was identified: 83% were aged 70 and over. Being aged 65 and over, along with living in a single-person household, was the starting point for inclusion in this cohort. However, we created three sub-groups, very high risk, high risk and medium risk based on the addition of cumulative risk factors:

- Very high risk criteria: aged 65 and over with three or more long-term health conditions (LTCs) indicating poor health, residing in an area with a deprivation score of 1 to 5: 12,258, 13% of the total cohort, fall into this risk category
- High risk criteria: aged 65 and over with two LTCs indicating poor health, residing in an area with a deprivation score of 1 to 5: 10,021, 11% of the total cohort, fall into this risk category
- We conducted similar analysis for a group termed as medium risk. This did not add any detail at district level at this time, but was included in the geographical analysis

Whilst analysis of district-level data gave a good indication of where such populations may be clustered, more granular detail about the distributions of such populations across Kent offered greater insight. Map 1 demonstrates the distribution of very high risk, high risk and medium risk populations calculated at LSOA level. The cohort was split into a more deprived and a less deprived group. Each marker on the map represents one LSOA. The size of the marker and strength of the shading relate to the level of risk: medium, high or very high.



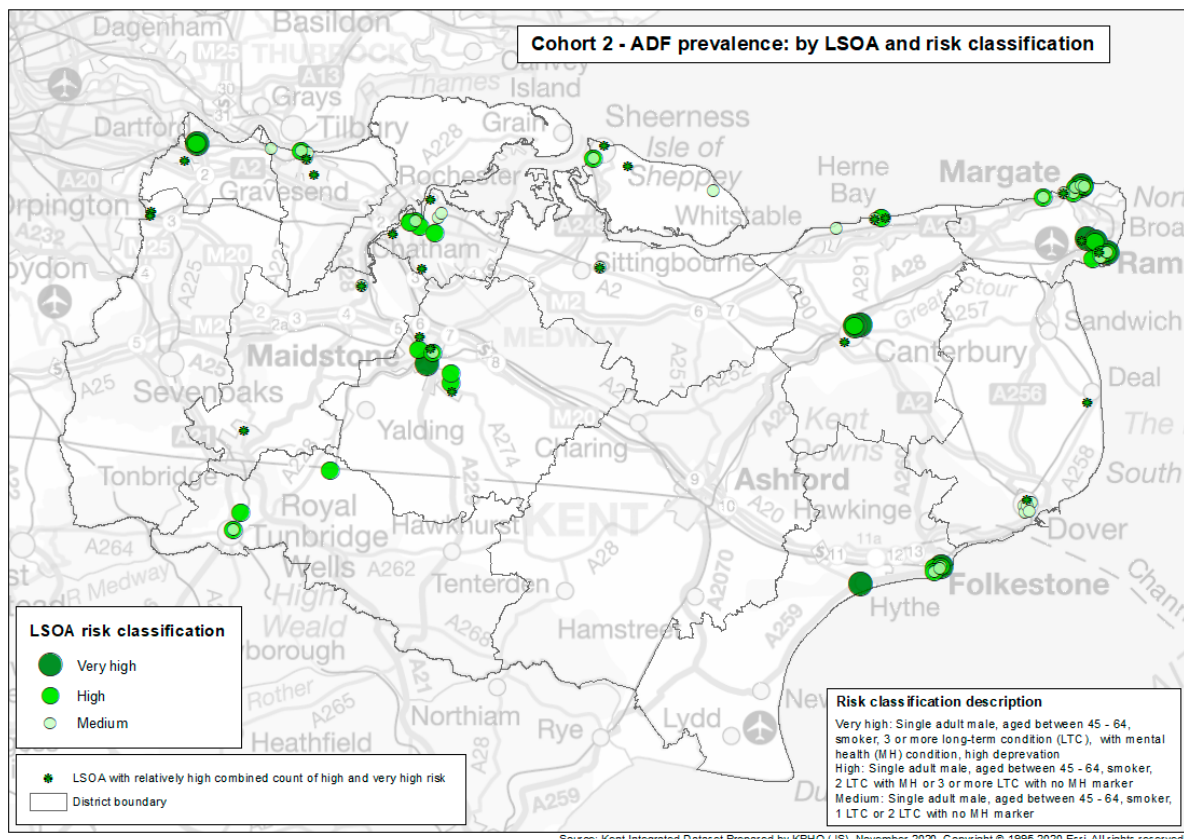
Map 1: Distribution of very high risk, high risk and medium risk populations at LSOA level for cohort 1

## Cohort 2: ADF prevalence

Data was extracted from the KID to identify the spread of individuals who may be at risk of injury resulting from an ADF. A cohort of 29,519 males aged between 45 and 64 years, living in a single-person household was identified. Being aged between 45 and 64 years, along with living in a single-person household, qualified an individual for inclusion in this cohort. However, we created three sub-groups: very high risk, high risk and medium risk based on the addition of cumulative risk factors:

- Very high risk criteria: aged between 45 and 64 with three or more LTCs, which indicate poor health, residing in an area with a deprivation score of 1 to 5, with a marker for mental health (MH) conditions, and being recorded as having ever smoked: 712, 2.4% of the total cohort, fall into this risk category
- High risk criteria: single adult male, aged between 45 and 64, smoker, two LTCs, with an MH marker, or three or more LTCs with no MH marker, and being recorded as 'having ever smoked': 1,727, 5.9 % of the total cohort, fall into this risk category
- We established a medium risk category, which consisted of a single adult male, aged between 45 and 64, recorded as a smoker with one LTC or two LTCs with no MH marker. Analysis of this cohort at district level did not yield any additional results but this has been included in the mapping at LSOA level below

Map 2 demonstrates the distribution of very high risk, high risk and medium risk populations calculated at LSOA level for cohort 2.



