Exploring the ‘trustworthiness’ of GPs

Rose Wiles NCRM Hub, University of Southampton

Trust is fundamental in relationships where there is an element of risk and unequal knowledge between parties, such as in the relationship between a patient and their GP.

While ‘general’ measures of trust in GPs in surveys demonstrate high levels of trust among populations, ‘specific’ measures of trust (in relation to particular experiences of health care) reveal a more sceptical picture, particularly among people with certain health conditions.

Various factors have been identified as challenging the trust that people have traditionally had in GPs. These include an increase in the availability of health information and support online, an increase in the prevalence of chronic conditions, and a decline in levels of trust in science and public organisations in general, and in the medical profession in particular. The nature of patient-doctor interactions are further complicated by the Health and Social Care Act (HSCA) 2012. Various health care organisations have argued that the Act poses a further threat to trust between patients and GPs, as GPs take on a major budgetary role. The relationship between GPs and patients has been characterised as changing from one of ‘blind’ or ‘embodied’ trust in GPs, in which patients unquestionably view their GP as trustworthy, to one of ‘earned trust’. The earned trust model implies that patients trust their GPs when their personal experience with a GP indicates that they are trustworthy, that is, when they demonstrate their technical competence as well as a range of interpersonal skills.

NCRM researchers have been exploring trust in GP/patient relationships using a mixed methods approach involving analysis of the 2012 GP-Patient Survey, focus groups with users of GP services and analysis of on-line patient forums. Analysis of the 2012 GP-Patient Survey found that lower levels of trust were associated with patients with the following conditions: long-term neurological problems; long-term back problems; long-term mental health conditions; arthritis or long-term joint problem; epilepsy; kidney or liver disease.

In addition to these conditions, our analysis also found an association between people with visual or hearing impairment and dissatisfaction with their GPs in some of the behaviours that have been associated with relationships of trust between patients and GPs, such as giving time to patients and listening to them.

Focus group participants and analysis of data from online forums identified issues relating to GPs’ technical competence, their communication skills and their interpersonal skills or characteristics in describing what defined a trustworthy GP. Each of these attributes was linked to other so a trustworthy GP was viewed as needing skills in each of these domains.

Underlying patients’ conceptions of the behaviour and characteristics of a trustworthy GP appears to be an ideal of the family doctor of the past. In discussing the trustworthiness of GPs, participants drew on two distinct types of GP; that of the family doctor and the doctor who is a manager of a business. The former was seen as trustworthy and as someone who acted in the best interests of their patients and the latter as someone who acted in the best interests of the ‘business’. The many demands on GPs, exacerbated by the HSCA, mean that a return to this ideal of a GP as a ‘family doctor’ is unlikely and probably impossible. Many of the participants to this study were aware of this and regretted the move to bureaucratic and rationalised general practice.

Our research indicated that there are many barriers in contemporary general practice that make it difficult to develop the sorts of relationships of trust that patients seek. However, despite this, some research participants appeared to have been able to forge relationships of trust with their GPs with which they were satisfied, demonstrating that such relationships are possible despite the constraints patients and GPs experience.

Wiles, R. 2014. Trust in GPs: Findings from Focus Groups http://eprints.ncrm.ac.uk/3270/
High parity and early parenthood are associated with adverse health outcomes in old age. Physical activity has many health benefits. Could it moderate later life health disadvantages related to high parity and early parenthood?

Some events in earlier adult life, such as early entry to parenthood, have been shown to be associated with worse health in older adulthood. In England having had a larger sized family of four or more children - associated with early parenthood - is also associated with poorer health in later life\(^1,2\). Biosocial pathways underlying these associations may include adverse life style factors, reduced educational and occupational opportunities, accumulated stress and lower accumulation of wealth\(^3\).

As changing past life events is not possible, it is necessary to look for factors in current life that might alleviate the adverse effects of life-long stress accumulation. One potential promoter of health is physical activity which is associated with numerous advantageous health outcomes throughout the life course. Physical exercise programmes have been successful in different age groups, including community dwelling older people and older patients. It is not however clear whether it may offset long-term health disadvantages related to life events earlier in the life course.

To investigate whether physical activity could moderate the association between fertility history and later life health, the researchers in the Pathways node of NCRM analysed data from the English Longitudinal Study of Ageing\(^4\). The data were collected in five waves in 2002-2010. In the first data collection, 11,233 older men and women aged 50+ participated. Both initial level of disability and change in disability over time were studied.

