



W NIPPON FOUNDATION OCEAN NEXUS CENTER
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EarthLab

ADAPTING RESEARCH METHODOLOGIES IN THE COVID-19 PANDEMIC

Resources for
researchers

2nd edition, December 2020

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Executive Summary

This document is the second edition of a compilation of resources addressed to junior researchers whose social research projects have been affected by the COVID-19 pandemic.

The resources contained in the document are intended for doctoral and postdoctoral researchers in social research at the stage of research design or data collection, and particularly for those involved in the research on ocean equity issues. Researchers at this stage may have originally relied on face-to-face forms of human interaction to collect their data and they can no longer do so due to the mobility restrictions in place worldwide. This document offers guidance on potentially useful methods to help redesign their projects.

The document has three parts. The first section offers an overview of qualitative, semi-qualitative and quantitative methodologies and methods that may provide feasible alternatives for research design and data collection. The resources listed are methodological texts and studies applying these methodologies in the social sciences in general, and in ocean issues in particular. The second part contains insights from researchers gathered through interviews with PhD candidates, researchers, and supervisors; finally, we list a selection of online discussions and resources on how this adaptation is taking or may be taking place in the near future. In this second edition we have updated the compilation with insights from academics and junior researchers on the opportunities and challenges involved in conducting social research in the context of COVID-19.

Since we published the first edition of this compilation, discussions and resources on methodological adaptations for qualitative researchers have multiplied as the pandemic began to assert itself as an ongoing disruption that may create a new 'normal' in qualitative research. We encourage junior social researchers on ocean issues in their projects and we are hopeful that their research will contribute to more, better, and fairer social research on peoples and the oceans.

Acknowledgements

This document has been made possible thanks to support from the Nippon Foundation Ocean Nexus at EarthLab (University of Washington). We are grateful for the valuable feedback provided by the Nexus group members, in particular Andrés Cisneros-Montemayor, Kate Crosman, Yoshitaka Ota, Chris Rothschild and Ana Spalding. The document was authored by Sonia Garcia Garcia and Kate Barclay. We are also grateful to Deborah Lupton for permitting us to draw heavily from a crowd sourced document she curated on Doing Fieldwork in a Pandemic (<https://docs.google.com/document/d/1clGjGABB2h2qbduTgfqribHmog9B6P0NvMgVuiHZCl8/edit?ts=5e88ae0a#>).

Background and contents

Background

The purpose of this document is to provide resources for doctoral and postdoctoral researchers employing qualitative or mixed methods whose work is being affected by the current measures in place worldwide restricting mobility, gatherings of people, and face-to-face meetings for interviews.

Methods of data collection that are prone to be impacted by the situation in COVID-19 include those that involve human interaction (conferences and meetings, interviews, ethnographic research) and travel for data collection. Qualitative researchers who would normally travel to field sites and interview people to collect their data face the need to modify their data collection instruments and may have to consider alternatives, such as document or media/social media analysis or using online platforms or telephone for data collection. These tools offer new opportunities; however, their methodological fit to research questions, technical requirements, resource implications and ethical implications need to be adequately gauged.

We address situations in which the researcher cannot travel and has to research from home (not tools for fieldwork research with social distancing protocols). These resources will be useful for researchers who need to adjust their data collection methods, and we also offer examples where methods can be used to provide complementary data sources to fieldwork.

The first section of this document includes examples of methodologies that can be considered (including introductory texts to the methodologies), and papers that illustrate their application in different domains of the social sciences, especially in those areas of interest to researchers in ocean equity. A compilation of papers on ocean equity issues conducted during the pandemic illustrates the methods that are being employed by social science researchers in this field. The next section offers insights from online interviews with researchers on their experience adapting their projects to the current situation, which may be useful for scholars in similar situations. Finally, we list a selection of resources and current discussions on the opportunities and challenges that the pandemic poses for qualitative research in the social sciences, including ethical implications, methodological adaptation, and academic guidelines for fieldwork during the pandemic.

Access to documents

We have collated the pdfs of the materials listed in this document as a private group in the referencing software Mendeley (www.mendeley.com), so that Nexus researchers can access the documents directly, without having to search for them through their libraries. Please email Sonia Garcia at sonia.garciagarcia@uts.edu.au if you wish to be included in the group. In a few cases where the entire text is not available, a table of contents has been uploaded.

Contents of this document

This document is a compilation of methodological resources and current discussions on how to adapt research methodologies and data collection methods to the conditions imposed by the COVID-19 pandemic. We have collated the information obtained through the following:

- a desktop search on qualitative, semi-quantitative and quantitative research methods in Social Sciences research;
- the adaptation of a collaborative document initiated by Deborah Lupton, SHARP Professor in the Centre for Social Research in Health and the Social Policy Research Centre at the University of New South Wales (Australia). Prof Lupton's collaborative document offers guidance and examples of papers in qualitative research methods and it is the backbone of the qualitative section of this Nexus document. Professor's Lupton full document is available at:

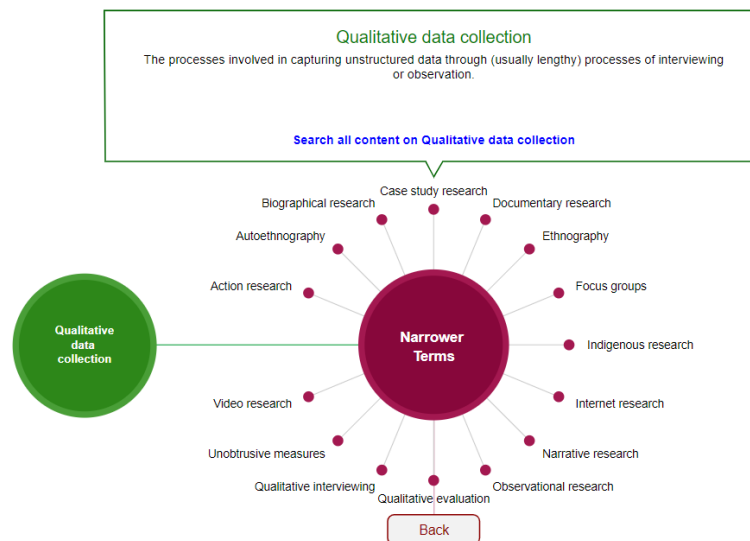
Lupton, D. (editor) (2020) Doing fieldwork in a pandemic (crowd-sourced document). Available at: <https://docs.google.com/document/d/1cIGjGABB2h2qbduTgfqribHmog9B6P0NvMgVuiHZCI8/edit?ts=5e88ae0a#>;

- a desktop search of papers in the topic area of 'ocean equity' (from ocean and coastal management to fisheries or climate change) that illustrate the methodologies listed;

- a desktop search of academic resources, websites and online discussions on the topic, listed in the 'Online discussion and resources' section;
- nine online interviews conducted in October and November 2020 with doctoral, postdoctoral, senior researchers and supervisors on their experiences adapting their research and/or providing guidance to junior researchers in their journeys.

To structure our searches, we have generally followed the research methods maps in the SAGE research methods database (<https://methods-sagepub-com.ezproxy.lib.uts.edu.au/>). First, we have looked at the main methods for qualitative (and mixed methods) data collection detailed in Figure 1:

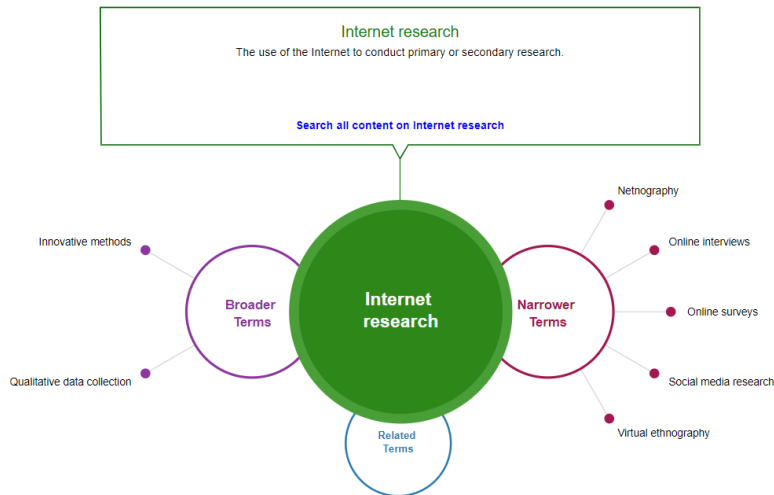
Figure 1. Qualitative data collection methods



(Source: SAGE Methods Map, available at <https://methods-sagepub-com.ezproxy.lib.uts.edu.au/methods-map>)

The search includes methods that have been adapted to the technological possibilities offered by the Internet (methods 'with' the Internet) and methods developed to research online interactions (methods 'in' the Internet). The first possibility may suit researchers that wish to adapt fieldwork research to conditions where conducting research on the ground is no longer possible (for example, fishing communities that are observed or interviewed on site). The second possibility offers guidance on how to conduct research in the virtual world (for example, social media angler groups). A number of papers in this list deal with the fact that both worlds are not separate compartments, and that internet research methods may serve both ends. Figure 2 contains a list of consolidated online methods and methodologies for qualitative and mixed methods researchers.