Map 2: Distribution of very high risk, high risk and medium risk populations at LSOA level for cohort 2

## Comparison with KFRS ADF risk model

To test the relationship between health factors and behaviours used to construct health-based cohorts, and ADF prevalence and the resulting injury or fatality, the outputs from the two approaches were geographically compared. The health-based cohorts were geographically overlaid with a risk model developed by KFRS, based on Experian Mosaic socio-demographic groups and historic ADF incidents, to establish if cohorts based on health-related risk factors fell into the same high-risk areas identified by the KFRS model.

Overlaying the two models presented several methodological challenges which took perseverance to overcome. The idea of comparing the KFRS and health cohort approach was to identify the health makeup of the populations that overlap with the KFRS predictive model, to distinguish which health-related conditions may contribute to the likelihood and outcome of ADFs. Yet the models were designed on different premises, so decisions needed to be taken on what would be reliable and accurate comparators. Health data was only available at LSOA level and the KFRS model was produced at output area (OA) level. It was, therefore, necessary to aggregate OA-level results from the KFRS model to produce LSOA-level estimated casualty counts to directly compare with the at-risk cohorts. Aggregating the counts of smaller geographical units risked producing a different result compared to if the larger unit were to be considered as a whole, individual unit, rather than a combination of connected smaller units.

Both the correlation and the overlap between the models were calculated based on outliers from the different risk categories identified by the health cohort approach. The outliers from the health cohort were allocated weighted risk-scores, and it is these that were then compared to the outliers in estimated casualty counts from the KFRS model, at LSOA level. The correlation coefficient represents the correlation between these outliers at LSOA level in both models based on weighted risk score and estimated casualty counts. The overlap is based on outliers displayed in the form of a percentage showing how many of these outliers were identified in both the health cohort and KFRS model overlap. LSOAs were weighted based on the level of risk they contain. Weighting the LSOA to highlight the level of risk they carry to undertake this analysis allows for a degree of robustness in these results. If the overlap and correlation were based on total count alone, this would not allow for the different combinations of health-related factors to be taken into consideration, potentially providing a misleading picture.

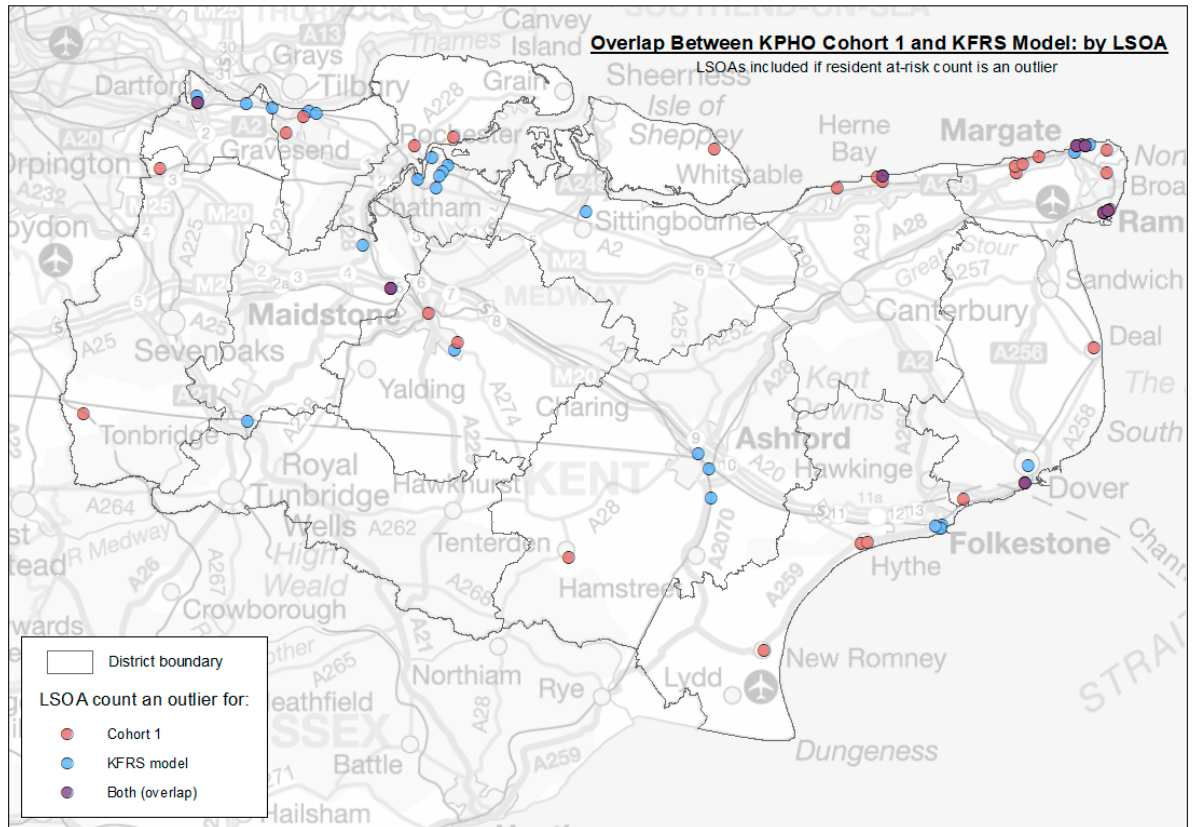
Table 1 demonstrates both the correlation and the overlap for the health-based cohorts and the KFRS model.