The study focused on the effect of early child birth (<age 20 in women and <age 23 in men) and high parity i.e. having had four or more children compared to the average number of two children. By stratifying the analysis by different levels of physical activity it was possible to assess whether among those physically more active ‘adverse’ fertility history - having a high number of children and experiencing early parenthood - was no longer associated with disability. The models were adjusted for age, smoking, educational qualification, marital status, wealth, and depressive symptoms.

Results showed that disability remained at a considerably lower level among those who were physically active and that people who had had an early entry to parenthood and large family size were generally less physically active and reported higher level of disability.

Interestingly, among the physically active, parity or early parenthood were not associated with disability, whereas there was a clear disadvantage of high parity and early childbirth among the less physically active.

Physical activity thus moderates the extent of health disadvantage related to high parity and early parenthood.

References

Fertility, wealth and later life health

Monica Costa Dias, PEPA, Institute for Fiscal Studies

Joint research by PEPA and Pathways is investigating some of the mechanisms that link life experiences and later life health. In particular, the focus is on the interconnections between fertility histories and wealth, and how these impact on later life health.

Earlier research has established the importance of the associations between these variables. But the interpretation of these associations is notoriously difficult, confounded by the classic simultaneity problem. The difficulty lies in the fact that wealth, fertility and health are closely intertwined life-long processes. Hence, the many distinct mechanisms that may contribute to some observed correlation cannot be easily disentangled.

The links between fertility histories, wealth and later life health

Take, for instance, the strong positive correlation between health status and wealth that has been repeatedly found for many countries and time periods. One can think of three competing explanations for such association. First, it is conceivable that differences in SES have lasting effects on health. Second, it is equally plausible that the reverse is true, with poor health having cumulative effects on SES if, for instance, it impairs investments in skills, working and earnings capacity. And finally, underlying but (partly) unobserved factors including ability, parental background or other early life experiences may determine both health and economic wellbeing.

The relationship between fertility histories and health is potentially equally complex. Again, three alternative explanations can be considered. Women, in particular, may experience physiological consequences of pregnancy and childbirth, but health itself can be one of the determinants of fertility. A third explanation relates to the many costs and benefits of parenting, in the form of emotional fulfilment and/or strain, social interactions and support, economic costs or time use, to name only a few. While health outcomes may be affected by these factors, potentially in different directions, the relative importance of these costs and benefits may well depend on health in the first place.

The effects of fertility and wealth on later life health may partly result from the interaction of these factors over time. For instance, the time and economic resources needed for child-rearing may reduce other expenditures and put a downward pressure on wealth accumulation, with negative impacts on health. On the other hand, parenthood may affect many economic decisions such as whether or not to work or in which assets to invest, with unknown effects on wealth accumulation. It is also possible that offspring provide protection against negative economic shocks, both when young by supporting eligibility to family policies or promoting/facilitating stronger social networks, and as adults by actively assisting their parents.

Quantifying some of these links

It is difficult to visualise how one could disentangle all these interactions without resorting to a model of the life-course that explicitly models the income, wealth and health processes together with fertility decisions and their consequences. However, appropriate data may help shed light on some of these relationships in a flexible way.

This is the approach pursued by this project. It relies on the especially rich information available in the English Longitudinal Study of Aging (ELSA). ELSA contains detailed longitudinal data on health, employment, income, wealth and demographic variables for a large sample of individuals aged 50 and above and their partners. It also records retrospective data on a number of SES variables and health of respondent as a child, and on marital, fertility, education and employment histories. Finally, ELSA data can be linked to NI records for detailed earnings histories.

These data are used to investigate the joint effects of fertility histories and wealth shocks (or innovations) on later life health. This requires two crucial steps. The first is to ensure that individuals being compared are indeed similar. A particular worry is that early differences in health or socioeconomic conditions may persist and later affect fertility choices, earnings capacity and health trajectories simultaneously. The common factors could lead to spurious correlations between these variables. Hence, the first step is to carefully match on background health and socio-economic information.