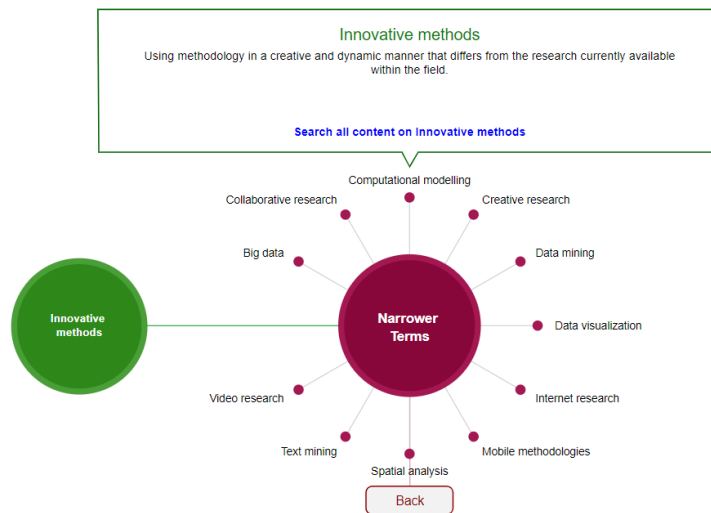
Figure 2. Internet research methods



(Source: SAGE Methods Map, available at <https://methods-sagepub-com.ezproxy.lib.uts.edu.au/methods-map>)

In addition to these, a number of other methods offer online research possibilities for qualitative and mixed methods. These are listed in Figure 3 (where Internet research is still listed as 'innovative'):

Figure 3. Innovative research methods



(Source: SAGE Methods Map, available at <https://methods-sagepub-com.ezproxy.lib.uts.edu.au/methods-map>)

Research method(ologie)s

Online research methods – general

A number of resources offer guidance on internet research methods, whether for research 'with' the Internet (adapting face-to-face methods), 'in' the Internet (researching online interactions) or 'on' the Internet (adopting online research as a topic for research).

Ackland, R. (2013). *Web Social Science: Concepts, data and tools for social scientists in the digital age*. <https://doi.org/10.4135/9781446270011>

Dawson, C. (2020). *A to Z of digital research methods*. Routledge.

Evans, A., Elford, J., & Wiggins, D. (2010). Using the internet for qualitative research. In C. Willig & W. Stainton-Rogers (Eds.), *The SAGE handbook of qualitative research in Psychology* (pp. 315–333). SAGE Publications. <https://doi.org/10.4135/9781848607927>

Fielding, N. G., Lee, R. M., & Blank, G. (Eds.). (2017). *The SAGE handbook of online research methods*. SAGE Publications. <https://doi.org/10.4135/9781473957992>

Germain, J., Harris, J., Mackay, S., & Maxwell, C. (2017). Why should we use online research methods? Four doctoral health student perspectives. *Qualitative Health Research*, 28(10), 1650–1657. <https://doi.org/10.1177/1049732317721698>

Hughes, J. (Ed.). (2012). *SAGE internet research methods*. SAGE Publications. <https://doi.org/10.4135/9781446268513>

Sapleton, N. (Ed.). (2013). *Advancing research methods with new technologies*. IGI Global. <https://doi.org/doi:10.4018/978-1-4666-3918-8>

Ethics

Deborah Lupton summarises several issues to consider when moving from face-to-face to distant fieldwork:

For a start, if your human research ethics committee has already approved your face-to-face methods and you wish to modify these along the lines of some of the suggestions above, most ethics committees will require a modification request and approval process.

You will also need to consider the 'affective atmospheres' of conducting any kind of social research in a pandemic, when normal routines are disrupted and many people are feeling uncertain and worried, or are ill or caring for ill family members. People may be living in environments where they are subjected to harassment, violence or surveillance by other family members. Privacy issues are very important to consider in these contexts.

On the other hand, with people more confined, feeling bored or restless but in good health, they may welcome the opportunity to be part of a research project. Consider your target participant group very carefully when making decisions about the best way forward.

If you decide to use online data collection methods that engage with pre-existing material people have uploaded (as opposed to material you have specifically asked them to generate following a consent process, which includes many of the methods listed here), you will need to carefully consider the ethical issues. Check the Association of Internet Researchers' document discussing these issues, available here: [IRE 3.0 - final-includes missing reference](#)

Some guidelines on anthropological fieldwork generally (mostly related to in-person methods) can be found at [ASA Ethics Guidelines](#). (Lupton 2020, p. 19)

Some references on general and particular issues can be found here:

Lehner-Mear, R. (2020). Negotiating the ethics of Netnography: developing an ethical approach to an online study of mother perspectives. *International Journal of Social Research Methodology*, 23(2), 123–137. <http://10.0.4.56/13645579.2019.1634879>

Monkman, G. G., Kaiser, M., & Hyder, K. (2018). The ethics of using social media in fisheries research. *Reviews in Fisheries Science & Aquaculture*, 26(2), 235–242. <http://10.0.4.56/23308249.2017.1389854>

Roberts, L. D. (2015). Ethical Issues in Conducting Qualitative Research in Online Communities. *Qualitative Research in Psychology*, 12(3), 314–325. <https://doi.org/10.1080/14780887.2015.1008909>

Tiidenberg, K. (2018). Research ethics, vulnerability, and trust on the internet. In J. Hunsinger, M. M. Allen, & L. Klastrup (Eds.), *Second International Handbook of Internet Research*. Springer. https://doi.org/10.1007/978-94-024-1202-4_55-1

Zimmer, M., & Kinder-Kurlanda, K. (2017). *Internet research ethics for the social age*. Peter Lang. <https://doi.org/10.3726/b11077>

During 2020, resources, discussions and guidelines have been published on ways to approach ethical challenges during the pandemic. The International Development Research Centre (see reference below in p. 30) has listed several relevant ethics research resources which may provide additional guidance to researchers engaged in ethics applications at their home universities. The resources listed below are taken with their materials and were last viewed on 16 November 2020 and they are directly accessible by clicking on the titles.

[Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans](#)

Cronin-Furman, K. & Lake, M. (2018). [“Ethics abroad: Fieldwork in violent and fragile contexts.”](#)

Lupton, D. (editor). (2020). [“Doing fieldwork in a pandemic” \(crowd-sourced document\).](#)

Jowett, A. (2020). [“Carrying out qualitative research under lockdown – Practical and ethical considerations.”](#)

Mormina, M., Horn, R., Hallowell, N., Musesengwa, R., Lingou, S. & Nguyen, J. (2020). [“Guidance for research in response to humanitarian emergencies.”](#) Wellcome Centre for Ethics and Humanities, University of Oxford.

World Health Organization. (2020). [“Ethical standards for research during public health emergencies.”](#)

Ethical research and global inequalities

One of the effects of the pandemic has been the disruption of fieldwork conducted by partnership with local organisations in developing countries. This presents an opportunity to advance towards more ethical research and has methodological implications on how research is conducted.