Cohort	Overlap	Correlation coefficient (p value)
1 Elderly fatal	24%	0.29 (0.000)
2 Males aged 45 to 64 and living alone	39%	0.73 (0.000)

**Table 1: Cohort overlap and correlation by LSOA**

When cohort 1-weighted outliers were compared to the KFRS model, we identified an overlap at LSOA level of 24%, which indicated that factors such as age over 65, living alone, multiple LTCs contribute to the outcome of ADFs. However, these factors alone are not strong predicting factors. Factors outside health-related conditions or very specific combinations of health factors need to be identified to strengthen this overlap. It is still unclear the extent to which health factors contributed to the outcome of ADFs. Therefore, it may not be possible to strengthen this relationship. Further investigation of the health-related conditions associated with victims of historic fatal ADFs will enable a deeper understanding of how these factors interact.

Map 3 demonstrates the overlap between the health-based cohort 1 and the KFRS ADF risk model. This demonstrates some of the disparities between the two models.

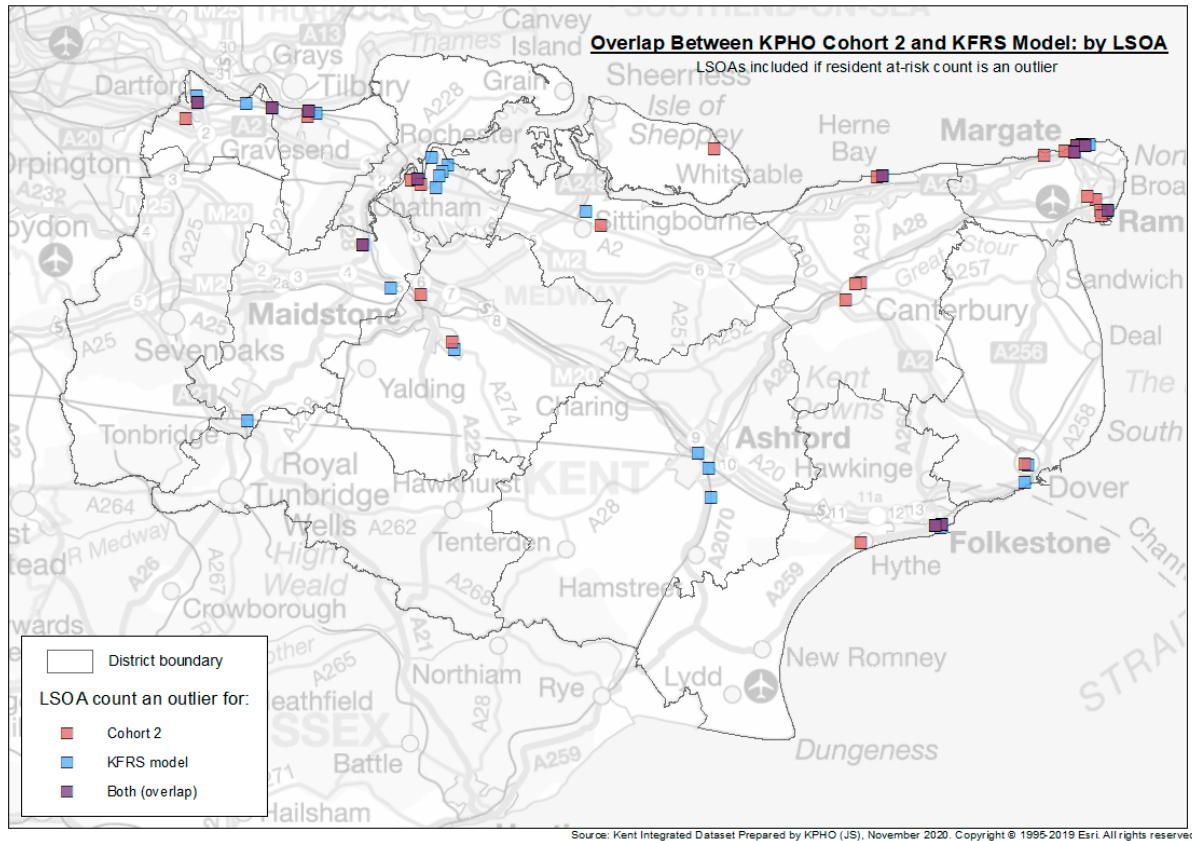


Map 3: KFRS model and health cohort 1 overlap map

When we compared cohort 2-weighted outliers to the KFRS model, we found that the outliers overlap at LSOA level 39% of the time. The correlation sitting at 0.73% demonstrates the strongest of the relationships between health-based risk factors and the KFRS risk model. This demonstrates that factors such as being a male smoker between the ages of 45 and 64, residing alone, in an area of high deprivation and experiencing multiple LTCs and an MH condition, have a clear relationship with the likelihood of experiencing an ADF.

Map 4 demonstrates the geographical overlap between the two approaches.





Map 4: KFRS model and health cohort 2 overlap map

## Conclusion

Using health-based cohorts designed on the basis of the literature to predict the locations and outcomes of ADFs has a varying success rate. There is substantial overlap, with the health-based cohort likely to experience ADFs that may result in injury. This gives weight to the notion that having access to information to identify individuals who are male, living alone, aged 45 to 64, smoke and have a combination of long-term conditions, an MH issue and deprivation can help with targeting at-risk groups. The overlap, however, between identifying those at risk of a fatal fire from a purely health-based approach and the KFRS predictive model is not as strong. So, whilst health-related factors can contribute to the fatal outcome of an ADF, further analysis is needed to establish a more specific combination of health, social and environmental factors that can be tested against the KFRS predictive model.

Whilst the literature suggests that health factors play a role in the outcome of ADFs, there is a lack of clarity about the impact of different combinations of health-related factors. This paper highlights that, when identifying those at risk, taking a purely health-based approach to predicting ADFs, certain at-risk cohorts are more easily identified than others, and the methodological approach to both identifying and comparing these cohorts presents various challenges. This paper suggests that there is a relationship between cohorts identified based on health-related risk factors and a predictive model developed by KFRS. This further supports the need for closer collaboration between health and fire services to not only reduce the risk of ADF but also to add an additional layer of support through 'Safe and Well' visits to those in the community who are living with health concerns. However, our findings indicate that further research is needed to identify more specific combinations of, not only health-related factors, but also their interaction with social, economic and environmental factors, to improve the rate at which ADFs and their potential outcomes could be predicted. The methodological challenges added weight to the notion that developing a reliable and valid 'live' big dataset, with multi-agency feeds, will encourage important and innovative multi-agency research.