The second step is to find some variables associated with differences in fertility histories or wealth shocks but plausibly otherwise unrelated to health. Suppose one could find one such variable or instrument for fertility histories. The idea behind the use of an instrument is that individuals who have different levels or values of the instrument, but are otherwise identical, experience different fertility patterns for reasons unrelated to health. Variation across individuals singled out by the instrument can then be used to separate the impact of fertility on later health. This is the Instrumental Variables approach.

One instrument that has been used in the past to provide some random variation in fertility is the gender of the older two children among parents of two or more. The rationale is that parents of two daughters or two sons will be more willing to have a third child. In ELSA, this instrument is a strong predictor of one additional fertility episode among parents of at least two children. It is thus used to identify the impact of fertility on later life health.

A more challenging task is to determine a good instrument for wealth. The alternative currently being explored in this project is to focus on the impact of unexpected wealth shocks on health later in life, and the role of (earlier) fertility in protecting against those shocks. The most recent recession may well provide the variation needed to separate unexpected changes in wealth.
Using the web to survey the general population is very tempting because of its low cost and speed compared to more traditional data collection modes. Nonetheless, social researchers have been slow to embrace the web - unlike their peers in market research - because they have significant concerns about population representativeness and data quality.

For this reason, a Network for Methodological Innovation was set up in 2012, funded for one year by the National Centre for Research Methods. The main objective is to share and synthesise existing knowledge and catalyse discussion about future possibilities. It has brought together a wide range of UK and international experts including representatives from academia, government, and the private and not-for-profit sectors.

What are the main findings so far?

Population internet access is rapidly increasing and will reach near universal coverage in the foreseeable future. Before it does, we can offer the unconnected alternative data collection modes, or even an internet connection. We have a good understanding of how to minimise differences in measurement between web and other modes, and new research promises to help us detect and adjust for remaining differences.

But we are still struggling with two other major obstacles: selection and participation. Our dependency on the Postcode Address File for selecting general population probability samples requires either postal contact (leading to selection bias), or in-person visits (negating most of web surveys’ cost advantages). And web surveys have much lower response rates than comparable surveys using face-to-face interviews - the dominant mode for high quality UK random probability surveys. Many of us are rightly reluctant to opt for a web survey without knowing more about the impact of low response rates on non-response bias.

Other countries (the Netherlands, France, the USA and Germany) have recently tackled some of these challenges by setting up probability-based web panels. Substantial efforts are made to recruit probability samples of panel members from conventional sampling frames using traditional contact modes and incentive regimes; offline households are included by providing internet access or allowing participation through a different mode. The costs associated with this level of recruitment and coverage are then recouped through multiple data collections using web rather than expensive traditional modes. This model is proving to be very attractive and is now being considered in Norway and Southern Europe, and for the collection of official statistics in Germany and the Netherlands.

Such a probability-based web panel would be a hugely valuable resource for researchers in the UK, allowing them to collect survey data at lower cost and to develop and test a wide range of web data collection innovations.

Of course not all surveys can migrate their data collection to probability-based web panels, and experiments/trials with web data collection are being conducted on (for example) the UK birth cohort studies, the European Social Survey, the Understanding Society Innovation Panel, the Labour Force Survey and the Cabinet Office’s Community Life Survey. Although all these efforts contribute to a better understanding of how and when to use web data collection they are also constrained by the requirement to replicate rather than improve measurement on these surveys. The decades-long dominance of face-to-face interviewing for high quality surveys in the UK has resulted in survey design customs which are unsuitable for web surveys - long and dull questionnaires and complex questions requiring regular face-to-face interviewer support.

Ongoing changes in web technology stretch our survey design customs to their limit. For example, the rapid uptake of mobile web should force us to rethink radically how we design and conduct our surveys. But web technology also provides huge opportunities for collecting other types of data that do not rely on survey interviewing (e.g. passive measurement). If we are to make significant progress, we may have to step back from existing survey design as the starting point and start from scratch.

This article was originally published in the March 2014 issue of the Research Matters magazine by the Social Research Association.

All outputs by GenPopWeb can be accessed at http://www.natcenweb.co.uk/genpopweb/

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Gerry Nicolaas, NatCen Social Research
Research methods training: Case studies of practice

Melanie Nind, NCRM Hub, University of Southampton

At the end of 2013 the NCRM Training & Capacity Building Strategy Sub Group focused its attention on case studies of research methods training.