An early and insightful overview of the implications for locally-led development and research is offered in this [post](#) by Chris Roche and Fiona Tarpey, **COVID-19, localisation and locally led development: A critical juncture**, part of the Devpolicy blog from the [Development Policy Centre](#) (Crawford School of Public Policy at The Australian National University). The Overseas Development Institute offers two resources discussing the opportunities to decolonise research: this [post](#) by Carmen Leon-Himmelstine and Melanie Pinet, **How can COVID-19 be the catalyst to decolonise development research?** and in a [briefing note](#) **‘All eyes are on local actors’: COVID-19 and local humanitarian action**, by Veronique Barbelet, John Bryant and Barnaby Willitts-King. In marine biology, Asha de Vos’ [piece](#) **The problem of ‘Colonial Science’** in the *Scientific American* contains reflections on the decolonisation of conservation projects.

A common reflection in these pieces is that the opportunities to decolonise research must necessarily go beyond the employment of local staff to shifting the locus of agency to local actors. In this process, cooperation with local actors presents ethical and methodological challenges that researchers have long grappled with: the capacity of organisations in the Global North shift to equality in partnership approaches with organisations in the Global South; research funding structures that perpetuate power imbalances; potential challenges to inclusivity due to the digital divide that may prevent the representation of vulnerable, marginalised and already disempowered groups; the potential reproduction of local power structures through partnerships with local organisations that may or may not approach research objectives to benefit and/or include the voices of the disempowered.

The references below offer useful resources to grapple with the problematic before and during the pandemic. [Sarah Cannon](#), a PhD candidate in the Pacific Islands, has compiled a list of resources with the title *Decolonising conservation: A reading list*. Reflections and experiences before the pandemic and the realisation that the issues persist are included in the two papers from a Special Issue in *Forum for Development Studies*. The implications of the pandemic for global data justice and the experiences of qualitative researchers during COVID are present in the reference by Taylor et. al. (2020) and in some of the papers collected in Karah and Khoo (2020) (referenced on p. 23), and a case study by Jones et al. (2020). Finally, the second workshop in the series of the National Centre for Research Methods project **Changing Research Practice: Undertaking social science research in the context of COVID-19** (see p. 33 for information) produced a [reading list for Participatory and Deliberative methods](#) with recent

publications and opinion pieces. One of these is a refreshing blog post by Dr Sonja Marzi on how she readapted her participatory methodology to her project working with Colombian women during the pandemic: [Conducting transnational participatory research with women during COVID-19 remotely: an impossibility?](#).

Cannon, Sarah (2020) *Decolonizing conservation: A reading list*, available at https://docs.google.com/document/d/1FuplJt02tLda8N_zFDOWfw4ybcvBCEJ7gsetpdLComo/edit, last viewed on 16 November 2020.

Jeppesen, S., & Miklian, J. (2020). Introduction: Research in the Time of Covid-19. *Forum for Development Studies*, 47(2), 207–217. <https://doi.org/10.1080/08039410.2020.1780714>

Jones, N. et al. (2020) Ensuring no voices are left behind: The use of digital storytelling and diarywriting in times of crisis. In: *Researching in the Age of COVID-19. Volume 2: Care and Resilience*, edited by Kara, H. & Khoo, S-M. Bristol: Policy Press.

Kontinen, T., & Nguyahambi, A. M. (2020). Institutional Learning in North–South Partnerships: Critical Self-Reflection on Collaboration Between Finnish and Tanzanian Academics. *Forum for Development Studies*, 47(2), 219–241. <https://doi.org/10.1080/08039410.2020.1768590>

Taylor, L., Sharma, G., Martin, A., & Jameson, S. (Eds.). (2020). *Data Justice and COVID-19: Global Perspectives*. Meatspace Press.

Qualitative research

Netnography / virtual / digital / online ethnography, anthropology

Conducting ethnography online has been approached from different angles. [Christine Hine](#) coined the term ‘virtual ethnography’, [Robert Kozinets](#) introduced ‘netnography’ and ‘digital ethnography’ is also usually employed as a generic term. For differences between the approaches, see an explanation offered by Kozinets [here](#). For those interested in digital ethnography and anthropology, the London School of Economics Digital Ethnography collective has prepared a reading list in the form of a collaborative document, available at [Zoë Glatt's](#) website.

Hine, C. (2000). *Virtual ethnography*. SAGE Publications.

Hine, C. (2015). *Ethnography for the internet: embedded, embodied and everyday*. Bloomsbury Academic.

Kavanaugh, P. R., & Maratea, R. J. (2019). Digital ethnography in an age of information warfare: Notes from the field. *Journal of Contemporary Ethnography*, 49(1), 3–26. <https://doi.org/10.1177/0891241619854123>

Kozinets, R. V. (2010). *Netnography: doing ethnographic research online*. SAGE.

Lehner-Mear, R. (2020). Negotiating the ethics of Netnography: developing an ethical approach to an online study of mother perspectives. *International Journal of Social Research Methodology*, 23(2), 123–137. <http://10.0.4.56/13645579.2019.1634879>

Lenihan, A., & Kelly-Holmes, H. (2016). Virtual ethnography. In Z. Hua (Ed.), *Research Methods in Intercultural Communication: A Practical Guide*. John Wiley & Sons, Incorporated.

Mawer, M. (2016). Observational practice in virtual worlds: revisiting and expanding the methodological discussion. *International Journal of Social Research Methodology*, 19(2), 161–176. <http://10.0.4.56/13645579.2014.936738>

Murthy, D. (2012). Digital ethnography: An examination of the use of new technologies for social research. In J. Hughes (Ed.), *SAGE Internet Research Methods*. SAGE Publications. <https://doi.org/https://dx-doi-org.ezproxy.lib.uts.edu.au/10.1177/0038038508094565>

Salmond, A. (2012). Digital subjects, cultural objects: Special Issue introduction. *Journal of Material Culture*, 17(3), 211–228. <https://doi.org/10.1177/1359183512453531>

Were, G. (2013). Imaging digital lives. *Journal of Material Culture*, 18(3), 213–222. <https://doi.org/10.1177/1359183513489927>

Literary anthropology

Fiction—from folktales to literary essays, short stories or online narratives—is rooted in historical and socio-cultural contexts and it often offers ‘a rich source of information about societies that can or cannot be investigated through traditional ethnographic methods’ (Cohen 2013, p. 9). Literary anthropology can be used for a variety of purposes, such as historical ethnography, contemporary studies using online resources and/or to study digitally born narratives.

- Betjemann P. (2018). The Ecology of Desire: Coastal Poetics, Passion, and Environmental Consciousness. In L. Price & N. Narchi (Eds.), *Coastal Heritage and Cultural Resilience*. Springer.
- Cohen, M. (Ed.). (2013). *Novel approaches to anthropology: contributions to literary anthropology*. Lexington Books.
- Jones, S. (2015). The absent pirate: exceeding justice in the Indian Ocean. *Journal of Eastern African Studies*, 9(3), 522–535. <https://doi.org/10.1080/17531055.2015.1087682>
- Ronell, A. (2014). Writing your life on LiveJournal: Immigrant fiction by Victoria Reicher. *Prooftexts*, 34(1), 99–124.
<http://ezproxy.lib.uts.edu.au/login?url=https://search.proquest.com/docview/1683723806?accountid=17095>
- Underberg, N. M., & Zorn, E. (2013). *Digital ethnography: Anthropology, narrative, and new media*. University of Texas Press. <http://ebookcentral.proquest.com/lib/uts/detail.action?docID=3443656>

Interviews

Online interviews can be structured, semi-structured or unstructured, synchronous or asynchronous, with or without visual support. The following resources offer guidance on different interview types and [Alexia Maddox](#) offers some useful tips in Lupton (2020, p.6). As a starting point, Dowling et al. (2015) offer an overview of how different methods (social media, mobile methods, etc.) can 'enrich' the interview.