## Policy and practice implications

The fire and rescue service should be able to more accurately target fire prevention activity to ensure people stay safe in their homes. This paper addresses the need to better understand the link between health data and fire incidents, suggesting that whilst it is likely that health conditions contribute towards the likelihood or outcomes of ADF, it is necessary to look in greater detail at specific combinations of health conditions and their association with fire risk. So, it is essential that data is shared effectively between health services and fire and rescue services. This will enable modelling to be more accurate and fire and rescue services to allocate prevention resources more efficiently. Referrals from health providers should offer enough information about health conditions for fire and rescue services to be able to assess risk in order to allocate the correct level of intervention.

This report highlights the great potential of using health data to segment the population for fire risks. Opportunities need to be explored further for undertaking analysis at a national level with larger datasets where validity could be enhanced with scale – this is particularly true for ADF fatalities of which occurrences are low in number. Gaining a greater understanding of the links between health conditions and fire risks would allow more refined targeting of prevention activities. In turn, this would improve the effectiveness and efficiency of fire and rescue service interventions to prevent ADFs, fatalities and injuries.

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# Collaborative methodological reflection: disrupting the ethical practices of a creative method in higher education research

Dr Jill Dickinson, Teri-Lisa Griffiths and Dr Liz Austen, Sheffield Hallam University

## Abstract

Using processes of collaborative reflection, the authors explored their use of photo-elicitation by replicating the participant experience from their own research. The resultant discussion led to the emergent topic of ethical research practice, which includes both broader concerns and specific considerations in employing creative methods. Drawing on the framework of the British Educational Research Association's ethical guidelines, this paper critically analyses the literature concerning ethical research practice before presenting the findings from this reflexive project. Directly responding to calls for ethical innovation in the context of creative methods, this paper makes specific recommendations for how ethical research practice can incorporate reflective approaches that complement the review processes of ethical review boards by further protecting participants and facilitating researcher understanding and development.

## Introduction and context

The case study that inspired this paper explored the experiences of staff and students at a higher education institution (HEI) within the UK. That research focused on the changes to learning and teaching spaces during the Covid-19 pandemic (Griffiths et al, 2021; Griffiths et al, in press). Participants from across the institution took part in either a focus group or a semi-structured interview. Adopting processes of photo-elicitation (Glaw et al, 2017), the researchers invited each participant to take a photograph of their current home-working/learning environment. With consent, the researchers drew on the participants' images within their respective focus group or interview to expand narratives through encouraging reflective discussion.