The aim was to focus on training in context and to illuminate an event or strategy that was novel, effective, problematic or otherwise interesting to the community of training and capacity developers. The brief summary of them here captures some of the ways in which the pedagogical challenges associated with facilitating learning in complex social research methods are being addressed.

Meeting diverse needs

Methods training needs to adapt to different audiences. This theme pervaded many of the case studies. Pathways¹ training on causal inference has been developed with this in mind and Bianca DeStavola presented a case study of establishing goodness of fit between training material and audience by focusing on the opening for the training. Thus, each particular audience is offered a relevant hook into the problem of causal inference and methods for researching it. Monica Costa Dias showcased the PEPA² strategic concern with establishing a good match between learners and course content to maximise the benefit gained.

For many training situations though, the learners involved in any one research methods training can be diverse. NOVELLA node³ is not unusual in trying to meet the needs of participants with a range of experience/expertise, from different disciplines and sectors. Their training aims to introduce participants to datasets that are new to them. Rebecca O’Connell presented one particular event, ‘Families and Food in Hard Times’ and a novel strategy for meeting the challenge of engaging a diverse learner group through a live interview conducted by Julia Brannen with a high profile member of the House of Lords. The CASS⁴ response to learner diversity in their event ‘Using Paradata to Enhance Survey Design and Analysis’ was to involve a diverse range of presenters and sessions in the second of the two day course, thus making connections with learners with vastly different backgrounds wanting to focus on their own research problems.

Intensity and impact

Diversity of participants was also important in the case study from Talisman⁵ presented by Linda See - the ‘Hacking the Smart City’ event as part of the ESRC Festival of Science - which formed featured in the Winter 2013 issue of MethodsNews⁶. For this training a key dynamic was involving a large number of very differently skilled and experienced individuals and facilitating purposeful, playful engagement with technologies to address applied research problems in the form of smart city challenges. The event is an example of task-focused active learning combining informality of experience with intensity of effort.

On the theme of intensity, Fiona Steele described a particularly intensive aspect of LEMMA⁷ training developed in response to their experience of participants finding it hard to apply what they had learned to their own data and lacking confidence in applying methods and publishing outcomes. The resulting workshops enable carefully selected participants to work on their own data and are run over three days. During this time there is one tutor available for every four of the twelve to fifteen participants. The workshop comprises individual consultation with a tutor, sessions devoted to data analysis with support from a tutor, and one or two lectures a day with a practical focus. The training ends with short participant presentations.

Lastly, the case studies addressed the theme of the longer term impacts of training. Susan McVie illustrated a new model of capacity building piloted by AQMeN⁸. This involved a three day training course aimed at expanding both methodological skills and encouraging greater exploitation of a specific survey dataset. The training was followed up with mentoring and peer review sessions until, working collaboratively, the course participants produced a series of articles that were published in a special edition journal and participated in knowledge exchange events targeted at policy audiences. Jeff Bezemer presented a case study of the MODE⁹ five-day summer school in multimodal methods for analysing communication and learning with digital technologies in which they worked to create a different discursive space for participants from around the world.

References
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2 PEPA node http://www.ifs.org.uk/centres/PEPA
3 NOVELLA node http://www.novella.ac.uk/
4 CASS http://www.s3ri.soton.ac.uk/cass/
5 Talisman node http://www.geotalisman.org/
7 LEMMA node http://www.bris.ac.uk/cmm/research/lemma/
8 AQMeN https://www.aqmen.ac.uk/
9 MODE node http://mode.ioe.ac.uk/
The Stat-JR software package - a new framework for statistical analysis, software interoperability and training through ebooks

William Browne, Chris Charlton and George Leckie. LEMMA III node, University of Bristol

Many data collected in the social sciences have an underlying clustered or nested structure. In the 1980s articles started appearing in the statistics literature containing methods to fit statistical (multilevel) models that account for such structure1.

As these methods were computationally expensive specialised software was required and so, in parallel with the methods, a series of statistical packages were developed (funded by the ESRC) at the Centre for Multilevel Models (CMM) culminating in MLwiN2. MLwiN was first released in 1998 and now has over 14,000 users and has been cited over 4,000 times.

Over the past twenty five years computing facilities have advanced dramatically with machines increasing in both speed and storage capacity. For multilevel modelling this has meant that many of the techniques originally only available in specialist software are now readily available in the standard statistical software packages. However, new methods and models continue to be developed first in specialist software before being adopted more generally.