- Bampton, R., & Cowton, C. J. (2002). The e-interview. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 3(2), Art. 9. <https://doi.org/10.17169/fqs-3.2.848>
- Bampton, R., Cowton, C. J., & Downs, Y. (2013). The e-interview in qualitative research. In N. Sappleton (Ed.), *Advancing research methods with new technologies* (pp. 329–343). IGI Global.
- Burns, E. (2010). Developing email interview practices in qualitative research. *Sociological Research Online*, 15(4), 1–12. <https://doi.org/10.5153/sro.2232>
- Dowling, R., Lloyd, K., & Suchet-Pearson, S. (2015). Qualitative methods 1: Enriching the interview. *Progress in Human Geography*, 40(5), 679–686. <https://doi.org/10.1177/0309132515596880>
- Gray, T., Haggett, C., & Bell, D. (2005). Offshore wind farms and commercial fisheries in the UK: A study in Stakeholder Consultation. *Ethics, Place & Environment*, 8(2), 127–140.
<https://doi.org/10.1080/13668790500237013>
- Hinchcliffe, V., & Gavin, H. (2009). Social and virtual networks: Evaluating synchronous online Interviewing using instant messenger. *Qualitative Report*, 14(2), 318–340.
<http://ezproxy.lib.uts.edu.au/login?url=https://search.proquest.com/docview/60007462?accountid=17095>
- Irvine, A. (2011). Duration, dominance and depth in telephone and face-to-face interviews: A comparative exploration. *International Journal of Qualitative Methods*, 10(3), 202–220.
<https://doi.org/10.1177/160940691101000302>
- Janghorban, R., Roudsari, R. L., & Taghipour, A. (2014). Skype interviewing: The new generation of online synchronous interview in qualitative research. *International Journal of Qualitative Studies on Health and Well-Being*, 9(1), 24152. <https://doi.org/10.3402/qhw.v9.24152>
- Kucera, K. L., Loomis, D., Lipscomb, H., & Marshall, S. W. (2010). Prospective study of incident injuries among southeastern United States commercial fishermen. *Occupational and Environmental Medicine*, 67(12), 829. <https://doi.org/http://dx.doi.org/10.1136/oem.2009.053140>
- Linabary, J. R., & Hamel, S. A. (2017). Feminist online interviewing: engaging issues of power, resistance and reflexivity in practice. *Feminist Review*, 115(1), 97–113.
<https://doi.org/http://dx.doi.org/10.1057/s41305-017-0041-3>
- Marino, S. (2019). Cook it, eat it, Skype it: Mobile media use in re-staging intimate culinary practices among transnational families. *International Journal of Cultural Studies*, 22(6), 788–803.
<https://doi.org/10.1177/1367877919850829>
- Shapka, J. D., Domene, J. F., Khan, S., & Yang, L. M. (2016). Online versus in-person interviews with adolescents: An exploration of data equivalence. *Computers in Human Behavior*, 58, 361–367.
<https://doi.org/https://doi.org/10.1016/j.chb.2016.01.016>
- Wiber, M., Charles, A., Kearney, J., & Berkes, F. (2009). Enhancing community empowerment through participatory fisheries research. *Marine Policy*, 33(1), 172–179.
<https://doi.org/https://doi.org/10.1016/j.marpol.2008.05.009>

Focus groups

Focus groups have been successfully transferred online and widely used in market research. These references offer guidance on methodological issues and examples of application in public health and environmental research. [Nathan Browning](#) offers useful tips to set up online focus groups in Lupton (2020, pp. 12-13).

Barbour, R. S., & Morgan, D. L. (2017). *A new era in focus group research: Challenges, innovation and practice*. Springer.

Chen, J., & Neo, P. (2019). Texting the waters: An assessment of focus groups conducted via the WhatsApp smartphone messaging application. *Methodological Innovations*, 12(3), 1-10. <https://doi.org/10.1177/2059799119884276>

Daniels, N., Gillen, P., Casson, K., & Wilson, I. (2019). STEER: Factors to consider when designing online focus groups using audiovisual technology in health research. *International Journal of Qualitative Methods*, 18, 1-11. <https://doi.org/10.1177/1609406919885786>

Flynn, R., Albrecht, L., & Scott, S. D. (2018). Two approaches to focus group data collection for qualitative health research: Maximizing resources and data quality. *International Journal of Qualitative Methods*, 17, 1-9. <https://doi.org/10.1177/1609406917750781>

Forrestal, S. G., D'Angelo, A. V., & Vogel, L. K. (2015). Considerations for and lessons learned from online, synchronous focus groups. *Survey Practice*, 8(2), 1–8.

Lupton, D., & Turner, B. (2018). "I can't get past the fact that it is printed": consumer attitudes to 3D printed food. *Food, Culture & Society*, 21(3), 402–418. <https://doi.org/10.1080/15528014.2018.1451044>

Riesch, H., Oltra, C., Lis, A., Upham, P., & Pol, M. (2013). Internet-based public debate of CCS: Lessons from online focus groups in Poland and Spain. *Energy Policy*, 56, 693–702. <https://doi.org/https://doi.org/10.1016/j.enpol.2013.01.029>

Woodyatt, C. R., Finneran, C. A., & Stephenson, R. (2016). In-person versus online focus group discussions: a comparative analysis of data quality. *Qualitative Health Research*, 26(6), 741–749. <https://doi.org/10.1177/1049732316631510>

Mobile methods

Mobile methodologies capture social life 'as it happens' (Dowling et al. 2015, p. 679, see reference above in p. 9) and app-based methods may assist scholars attempting to gather data that is simultaneous with the social interactions researched. In the oceanic space, mobile technologies and the tracking of fish (and fishers) have offered enormous possibilities.

Boase, J., & Humphreys, L. (2018). Mobile methods: Explorations, innovations, and reflections. *Mobile Media & Communication*, 6(2), 153–162. <https://doi.org/10.1177/2050157918764215>

Griffiths, S. P., Zischke, M. T., Tonks, M. L., Pepperell, J. G., & Tickell, S. (2013). Efficacy of novel sampling approaches for surveying specialised recreational fisheries. *Reviews in Fish Biology and Fisheries*, 23(3), 395–413. <https://doi.org/10.1007/s11160-012-9299-x>

Kaufmann, K., & Peil, C. (2019). The mobile instant messaging interview (MIMI): Using WhatsApp to enhance self-reporting and explore media usage in situ. *Mobile Media & Communication*, 8(2), 229–246. <https://doi.org/10.1177/2050157919852392>

Lowerre-Barbieri, S. K., Kays, R., Thorson, J. T., & Wikelski, M. (2019). The ocean's movescape: fisheries management in the bio-logging decade (2018–2028). *ICES Journal of Marine Science*, 76(2), 477–488. <https://doi.org/10.1093/icesjms/fsy211>

Diaries

Deborah Lupton's comments on the use of digital diaries are quoted below, as well as some key references on the method and examples, including their use in the assessment of recreational fishing activity.

Diaries can be structured (like questionnaire) and aiming for quantitative analysis, or semi- or unstructured - asking for more free-flowing reflection. Keeping in touch with participants is very important, especially for longer-term studies, as this maintains participation (attrition can be an issue). Also receiving some entries early on in the process and giving feedback may help as sometimes relevance can be an issue too. Diaries can be used over months or hours, depending on the focus of the study. They can use interval-based sampling (i.e. record something every hour or every day) or event-based (i.e. record something when it occurs, which may be more irregular).

Diaries can take many different forms including visual, collage, photo-based as well as written or spoken - it is important to consider the participants and what they would find easy to use (ask them - piloting is essential) and also what you will be able to analyse within the analytical approach you have chosen. (Lupton 2020, p. 4)

Adamson, G. C. D. (2015). Private diaries as information sources in climate research. *WIREs Climate Change*, 6(6), 599–611. <https://doi.org/10.1002/wcc.365>

Ahlin, T., & Li, F. (2019). From field sites to field events: Creating the field with information and communication technologies (ICTs). *Medicine, Anthropology and Theory*, 6(2), 1–24. <https://doi.org/doi.org/10.17157/mat.6.2.655>

Alaszewski, A. (2006). *Using diaries for social research*. SAGE Publications.