Whilst undertaking the case study project, the researchers experienced an 'ethical moment' (Guillemin and Gillam, 2004) in using participants' images, and reflected on the implications of using creative methods. The authors designed a concurrent reflexive project to explore the benefits and limitations of the researchers' methodological approach. These reflections are the focus of this paper, and intend to extend the discussions of ethical research practices, especially when using non-conventional research approaches.

The importance of research ethics was one of the themes emerging from this reflexive project, and the paper makes recommendations for developing ethical approval processes. In this paper, we explore some of the ethical issues in collecting and drawing on visual data to provide context for our 'ethical moment'. We outline the methodological approach that we adopted to support our reflections and offer it as a model for future research reflexivity. Finally, we report our findings and make recommendations for the future development of research ethics-related approaches.



## Case study context: ethics and visual data

The ethics of drawing on visual data for research has been widely explored (see for example Facca et al, 2020; Wiles et al, 2012; Daniels, 2008). The use of images as data has a long history in anthropological research (Banks, 2014). The resultant ethical controversies, which include issues of consent and deception, raise important questions for researchers wishing to employ such methods. Visual data can be collected in various ways including researcher-created, participant-created, and the use of 'found' images (Banks, 2014; Wiles et al, 2012). Wiles et al (2008) note that if the intention is to draw on the photographs to generate participant discussions, or 'photo-elicitation', this may warrant different considerations than 'autophotography' (Glaw et al, 2017) which involves the researchers treating the photographs as data. This paper concentrates on participant-created images for photo-elicitation, since this was the approach taken in the case study.

Inviting participants to take and share their own photographs confers a number of potential benefits. These include: empowering participants; increasing their enjoyment; fostering their engagement with different psychological processes that encourage richer discussion (Miller, 2015) and critical dialogue (Ronzi et al, 2016); and enabling them to express what has significance for them (Guillemin and Drew, 2010). Whilst concerns have been previously raised about the costs associated with 'participant photography' (Allen, 2012, p.1), recent research highlights how a general familiarity with camera phones can encourage participant engagement (Raby et al, 2018).

However, there are also well-documented philosophical and practical challenges associated with this creative method. An important philosophical critique of using images in research is the 'Euro-American' cultural focus on 'seeing' for meaning-making (Banks, 2014), which other cultures may not share. This could have implications for inclusivity when recruiting research participants. Euro-American researchers should also be careful to reflect on their culturally constructed emphasis on visual information when designing their research methodology and analysing their data (Banks, 2014). Practical challenges include the need for researcher recognition that the context within which participants are being invited to take photographs may influence their decisions as to what to include within the image and in what manner (Power et al, 2013).

There is also a risk that participants' eagerness to please may distort or edit the content of the images by focusing on trying to produce what they think the researcher wants, rather than what is important to them (Ronzi et al, 2016). Related to this, societal norms may encourage participants to stage their photographs in bids to present themselves in the best light (Guillemin and Drew, 2010). Recognising this potential for misrepresentation, previous research encourages researchers to consider not just what is captured within the photograph but also what might be absent from it (Meo, 2010).

The literature also indicates how one of the most problematic areas for researchers in drawing on participant-generated photographs relates to the application of ethics approval processes. This is because of the significant variance between the standpoints of ethics review boards and researchers (McAreevey and Muir, 2011), particularly in a creative research methods context. Pitt suggests that ethics review boards may be ill-suited to research involving visual methods due to views of the model researcher 'as an objective and disinterested observer', a cost-benefit approach to decision-making, and their perceptions of humans as 'independent and equal'. (2014, p.311). Pitt (2014) also acknowledges how visual researchers can experience developing ethical issues throughout the course of a project, which the traditional solitary ethics review board model does not support. Similarly, Miller points to 'conservative positivist perspective[s]' inadequate comprehension, and subjective procedures and ensuing disparity in decision-making (2015, p.9). The breadth of ethical issues associated with participatory visual research, (including anonymity, consent and dissemination), combined with the associated array of 'frameworks, professional guidance, regulation, and legal rights and duties' (Wiles et al, 2008) may compound such problems and potentially discourage researcher-engagement. Previous research also highlights how researchers should familiarise themselves with the ethical review process, and build their relationship with ethical review boards, perhaps by volunteering to become reviewers (Orimadegun, 2020).

To help overcome such ethics-related issues, researchers need to consider their rationale for including participant-generated photography within their research design (Miller, 2015). In the case study project, this rationale was re-questioned by the researchers during their 'ethical moment' and influenced the decision to explore ethics and creative methods in more detail.

## Reflexive project: methodology for reflexive intervention

Whilst the rationale for participant-generated photography was discussed at the outset of the case study, the research highlighted a need for further reflexive intervention. The two case study researchers invited a third independent researcher to join them for this concurrent reflexive project. Using the principles of collaborative reflexivity and reflexivity (see for example Dickinson et al, 2020), we applied Marshall et al's (2010) framework to explore the ethics of our approach (see table 1).