At CMM we are still developing and enhancing the MLwiN package but in parallel work we have been developing a second statistics package, Stat-JR (with the JR a tribute to our colleague Jon Rasbash for his pioneering software work).

In Stat-JR3 we have recognised the changing landscape in computing and have developed a package that offers transparency, the ability to link with other software packages and web-browser based interfaces.

It has become apparent, from our earlier work, that Markov chain Monte Carlo (MCMC) methods have the inherent advantage over more classical approaches of ease of extendability to new model families. Stat-JR therefore contains a new MCMC estimation engine (named eStat). The philosophy in Stat-JR is based around the concept of templates which are pieces of computer code that perform a specific function, for example fit a model or draw a graph. Model fitting templates will therefore take user input via a series of questions and write model code in a language similar to that used in WinBUGS4.

Stat-JR contains its own algebra system that will then use this to construct the MCMC algorithm for fitting the model. For the purposes of transparency the steps of the algorithm (in mathematical form) as well as the generated C++ code are viewable to the user. This allows users to learn how the methods work and advanced users to modify the code.

We have provided templates that fit the standard single and multilevel models available in MLwiN but are also working on more advanced templates for missing data via multiple imputation, conditional logit models, hidden Markov models and capture recapture models.

Within Stat-JR we have also embraced the concept of interoperability. These days it is possible to fit complex statistical models in a variety of packages, which our template system can bring together, giving Stat-JR the potential to be a universal gateway. A template in Stat-JR may offer the user the ability to fit a specific model family (e.g. multilevel logistic regression), not just in our new eStat engine, but in several other packages that support the fitting of such models. Stat-JR will then produce the syntax and data files for the specific package, call the package and retrieve output from the package. The user can view both the inputs and the outputs thus learning how to use the package through a simple interface.

Finally Stat-JR incorporates a second interactive ‘e-Book’ interface. Here we combine the benefits of a book and a computer package. E-Books contain a combination of textual information and inputs from Stat-JR templates which produce dynamic outputs and context specific text. We believe eBooks have the potential to revolutionise the teaching and application of quantitative methods in the social sciences and beyond.

Stat-JR is available free to UK academics and other MLwiN users. Further information is available at http://www.bristol.ac.uk/cmm/software/statjr

References
Innovative methods with those who are disabled

Melanie Nind, NCRM Hub, University of Southampton


The event, which took place at the Business Innovation and Skills Conference Centre in London on 7 March, involved government researchers mainly from the Department for Work & Pensions, but also from the Health & Safety Executive, the Office for National Statistics and HM Revenue & Customs. It was a response to the increasing importance placed on involving disabled people in research that concerns them and the associated methodological, ethical and practical challenges. Speakers from government and academia, chaired by Ben Savage, DWP’s Head of Disability Strategy, discussed how emerging innovative methods can address some of these challenges.

Kathy Boxall (University of Sheffield) opened by establishing the problematic epistemological assumptions in research on ‘people like you’ from her service-user perspective. She recounted the early innovations that challenged the ‘them and us’ of disability research and the impact of developments in standpoint epistemologies, feminist research and disability studies.

Riaz Ali (DWP) and Jo Bulman (ONS) then presented their work involving a reference group of 60 disabled people in the design of the Life Opportunities Survey. This large-scale longitudinal survey of disability in Britain attempts to address the limited coverage of the lives of disabled people in other major surveys. The inclusive approach was aimed not just at compliance with The Equality Act but also at achieving policy relevance for the research. Encouragingly, the inclusion of those with profound impairments was facilitated by the addition of proxy consents, in-depth interviews and small-scale video ethnography.

The communication medium of the seminar switched to British Sign Language (BSL) for Kathryn Rogers’ (University of Manchester) presentation on using online remote data capture with Deaf people whose preferred language is BSL. She showed how two studies met the ethical and technological challenges of recruiting Deaf research participants and used innovative remote, online, secure data capture technology for researching in BSL.

Lastly, Melanie Nind from the University of Southampton/NCRM presented findings from her ESRC-funded research about inclusive research with people with learning disabilities. The paper summarised how inclusive researchers have variably thought through and responded to challenges, providing a framework and criteria for considering quality in inclusive research emerging from extensive dialogue in the study.