Bartlett, R. (2015). *What is diary method?* (C. Milligan (Ed.)). Bloomsbury Academic. <https://www.bloomsburycollections.com/book/what-is-diary-method/>

Crozier, S. E., & Cassell, C. M. (2016). Methodological considerations in the use of audio diaries in work psychology: Adding to the qualitative toolkit. *Journal of Occupational and Organizational Psychology*, 89(2), 396–419. <https://doi.org/10.1111/joop.12132>

Dawson, C. (2019). *Mobile diaries* (1st ed.). Routledge. <https://doi.org/10.4324/9781351044677-31>

Eidse, N., & Turner, S. (2014). Doing resistance their own way: Counter-narratives of street vending in Hanoi, Vietnam through solicited journaling. *Area*, 46(3), 242–248. <https://doi.org/10.1111/area.12107>

Griffiths, S. P., Zischke, M. T., Tonks, M. L., Pepperell, J. G., & Tickell, S. (2013). Efficacy of novel sampling approaches for surveying specialised recreational fisheries. *Reviews in Fish Biology and Fisheries*, 23(3), 395–413. <https://doi.org/10.1007/s11160-012-9299-x>

Harvey, L. (2011). Intimate reflections: private diaries in qualitative research. *Qualitative Research*, 11(6), 664–682. <https://doi.org/10.1177/1468794111415959>

Lyle, J. M., Morton, A. J., & Forward, J. (2005). Characterisation of the recreational fishery for southern rock lobster, *Jasus edwardsii*, in Tasmania, Australia: Implications for management. *New Zealand Journal of Marine and Freshwater Research*, 39(3), 703–713. <https://doi.org/10.1080/00288330.2005.9517346>

Zimmerman, D. H., & Wieder, D. L. (1977). The Diary: Diary-Interview method. *Urban Life*, 5(4), 479–498. <https://doi.org/10.1177/089124167700500406>

Photo/Video/Voice elicitation

Smartphones can be used to assist with the collection of data for several methods, such as asynchronous interviews, mobile methodologies or diaries. Getting participants to talk about images or to generate images as data are some of the possibilities employed in the papers below. The combination of all these different resources results in a co-created 'field event' (Ahlin & Li 2019) by researchers and the researched.

Ahlin, T., & Li, F. (2019). From field sites to field events: Creating the field with information and communication technologies (ICTs). *Medicine, Anthropology and Theory*, 6(2), 1–24. <https://doi.org/doi.org/10.17157/mat.6.2.655>

Bates, E. A., Kaye, L. K., & McCann, J. J. (2019). A snapshot of the student experience: exploring student satisfaction through the use of photographic elicitation. *Journal of Further and Higher Education*, 43(3), 291–304. <https://doi.org/10.1080/0309877X.2017.1359507>

Copes, H., Tchoula, W., Brookman, F., & Ragland, J. (2018). Photo-elicitation interviews with vulnerable populations: Practical and ethical considerations. *Deviant Behavior*, 39(4), 475–494. <https://doi.org/10.1080/01639625.2017.1407109>

Harper, D. (2002). Talking about pictures: A case for photo elicitation. *Visual Studies*, 17(1), 13–26. <http://10.0.4.56/14725860220137345>

Steenfeldt, V. O., Therkildsen, M., & Lind, J. (2019). Nursing students' experiences of a challenging course: A photo-elicitation study. *Nurse Education Today*, 76, 31–37. <https://doi.org/https://doi.org/10.1016/j.nedt.2019.01.019>

Videos for ethnographic, auto-ethnographic or bio-logging (of the self and others)

Asking participants to record videos of their everyday practices has been usually done by researchers that follow them around, but participants can also be asked to record the videos themselves and share them

with the researcher. Videos on everyday practices may also be used to document the researcher's auto-ethnographic work.

Lowerre-Barbieri, S. K., Kays, R., Thorson, J. T., & Wikelski, M. (2019). The ocean's movescape: fisheries management in the bio-logging decade (2018–2028). *ICES Journal of Marine Science*, 76(2), 477–488. <https://doi.org/10.1093/icesjms/fsy211>

Pink, S. (2014). Digital–visual–sensory–design anthropology: Ethnography, imagination and intervention. *Arts and Humanities in Higher Education*, 13(4), 412–427. <https://doi.org/10.1177/1474022214542353>

Pink, S. (2015). Going forward through the world: thinking theoretically about first person perspective digital ethnography. *Integrative Psychological & Behavioral Science*, 49(2), 239–252. <https://doi.org/10.1007/s12124-014-9292-0>

Pink, S., & Leder Mackley, K. (2014). Re-enactment methodologies for everyday life research: art therapy insights for video ethnography. *Visual Studies: Visualising Ethnography: Ethnography's Role in Art and Visual Cultures*, 29(2), 146–154. <https://doi.org/10.1080/1472586X.2014.887266>

Pink, S., & Leder Mackley, K. (2016). Moving, making and atmosphere: Routines of home as sites for mundane improvisation. *Mobilities*, 11(2), 171–187. <https://doi.org/10.1080/17450101.2014.957066>

Pink, S., Fors, V., & Glöss, M. (2017). Automated futures and the mobile present: In-car video ethnographies. *Ethnography*, 20(1), 88–107. <https://doi.org/10.1177/1466138117735621>

Pink, S., Gomes, A., Zilse, R., Lucena, R., Pinto, J., Porto, A., Caminha, C., De Siqueira, G. M., & Duarte De Oliveira, M. (2018). Automated and connected? Smartphones and automobility through the global south. *Applied Mobilities*, 1–17. <https://doi.org/10.1080/23800127.2018.1505263>

Ristić, D., & Marinković, D. (2019). Lifelogging: Digital technologies of the self as the practices of contemporary biopolitics - Upisivanje života: Digitalne tehnologije sopstva kao prakse savremene biopolitike. *Sociologija*, 61(4), 535–549. <https://doi.org/http://dx.doi.org/10.2298/SOC1904535R>

Struthers, D. P., Danylchuk, A. J., Wilson, A. D. M., & Cooke, S. J. (2015). Action cameras: Bringing aquatic and fisheries research into view. *Fisheries*, 40(10), 502–512. <https://doi.org/10.1080/03632415.2015.1082472>

Vivienne, S., & Burgess, J. (2013). The remediation of the personal photograph and the politics of self-representation in digital storytelling. *Journal of Material Culture*, 18(3), 279–298. <https://doi.org/10.1177/1359183513492080>

Story completion

Story completion is a qualitative technique that has been mostly used in developmental psychology but has a potential in other research areas (Clarke et al., 2019).

The method involves the use of story 'stems', in which a fictional character is introduced and commonly, they face a dilemma they need to resolve. Participants are asked to complete the story. The completed narratives are then analysed for what they reveal about understandings, discourses or imaginaries concerning the topic of the story stems. (Lupton 2020, p. 15)

This method can be used in combination with elicitation or cultural probes, and digital tools can be used to record, transmit and analyse the data.

Braun, V., Clarke, V., Hayfield, N., Frith, H., Malson, H., Moller, N., & Shah-Beckley, I. (2019). Qualitative story completion: Possibilities and potential pitfalls. *Qualitative Research in Psychology*, 16(1), 136–155. <https://doi.org/10.1080/14780887.2018.1536395>

Clarke, V., Braun, V., Frith, H., & Moller, N. (2019). Editorial introduction to the special issue: Using story completion methods in qualitative research. *Qualitative Research in Psychology*, 16(1), 1–20. <https://doi.org/10.1080/14780887.2018.1536378>

Gravett, K. (2019). Story Completion: Storying as a method of meaning-making and discursive discovery. *International Journal of Qualitative Methods*, 18. <https://doi.org/10.1177/1609406919893155>

Lupton, D. (2019). 'The Internet both reassures and terrifies': Exploring the more-than-human worlds of health information using the story completion method. *Medical Humanities*, medhum-2019-011700. <https://doi.org/10.1136/medhum-2019-011700>

Auto- and duo-ethnography

Auto- and duo-ethnography turn the researcher into a subject of research. Working through memory and experience can be assisted by a variety of the data collection methods above, from re-enactment videos (with or without wearable cameras) to app-based tools.

Bille, T., & Steinfeldt, V. O. (2013). Challenging fieldwork situations: A study of researcher's subjectivity. *Journal of Research Practice*, 9(1), Article M2. <http://jrp.icaap.org/index.php/jrp/article/view/299/327>

Cleland, D. (2018). *Just a game? Playing in pursuit of sustainability, inclusion and justice in small-scale fisheries in the Philippines*, PhD thesis [Australian National University]. <https://trove.nla.gov.au/version/254083712>

Neilson, A., São Marcos, R., Sempere, K., Sousa, L., & Canha, C. (2019). A vision at sea: Women in fisheries in the Azores Islands, Portugal. *Maritime Studies*, 18(3), 385–397. <https://doi.org/10.1007/s40152-019-00155-0>

Sawyer, R. D., & Norris, J. (2012). *Duoethnography: Understanding qualitative research*. Oxford University Press, Incorporated. <http://ebookcentral.proquest.com/lib/uts/detail.action?docID=1480987>

Arts-based research

Apart from literary ethnographic methods above, other art forms can be valuable tools for qualitative researchers looking to gather data from social interactions.