First, we assigned the focus of the reflexive activity as the photo-elicitation methodology that the researchers adopted for the case study. We were granted ethical approval for this reflexive project through an amendment to the researchers' original ethics application for the case study. Responding to previous calls for researchers to mitigate ethical review boards' potential unfamiliarity with creative research designs (see for example Orimadegun, 2020), we took part in this reflexive project as participants. We assigned ourselves roles, either 'active researcher participant' or 'independent observer participant', to reflect the extent of our involvement in the case study. Transcending the regulatory emphasis on institutional ethical supervision and re-focusing on the elements of integrity, transparency, and respect (Nind et al, 2013), the reflexive project involved each of us, as researcher participants, experiencing the creative methods that had been adopted for the case study to understand the format from the participant's perspective.

We engaged in two collaborative reflexivity discussions: one before the interview (reflexive discussion 1) and one afterwards (reflexive discussion 2) using Marshall et al's (2010) framework as a guide. The first reflexive discussion had two foci: introspection and intersubjective reflection. Introspection concerns the researcher's personal experience with the aim of making the links between personal experiences and knowledge claims more explicit (Marshall et al, 2010). Intersubjective reflection considers the interrelationship between the researcher and their participants. This encompasses personal characteristics, including those which are fixed at the point the research is undertaken (for example, sex and age) and those which are malleable, such as dress and social interactions (Marshall et al, 2010). As a result of the first reflexive discussion, the researchers involved in the case study incorporated a question into the focus group and interview schedule to seek participants' perspectives on the inclusion of creative methods. This reflects the approach advocated by Attia and Edge (2017) for development of reflexivity approaches beyond the initial research design stage.

The second reflexive discussion comprised three parts: collaborative reflection, social critique and conscientious reflection (Marshall et al. 2010). Collaborative reflection identified the need to consider the participants' feelings about participating in creative methods. The researcher participants also discussed power differentials: the researcher-participant relationship and whom the researchers might be inadvertently excluding from the research. Finally, the reflexivity project would be classified as insider research; 'that which is conducted within a social group, organization or culture of which the researcher is also a member' (Greene, 2014, p.1). Marshall et al (2010) emphasise the importance of remaining alert to ethical risk for those undertaking insider research, where boundaries can blur and participants may disclose or exhibit unethical practice. Consequently, the researcher participants discussed the steps that they had taken to mitigate this risk in the second reflexive discussion.

Before each of these reflexive discussions, the researcher participants prepared written narratives following an agreed structure and shared these written narratives with the others. Each of the reflexive discussions were framed around these written narratives with individuals providing verbal summaries and answering follow up questions from the others to challenge assumptions and achieve depth of coverage (Legard et al, 2003).

Stage	Activities
Identify focus of reflexive activity	<ul style="list-style-type: none"> <li>Participants' perspectives of photo-elicitation research methods during case study research project</li> <li>Amendment to carry out concurrent reflexive project submitted to ethics review board</li> </ul>
Create immersion	<ul style="list-style-type: none"> <li>Two researchers undertake the case study research with staff/student participants</li> <li>One independent observer (akin to supervisor input in Marshall et al, 2010) observes sample of recorded research with staff/student participants</li> </ul>
Reflexive analysis #1	<ul style="list-style-type: none"> <li>All three researcher participants (the researchers and the independent observer) engage in first reflexive discussion</li> </ul>
Experience being researched	<ul style="list-style-type: none"> <li>All three researcher participants take photographs and collectively follow the focus group/interview process adopted for the case study</li> </ul>
Reflexive analysis #2	<ul style="list-style-type: none"> <li>All three researcher participants engage in second reflexive discussion</li> </ul>

Table 1: Stages and activities of the reflexive project

## Reflexive insights and recommendations

As researcher participants, we found the reflexive discussions insightful and challenging. In this section, we summarise our reflections in alignment with the British Educational Research Association, Ethical Guidelines for Educational Research (BERA, 2018). This themed content into five sections: responsibility to participants; responsibilities to sponsors, clients and stakeholders in research; responsibilities to the community of educational researchers; responsibilities for publication and dissemination; and responsibilities for researchers' wellbeing and development.

### Responsibility to participants

One of the benefits of insider research is the existing trust between the researcher and the researched which may help facilitate participation (Marshall et al, 2010). Our experiences also highlight how the use of photo-elicitation can empower participants to decide how to represent their world visually (Glaw et al, 2017) and increase their sense of involvement (Guillemin and Drew, 2010). At times, we worried whether we were 'saying the right things' and noted how the research participants in the case study had disclosed similar concerns, for example, 'Well, I wasn't really sure about the picture I took of the learning environment, whether that was really right or not'.

We reflected on the perceived experiences of the research participants during the case study and noted that our method highlighted privilege, and therefore differences (for example privacy, technology and access to daylight) and potentially disadvantage. We reflected on our experiences of being a researcher participant, describing feelings of enjoyment and catharsis. This was potentially due to our 'insider' researcher status. We had similar experiences to those of our participants and were able to enjoy the benefit of participating as a result (Marshall et al, 2010). We shared our photographs, although some of us consciously edited our location. The research participants in the case study also revealed similar apprehension, for example:

'You just think, well, I'm going to potentially show this to I don't know how many other people. So just make sure it looks neat... you know how you just scan it initially just to say, what is there that might be embarrassing or out of place or inappropriate.'