The seminar was an excellent opportunity to reflect on what is possible, desirable and necessary in conducting research with disabled people and how researchers are innovating. The GSR innovative methods group was set up to give research analysts in government a better idea of interesting methods used in and out of government research that are not widely used but feasibly applicable. Tom Green described their interest in lifting their heads to look at new ways of working. The next seminar will be on longitudinal methods.

New book, working papers and podcasts from NCRM

New book ‘What is inclusive research’ by Professor Melanie Nind describes and defines inclusive research, outlining how to recognize it, understand it, do it, and know when it is done well. In doing so it addresses the areas of overlap and distinctiveness in relation to participatory, emancipatory, user-led and partnership research as well as exploring the various practices encompassed within each of these inclusive approaches.

The book focuses on how and why more inclusive approaches to research have evolved. It positions inclusive research within the key debates and shifts in policy, defines key ideas and terms, discusses the contested nature of inclusive research and illustrates a range of approaches using examplars.

To find out more about this book, please go to http://bit.ly/1dXMwz0

‘User Generated Data’ from Online Patient Forums - Potentialities and Constraints for Social Research by Jeff Bezemer and Myrrh Domingo. In this paper Bezemer and Domingo explore the potential of online patient forums for research on the patient-GP relationship. As well as adjusting to the ‘e-patient’, who brings online learning experiences to the consultation room, GPs in the UK are faced with profound changes in the organisation of healthcare. For further information and to download please go to http://eprints.ncrm.ac.uk/3279/

Introduction to visualising spatial data in R, by Robin Lovelace and James Chesire. This tutorial-style paper is an introduction to spatial data in R and map making with R’s ‘base’ graphics and the popular graphics package ggplot2. It assumes no prior knowledge of spatial data analysis but prior understanding of the R command line would be beneficial. For further information and to download the paper go to http://eprints.ncrm.ac.uk/3295/

Alex Kogan from the University of Cambridge talks about ‘Mobile research tool for social sciences: Integrating genetic, environmental and behavioural data’. The project aims to produce cost-effective, innovative methodology hopes to produce an unprecedented research tool and data source to transform the ability of social scientists to look at the interaction of hereditary factors, and people’s daily environment and behaviour.

Gerry Nicolaas from NatCen Social Research talks about ‘Web surveys for the general population: how, why and when?’. Cultural and technological change has made the web a possible and even desirable mode for complex social surveys, but the financial challenges faced by the Research Councils and the UK Government has accelerated this shift, creating an urgent need to explore both its potential and hazards for a range of studies.

To listen to and to download the podcasts go to http://bit.ly/1mPp35P
The 6th ESRC Research Methods Festival (8-10 July 2014, St Catherine’s College, Oxford) bookings opened on 1st March, and the available places are being filled fast.

This is the biggest social science research methods event of the year in the UK, with over 50 sessions, 200 presenters and 800 delegates over the three days.

This biennial Festival, which has been held since 2004, seeks to meet the methodological and networking needs and interests of UK social science researchers from different disciplines, sectors and careers stages; provide a spread of topics across the social science disciplines, and across methodological and sector boundaries; and highlight the value of methods-related resources and research in the UK.

The Festival offers sessions from introductory to advanced level, PhD student poster exhibition, inspiring keynote talks, social programme for evenings and an exhibition area with publishers, research centres, and public sector recruiters.

There will also be a Smart Cities exhibition ‘Smart Cities and New Methods of Collecting and Communicating Research’ by the TALISMAN node of the NCRM. This exhibition aims to reveal not only how cities are becoming ‘smart’, but also how innovative digital technologies are creating new and exciting avenues for the collection and communication of research. An iPad wall will be showcased at this event, along with the innovative Pigeon Simulator.

Festival themes
- Cross-national methods and international knowledge exchange
- Secondary data analysis initiatives
- Methodological innovations
- Social media and creative methods
- Careers and skills development

Key note speakers
- Professor Gary King, Harvard University, Reverse engineering Chinese censorship: social media and research
- Professor Sharlene Hesse-Biber, Boston College, The ‘Thing-ness’ Problem of Mixed Methods Research
- Professor Douglas Harper, Duquesne University, Visual Methods: Sociology and Beyond

Fees
- Students £60 per day
- Others £80 per day

For further information and to book your place please go to http://www.ncrm.ac.uk/RMF2014/home.php

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