Barone, T., & Eisner, E. W. (2012). *Arts Based Research*. SAGE. <https://doi.org/10.4135/9781452230627>

Burke, M., Ockwell, D., & Whitmarsh, L. (2018). Participatory arts and affective engagement with climate change: The missing link in achieving climate compatible behaviour change? *Global Environmental Change*, 49(October 2017), 95–105. <https://doi.org/10.1016/j.gloenvcha.2018.02.007>

Galafassi, D., Tabara, J. D., & Heras, M. (2018). Restoring our senses, restoring the Earth. Fostering imaginative capacities through the arts for envisioning climate transformations. *Elementa: Science of the Anthropocene*, 6(1). <https://doi.org/10.1525/elementa.330>

Kara, H. (2015). *Creative research methods in the social sciences: a practical guide*. Policy Press.

Leavy, P. (2009). *Method meets art: arts-based research practice*. Guilford Press.

Osei-Kofi, N. (2013). The emancipatory potential of arts-based research for social justice. *Equity & Excellence in Education*, 46(1), 135–149. <https://doi.org/10.1080/10665684.2013.750202>

Working remotely with enumerators

Travel restrictions for researchers have increased the role of local staff in data collection, especially in developing countries, whereas mobility restrictions in these countries may represent a potential increase in the use of phone or online interviews or surveys. This poses a number of challenges related to baseline data, access to infrastructure, and training of enumerators.

Agrilinks, an online community of food security and development practitioners, has two posts on how NGOs are approaching work with local staff, one on the transition of enumerators to collect phone data <https://www.agrilinks.org/post/preparing-collect-phone-data-during-pandemic> and another on the redesign of monitoring and evaluation <https://www.agrilinks.org/post/continuing-monitoring-and-evaluation-efforts-during-covid-19-pandemic-qa-i-aps>.

Some of the events listed below offer insights from real-life settings and considerations for future research processes that engage local staff (see pp. 32-33). Participants in the conference 'Data collection at the time of multiple crises' (ANU, 21 May 2020, see below pp. 20-21) discussed the alternatives that agencies have experimented with when conducting surveys during the pandemic. The conference addressed the challenges ahead: will there be a new 'normal' after the pandemic? How will it affect responses? What will be the new protocols for F2F surveys? The CGIAR webinar on phone surveys also offered insights into how a transition to phone interviews may look like. While software for conducting surveys online is well established with both free and paid tools, many surveys are still mostly conducted with a mix of online, phone and face-to-face (F2F) modes of collection. The latter is especially relevant in countries where unequal access to IT infrastructure may result in high non-response, attrition or under-coverage problems unless there is also F2F data collection. The workshop 'Methods for Participatory research' (University of Canberra, 2 November), discussed the possibilities to maintain access to vulnerable populations and offered cases on the training of local staff for data collection of narrative materials.

Semiquantitative and quantitative research

Online and phone surveys

A number of references below offer guidance on the development of surveys, from design to dissemination of results and ethical considerations, as well as case studies combining online surveys with other methods, such as Delphi techniques, and/or illustrating the possibilities of online sampling services.

Allcott, H., Boxell, L., Conway, J. C., Gentzkow, M., Thaler, M., & Yang, D. Y. (2020). Polarization and public health: Partisan differences in social distancing during the coronavirus pandemic. Working Paper 26946, National Bureau of Economic Research. <http://www.nber.org/papers/w26946>

Cochrane, K. L., Eggers, J., & Sauer, W. H. H. (2020). A diagnosis of the status and effectiveness of marine fisheries management in South Africa based on two representative case studies. *Marine Policy*, 112, 103774. <https://doi.org/https://doi.org/10.1016/j.marpol.2019.103774>

Fabinyi, M., Liu, N., Song, Q., & Li, R. (2016). Aquatic product consumption patterns and perceptions among the Chinese middle class. *Regional Studies in Marine Science*, 7, 1–9. <https://doi.org/https://doi.org/10.1016/j.rsma.2016.01.013>

Hai-Jew, S. (2019). *Online survey design and data analytics: Emerging research and opportunities*. IGI Global - Engineering Science Reference.

Marshall, N., Barnes, M. L., Birtles, A., Brown, K., Cinner, J., Curnock, M., Eakin, H., Goldberg, J., Gooch, M., Kittinger, J., Marshall, P., Manuel-Navarrete, D., Pelling, M., Pert, P. L., Smit, B., Tobin, R., Manuel-Navarrete, D., Pelling, M., Pert, P. L., ... Tobin, R. (2018). Measuring what matters in the Great Barrier Reef. *Frontiers in Ecology & the Environment*, 16(5), 271–277. <https://doi.org/10.1002/fee.1808>

Toepoel, V. (2016). *Doing surveys online*. SAGE. <https://doi.org/10.4135/9781473967243>

Triantoro, T., Gopal, R., Benbunan-Fich, R., & Lang, G. (2019). Would you like to play? A comparison of a gamified survey with a traditional online survey method. *International Journal of Information Management*, 49(June), 242–252. <https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2019.06.001>

Voyer, D. M., & van Leeuwen, D. J. (2019). 'Social license to operate' in the Blue Economy. *Resources Policy*, 62, 102–113. <https://doi.org/https://doi.org/10.1016/j.resourpol.2019.02.020>

zu Ermgassen, P. S. E., Mukherjee, N., Worthington, T. A., Acosta, A., Rocha Araujo, A. R. da, Beitzl, C. M., Castellanos-Galindo, G. A., Cunha-Lignon, M., Dahdouh-Guebas, F., Diele, K., Parrett, C. L., Dwyer, P. G., Gair, J. R., Johnson, A. F., Kuguru, B., Savio Lobo, A., Loneragan, N. R., Longley-Wood, K., Mendonça, J. T., ... Spalding, M. (2020). Fishers who rely on mangroves: Modelling and mapping the global intensity of mangrove-associated fisheries. *Estuarine, Coastal and Shelf Science*, 106975. <https://doi.org/https://doi.org/10.1016/j.ecss.2020.106975>

Digital methods

Digital methods is a 'native' digital mixed method that draws attention to the infrastructure that stores and organises digital data:

The notion of digital methods was introduced in 2007 as a counterpoint to virtual methods, which sought to introduce the social scientific instrumentarium to digital research (Rogers, 2009). Virtual methods, it was claimed, consisted in the digitisation of such traditional research methods (e.g. in online surveys or online ethnography). Rooted in media studies and the so-called computational turn in the humanities and social sciences, digital methods sought instead to learn from the methods of the medium and repurpose them for social and cultural research. (Venturini & Bounegro 2018, p. 4200)

Here is a quotation from Anders Kristian Munk (<https://vbn.aau.dk/en/persons/126983>) on the issues tackled by digital methods practitioners:

I encourage my students to consider ways in which computational analysis of born digital material can complement fieldwork (e.g. as a way to map relational fields) and/or be thought of as a form of fieldwork in its own right (e.g. by locating digital traces in specific media cultures/socio-technical infrastructures or by using computation exploratively and descriptively to discover questions and concerns from actors online). (Lupton 2020, p. 23)

Some resources on digital methods:

Caliandro, A. (2017) Digital methods for ethnography: analytical concepts for ethnographers exploring social media environments, *Journal of Contemporary Ethnography*. SAGE Publications, 47(5), pp. 551–578. doi: 10.1177/0891241617702960.

Perriam, J., Birkbak, A. and Freeman, A. (2020) Digital methods in a post-API environment, *International Journal of Social Research Methodology*, 23(3), pp. 277–290. doi: <http://10.0.4.56/13645579.2019.1682840>.

Roberts, S., Snee, H., Hine, C., Morey, Y., & Watson, H. (2015). *Digital methods for social science: An interdisciplinary guide to research innovation*. Palgrave Macmillan Limited. <http://ebookcentral.proquest.com/lib/uts/detail.action?docID=4082283>

Rogers, R. (2019) *Doing digital methods*. London: Sage.