We questioned the effectiveness of the research 'brief' and specifically the 'debrief' aspect of the data collection. We explored whether creative methods required more than an information sheet to apprise consent (Guillemin and Gillam, 2004). For instance, recognising that participants may be unsure about requirements, the researchers involved in the case study included an example image of one of their own workspaces within the recruitment materials. We reflected on the formality of ethical statements, especially those recited at the beginning of sessions which can reaffirm researcher-researched distinctions and shift the focus back towards the researcher. We considered the balance between rapport building and ethical practices as essential in creative methods. We also wondered how often researchers followed up with participants beyond sharing findings and outcomes or member checking (for the researcher's benefit to ensure trustworthiness) (see, for example, Birt et al, 2016) to discuss the impact of the method on the participant, and considered the need for reflexive practices to gather these insights.

### **Responsibilities to the community of educational researchers**

We discussed the merits of a reflexive journal as one way to 'display the investigator's mind process, philosophical position and bases of decisions about the inquiry' (Lincoln and Guba 1985, p.109). However, the purposeful reflection presented in this paper allowed the researchers time and space for an 'in the moment' discussion of methodology, and highlighted areas for development alongside examples of where reflection and adaptation already existed (for example, through organic discussions between members of a research team during data collection). This practice supports the BERA (2018, p.29) aim to 'protect the integrity and reputation of educational research by ensuring that they conduct their research to the highest standards'. A focus on producing, writing and disseminating findings has the potential for inhibiting thinking time, energy and corresponding diary availability needed for adopting a deeper, collaborative reflexivity approach. Appraisal processes or personal development planning models could lend themselves to discussing the research context for the benefit of the research, the researched and the researcher. The best models for appraisal encourage the identification of formal, dedicated space for reflexivity and goal setting, but tend to be underpinned by an ongoing series of informal communications.

Whilst it became clear that some of us engaged in requests for research participation (most often surveys), and most of us had explored creative methods in training or conference workshops, none of the researcher participants had been a participant in research employing creative methods. We struggled with the challenges of being researched due to our immersion in the world of research, and engagement was, at times, influenced by our own critical thinking. BERA (2018, p.8) suggests that 'researchers should not undertake work for which they are not competent' and we include experience and impact in the definition of competence.

We include those conducting ethical reviews within the community of researchers. As previously referenced (see Miller, 2015; Wiles et al, 2008), when submitting a proposal for research with images, this tends to generate queries to test the ethics of the project more robustly than an interview or focus group schedule. Whilst scrutiny is important, this should be from an informed position and constructive in nature. As Brown et al (2020, p.747) suggest '...the difference between foe and friend lies in the quality of communication, clear systems and a culture of respectful mutual learning'.

## Responsibilities to sponsors, clients and stakeholders in research

The BERA (2018) guidelines for ethical practices include the sound understanding of the proposed methods, which must be justifiable and have considered possible alternatives. Creative methods should not be adopted simply because they are interesting, particularly when considering the risk of cultural normativity (Banks, 2014). As such, the discussion of methods and the dissemination of findings to stakeholders – closing the research loop – is essential for future application and learning.

The transparency of lessons learnt is important: pedagogic research in higher education can be biased towards the reporting and publication of positive outcomes (Dawson and Dawson, 2018). As researcher participants, we were able to share our sentiments with each other. A sense of equals has been created, perhaps mediated by sharing photographs and insights of our experiences of working remotely. But there may be pressures from funders or wider stakeholders for less transparency through a fear of critique. This does not help future research practices or the development of diversity and innovation in methodology. Whilst not all reflexive notes are noteworthy, a supportive culture should operate for disclosure of lessons learnt, when appropriate. As Nind et al (2013) state, ‘innovation is as much about reflexivity as about new techniques in themselves’ (p.657).

Furthermore, the research loop should be closed between researchers and participants. During the reflexive discussions, we considered sharing findings with participants: previous experience had involved participants’ eagerness to see the final outputs of their engagement. In the case study, one of the research participants was keen to understand the potential impact of the research on institutional policies and processes, stating, ‘I just want to know if anything is going to stay in place and, you know, like will it be to save money? Because I think we need a bit of a refund as well.’

This targeted dissemination could generate discussions between peers, who then act as advocates for participation in future research, in our case with students and staff in an HEI.

## Responsibilities for publication and dissemination

In the focus groups and interviews, we obtained pre-consent to share participants’ photographs. Participants were also given the opportunity to decline verbally or through that online chat function. We reflected on whether participants felt uncomfortable sharing in a focus group session. The participant-generated photographs were often sent in advance and collated as research artefacts.