Venturini, T., Bounegru, L., Gray, J., Rogers, R. (2018) A reality check(list) for digital methods, *New Media & Society*. SAGE Publications, 20(11), pp. 4195–4217. doi: 10.1177/1461444818769236.

Munk has a series of tutorials introducing different digital methods centered on Wikipedia as a field (Lupton 2020, p. 23):

- <https://medium.com/@EthnographicMachines/introduction-to-controversy-mapping-6961f03f9a8a>
- <https://medium.com/@EthnographicMachines/mapping-controversies-with-digital-methods-scrapers-crawlers-apis-17e0c96c340a>
- <https://medium.com/@EthnographicMachines/visual-network-analysis-with-gephi-d6241127a336>
- <https://medium.com/@EthnographicMachines/mapping-controversies-hand-in-1-d3ec9f1d0dc0>
- <https://medium.com/@EthnographicMachines/introduction-to-semantic-analysis-with-cortex-19f355b7289a>

Big data

Big data methods are attractive to the social sciences — and all the sciences — because they can address data sets where the number of variables can far exceed the number of cases being analyzed. Generally speaking, big data methods seek to detect stable and potentially complex clusters and/or predictions in the data, while also taking aggressive steps not to capitalize on chance in doing so (Oswald and Putka 2017, p. 103).

The use of 'Big data' methods refers to a variety of methodologies such as data (or text) mining, social media analysis, content analysis or spatial analysis when these involve large datasets of geographic, text, or social media data. Chen (2018) offers an overview of the different methods and applications, and the references belonging to a special edition in *Sociology* in 2017 illustrate their application to health, education, psychology or communication, as well as ethical implications and potential pitfalls.

Bleidorn, W., Hopwood, C. J., & Wright, A. G. C. (2017). Using big data to advance personality theory. *Current Opinion in Behavioral Sciences*, 18, 79–82. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.08.004>

Boyd, R. L., & Pennebaker, J. W. (2017). Language-based personality: a new approach to personality in a digital world. *Current Opinion in Behavioral Sciences*, 18, 63–68. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.07.017>

Cappella, J. N. (2017). Vectors into the Future of Mass and Interpersonal Communication Research: Big Data, Social Media, and Computational Social Science. *Human Communication Research*, 43(4), 545–558. <https://doi.org/10.1111/hcre.12114>

Chamorro-Premuzic, T., Akhtar, R., Winsborough, D., & Sherman, R. A. (2017). The datafication of talent: how technology is advancing the science of human potential at work. *Current Opinion in Behavioral Sciences*, 18, 13–16. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.04.007>

Chen, S.-H. (Ed.). (2018). *Big data in computational social sciences and humanities*. Springer. https://doi.org/10.1007/978-3-319-95465-3_1

Connelly, R., Playford, C. J., Gayle, V., & Dibben, C. (2016). The role of administrative data in the big data revolution in social science research. *Social Science Research*, 59, 1–12. <https://doi.org/10.1016/j.ssresearch.2016.04.015>

Gillan, C. M., & Whelan, R. (2017). What big data can do for treatment in psychiatry. *Current Opinion in Behavioral Sciences*, 18, 34–42. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.07.003>

- Greenberg, D. M., & Rentfrow, P. J. (2017). Music and big data: a new frontier. *Current Opinion in Behavioral Sciences*, 18, 50–56. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.07.007>
- Guntuku, S. C., Yaden, D. B., Kern, M. L., Ungar, L. H., & Eichstaedt, J. C. (2017). Detecting depression and mental illness on social media: an integrative review. *Current Opinion in Behavioral Sciences*, 18, 43–49. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.07.005>
- Halford, S., & Savage, M. (2017). Speaking sociologically with big data: Symphonic social science and the future for big data research. *Sociology*, 51(6), 1132–1148. <https://doi.org/10.1177/0038038517698639>
- Harari, G. M., Müller, S. R., Aung, M. S. H., & Rentfrow, P. J. (2017). Smartphone sensing methods for studying behavior in everyday life. *Current Opinion in Behavioral Sciences*, 18, 83–90. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.07.018>
- Jang, S. M., & Hart, P. S. (2015). Polarized frames on “climate change” and “global warming” across countries and states: Evidence from Twitter big data. *Global Environmental Change*, 32, 11–17. <https://doi.org/https://doi.org/10.1016/j.gloenvcha.2015.02.010>
- Luhmann, M. (2017). Using Big Data to study subjective well-being. *Current Opinion in Behavioral Sciences*, 18, 28–33. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.07.006>
- Mahmoodi, J., Leckelt, M., van Zalk, M. W. H., Geukes, K., & Back, M. D. (2017). Big data approaches in social and behavioral science: four key trade-offs and a call for integration. *Current Opinion in Behavioral Sciences*, 18, 57–62. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.07.001>
- Matz, S. C., & Netzer, O. (2017). Using Big Data as a window into consumers’ psychology. *Current Opinion in Behavioral Sciences*, 18, 7–12. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.05.009>
- Oswald, F. L., & Putka, D. J. (2017). Big data methods in the social sciences. *Current Opinion in Behavioral Sciences*, 18, 103–106. <https://doi.org/10.1016/j.cobeha.2017.10.006>
- Pal, J., & Gonawela, A. (2017). Studying political communication on Twitter: the case for small data. *Current Opinion in Behavioral Sciences*, 18, 97–102. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.09.009>
- Pardos, Z. A. (2017). Big data in education and the models that love them. *Current Opinion in Behavioral Sciences*, 18, 107–113. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.11.006>
- Ruggeri, K., Yoon, H., Kácha, O., van der Linden, S., & Muennig, P. (2017). Policy and population behavior in the age of big data. *Current Opinion in Behavioral Sciences*, 18, 1–6. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.05.010>
- Tay, L., Jebb, A. T., & Woo, S. E. (2017). Video capture of human behaviors: toward a big data approach. *Current Opinion in Behavioral Sciences*, 18, 17–22. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.05.026>
- Watson, R. J., & Christensen, J. L. (2017). Big data and student engagement among vulnerable youth: A review. *Current Opinion in Behavioral Sciences*, 18, 23–27. <https://doi.org/https://doi.org/10.1016/j.cobeha.2017.07.004>

Content analysis

The semi-quantitative or quantitative analysis of texts and multimodal documents to find patterns and common themes has greatly expanded its possibilities in recent years. The availability of large datasets online and enhanced software tools have contributed to refine this method, often used in communication studies.

Bazeley, P. (2018). From codes and counts to content analysis and “big data.” In *Integrating Analyses in Mixed Methods Research* (pp. 158–178). SAGE Publications. <https://doi.org/10.4135/9781526417190.n7>

Boussalis, C., & Coan, T. G. (2016). Text-mining the signals of climate change doubt. *Global Environmental Change*, 36, 89–100. <https://doi.org/10.1016/j.gloenvcha.2015.12.001>

Conway, S. L., O’Keefe, P. A., & Hrasky, S. L. (2015). Legitimacy, accountability and impression management in NGOs: the Indian Ocean tsunami. *Accounting, Auditing & Accountability Journal*, 28(7), 1075–1098. <https://doi.org/http://dx.doi.org/10.1108/AAAJ-04-2012-01007>

Lewis, S. C., Zamith, R., & Hermida, A. (2013). Content analysis in an era of big data: A hybrid approach to computational and manual methods. *Journal of Broadcasting & Electronic Media: Emerging Methods for Digital Media Research*, 57(1), 34–52. <https://doi.org/10.1080/08838151.2012.761702>

Lobo, R., & Jacques, P. J. (2017). SOFIA’S choices: Discourses, values, and norms of the World Ocean Regime. *Marine Policy*, 78, 26–33. <https://doi.org/https://doi.org/10.1016/j.marpol.2016.12.023>

Wozniak, A., Lück, J., & Wessler, H. (2015). Frames, stories, and images: The advantages of a multimodal approach in comparative media content research on climate change. *Environmental Communication*, 9(4), 469–490. <https://doi.org/10.1080/17524032.2014.981559>

Social media analysis

Social interactions registered in platforms such as Facebook, Twitter, Instagram, Weibo, Foursquare and others have been widely used to gather data on the interactions within or between given groups, as well as topics of academic research. These data can be analysed through qualitative, semi-quantitative or quantitative methods. For an overview of the different methods, see Sloan & Quan-Haase (2016). Both qualitative and quantitative methods have been used in ocean and coastal studies, as in the papers referenced below.