In our reflexive discussion, we recognised that some students tidied up (an element of ‘distortion’ described by Ronzi et al, 2016) for their photographs; some said they had not, but we might assume that they had (note the full wastepaper baskets); some commented on the ‘mess’ we could not see (the floor); some did not share a photo at all due to privacy concerns. The participants were perhaps aware of power dynamics, and specifically, judgements that they actively sought to avoid – not showing overdue library books on photographs was one such example.

A photograph is fixed, but circumstances and environments are not, and the ethics of collecting photographs are more complex. When participants give consent to share their photograph, it could be repeatedly viewed and judged by outsiders with no recourse for changed circumstances. This is different from sharing views in a focus group because those views are rarely published wholesale. In fact, this would be discouraged due to the risk of identifying participants inadvertently. Data is filtered through the researcher’s narrative. With an image, this is not possible and raises the question of whether seeking consent as a one-off is appropriate. Member checking for ‘re-consent’ may be considered best practice for researchers collecting visual data (Birt et al, 2016, p.1804).

## Responsibilities for researchers' wellbeing and development

During the written reflections one of us described their participation as an expression of months of frustration and resentment about how work had infiltrated their home. They described how they felt better following the interview, and were pleased that they might have provided a similar opportunity for participants. The group then discussed the potential impact on the researcher of 'taking on' these negative feelings.

With insider research such as this, researchers may not be able to forget the research experience, and this may influence (positively or negatively) all other interactions. Both active researchers considered photographs of their workplace colleagues. One of us explained that, as the researcher, they felt they knew the researched a bit better through the window of the photograph:

'I found myself thinking about the photograph of their setting whilst in the [online] meeting, remembering the features, even though they were not directly in view.'

The benefits of insider research include an inherent understanding of the environment for staff, and sometimes students. However, considering the diverse nature of the institution, the risk of assumed knowledge is omnipresent. There was a level of relaxation and trust that developed during the role of researcher participant. Whilst there are benefits for the research findings, the researcher and or/the researched might inadvertently reveal more that they would want shared publicly.

Whilst no negative experiences were reported in this project, the potential for adverse effects is possible, coupled with a more intensive research experience as a result of employing creative methods. BERA (2018) suggests that 'safeguarding the physical and psychological wellbeing of researchers is part of the ethical responsibility of employing institutions and sponsors' (p.35).

## Conclusion

This paper has explored, via a process of collaborative reflection, the use of creative methods from the perspectives of the researcher and the researched. Drawing on BERA's ethical guidelines (2018) to structure the findings, we have included in the table below six recommendations for developing an ethical process for creative research, to respond to calls for ethical reflection to move beyond 'one-off' events (Wiles et al, 2012).



No.	Recommendation
1.	As a minimum, the participant information sheet should include details of the potential impact of the proposed method. In addition, interview questions should explore how the method (sharing a photograph of a home-working space) makes a participant feel. We suggest applying the principles of a reflexive diary (Lincoln and Guba, 1985) to facilitate more organic reflexive discussion throughout the research.
2.	Researchers should participate in a variety of research methods, specifically those that they aim to employ, and research reflexivity should be recognised as part of continuing professional development (CPD).
3.	Ethical reviewers should be trained to promote transparency and communication during the ethical review process.
4.	Lessons learnt should be disseminated beyond small limitations sections within publications. We encourage a culture of sharing which can develop from more considered reflexive practices.
5.	As with other visual methods, such as digital stories (Austen et al, 2019), we recommend obtaining specific consent to publish. We also ask that researchers and reviewers consider when and how images are published, asking themselves 'are the images necessary for readers to see?'
6.	Researchers employing creative methods should consider the potential impact on wellbeing at the point of design.

**Table 2: Recommendations from the reflexive project**

Recommendations 3 and 5 focus on developing the existing ethical review processes, in line with our belief that reflexive approaches to ethics should not supersede what already exists, but include a consideration of the long-term ethical practice of researchers and reviewers (Wiles et al, 2012). Our findings emphasise that approval processes should aim to be a continual dialogue between researcher, reviewer and participant. Recommendation 6 invites researchers and reviewers to consider the wellbeing of participants and research staff at the point of design. Furthermore, recommendation 1 encourages qualitative researchers to routinely include questions which encourage participant reflection on the methodology as part of the data-collection process, with the goal of informing future practice. Empathic research practice can be promoted through recommendation 2, particularly when this practice is supported through formal CPD processes. All of these recommendations are underpinned by giving researchers space to report their reflections of their methodologies as a routine aspect of publication, as suggested in recommendation 4.

In conclusion, we encourage ethical review boards to extend their knowledge of the practicalities of creative methods and enhance the review process from critical to constructive. This includes prompting researchers to adapt briefing and de-briefing mechanisms, enquiring about the inclusion of reflexive discussions/interviews in the research process and specifically examining the publication suggestions for visual artefacts. In addition, we ask that line managers make space for, and encourage/reward, researchers to be participants in the research of others. The wellbeing of researchers, at the point of design, implementation and publication should be embedded within these supportive discussions. We also hope that publishers dedicate space to lessons learnt, research failures and reflexive insights to promote a culture of transparency in creative methods.



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