Airoldi, M. (2018). Ethnography and the digital fields of social media. *International Journal of Social Research Methodology*, 21(6), 661–673. <http://10.0.4.56/13645579.2018.1465622>

Gibbs, M., Meese, J., Arnold, M., Nansen, B., & Carter, M. (2015). #Funeral and Instagram: death, social media, and platform vernacular. *Information, Communication & Society*, 18(3), 255–268. <https://doi.org/10.1080/1369118X.2014.987152>

Golder, S. P., Ahmed, S., Norman, G., & Booth, A. (2017). Attitudes toward the ethics of research using social media: A systematic review. *Journal of Medical Internet Research*, 19(6). <https://doi.org/10.2196/jmir.7082>

King, T. J. & O'Meara, D. 2019. 'The people have spoken': how cultural narratives politically trumped the best available science (BAS) in managing the Port Phillip Bay fishery in Australia. *Maritime Studies*, 18, 1-13. 10. doi: 1007/s40152-018-0097-5

Marino, S. (2018). Digital food and foodways: How online food practices and narratives shape the Italian diaspora in London. *Journal of Material Culture*, 23(3), 263–279. <https://doi.org/10.1177/1359183517725091>

Martin, D. R., Pracheil, B. M., DeBoer, J. A., Wilde, G. R., Pope, K. L., Chizinski, C. J., Eskridge, K. M., & Pope, K. L. (2014). Using the internet to understand angler behavior in the information age. *Fisheries Research*, 157(10), 24–27. <https://doi.org/10.1016/J.FISHRES.2014.03.013>

Monkman, G. G., Kaiser, M. J., & Hyder, K. (2018). Text and data mining of social media to map wildlife recreation activity. *Biological Conservation*, 228, 89–99. <https://doi.org/10.1016/j.biocon.2018.10.010>

Monkman, G. G., Kaiser, M., & Hyder, K. (2018). The ethics of using social media in fisheries research. *Reviews in Fisheries Science & Aquaculture*, 26(2), 235–242. <http://10.0.4.56/23308249.2017.1389854>

Shiffman, D. S., Macdonald, C., Ganz, H. Y., & Hammerschlag, N. (2017). Fishing practices and representations of shark conservation issues among users of a land-based shark angling online forum. *Fisheries Research*, 196(C), 13–26. <https://doi.org/10.1016/j.fishres.2017.07.031>

Sloan, L., & Quan-Haase, A. (2016). *The SAGE Handbook of Social Media Research Methods*. <https://doi.org/10.4135/9781473983847>

Utekhin, I. (2017). Small data first: pictures from Instagram as an ethnographic source. *Russian Journal of Communication*, 9(2), 185–200. <https://doi.org/10.1080/19409419.2017.1327328>

Spatial analysis

The use of geographic data collection methods, such as GIS (Geographic Information Systems) or geospatial data to study social-ecological systems such as the AIS (Automated Information Systems) for vessels has been widely applied to domains such as ocean and coastal planning, climate change adaptation or ecosystem services (see Dailianis et al., [2018] for an example of the types of mapped activity in marine habitats in Europe). The papers below offer examples of its potential and limitations to study complex socio-ecological systems, such as in inferring behavioural patterns from geospatial data (see McDermott et al. [2019] and its responses in McDermott et al., [2018] and Hanich et al., [2018]).

Cornu, E. Le, Kittinger, J. N., Koehn, J. Z., Finkbeiner, E. M., & Crowder, L. B. (2014). Current Practice and Future Prospects for Social Data in Coastal and Ocean Planning. *Conservation Biology*, 28(4), 902–911. <https://doi.org/10.1111/cobi.12310>

Dailianis, T., Smith, C. J., Papadopoulou, N., Gerovasileiou, V., Sevastou, K., Bekkby, T., Bilan, M., Billett, D., Boström, C., Carreiro-Silva, M., Danovaro, R., Frascchetti, S., Gagnon, K., Gambi, C., Grehan, A., Kipson, S., Kotta, J., McOwen, C. J., Morato, T., ... Scrimgeour, R. (2018). Human activities and resultant pressures on key European marine habitats: An analysis of mapped resources. *Marine Policy*, 98, 1–10. <https://doi.org/https://doi.org/10.1016/j.marpol.2018.08.038>

Damasio, L. M. A., Peninno, M. G., & Lopes, P. F. M. M. (2020). Small changes, big impacts: Geographic expansion in small-scale fisheries. *Fisheries Research*, 226(February), 105533. <https://doi.org/10.1016/j.fishres.2020.105533>

Ekstrom, J. A., Suatoni, L., Cooley, S. R., Pendleton, L. H., Waldbusser, G. G., Cinner, J. E., Ritter, J., Langdon, C., Van Hooedonk, R., Gledhill, D., Wellman, K., Beck, M. W., Brander, L. M., Rittschof, D., Doherty, C., Edwards, P. E. T., & Portela, R. (2015). Vulnerability and adaptation of US shellfisheries to ocean acidification. *Nature Climate Change*, 5(3), 207–214. <https://doi.org/10.1038/nclimate2508>

Fortin, M.-J., & Dale, M. R. T. (2014). *Spatial analysis: a guide for ecologists* (Second edition). Cambridge University Press.

Griffiths, E. (2012). Geographic information systems (GIS) and spatial analysis. In M. Williams & W. P. Vogt (Eds.), *The SAGE Handbook of Innovation in Social Research Methods* (pp. 442–464). SAGE Publications. <https://doi.org/10.4135/9781446268261>

Hanich, Q., Rotjan, R., Aqorau, T., Bailey, M., Campbell, B., Gray, N., Gruby, R., Hampton, J., Ota, Y., Parris, H., Reid, C., Sumaila, U. R., & Swartz, W. (2018). Unraveling the blue paradox: Incomplete analysis yields incorrect conclusions about Phoenix Islands Protected Area closure. *Proceedings of the National Academy of Sciences of the United States of America*, 115(52), E12122–E12123. <https://doi.org/10.1073/pnas.1815600115>

Koehn, J. Z., Reineman, D. R., & Kittinger, J. N. (2013). Progress and promise in spatial human dimensions research for ecosystem-based ocean planning. *Marine Policy*, 42(C), 31–38. <https://doi.org/10.1016/j.marpol.2013.01.015>

McDermott, G. R., Meng, K. C., McDonald, G. G., & Costello, C. J. (2019). The blue paradox: Preemptive overfishing in marine reserves. *Proceedings of the National Academy of Sciences of the United States of America*, 116(12), 5319–5325. <https://doi.org/10.1073/pnas.1802862115>

McDermott, G. R., Meng, K. C., McDonald, G. G., & Costello, C. J. (2018). Reply to Hanich et al.: Alternate explanations for the blue paradox do not withstand statistical scrutiny. *Proceedings of the National Academy of Sciences of the United States of America*, 115(52), E12124–E12125. <https://doi.org/10.1073/pnas.1818687115>

Ruskule, A., Klepers, A., & Veidemane, K. (2018). Mapping and assessment of cultural ecosystem services of Latvian coastal areas. *One Ecosystem*, 3, 1–20. <https://doi.org/10.3897/oneeco.3.e25499>

Wedding, L. M., Lecky, J., Gove, J. M., Walecka, H. R., Donovan, M. K., Williams, G. J., Jouffray, J.-B., Crowder, L. B., Erickson, A., Falinski, K., Friedlander, A. M., Kappel, C. V., Kittinger, J. N., McCoy, K., Norström, A., Nyström, M., Oleson, K. L. L., Stamoulis, K. A., White, C., & Selkoe, K. A. (2018). Advancing the integration of spatial data to map human and natural drivers on coral reefs. *PloS One*, 13(3), 1. <https://doi.org/http://dx.doi.org/10.1371/journal.pone.0189792>

Social network analysis

Social network analyses measure and represent the connections between social actors and activities using graph analytical tools to explain the characteristics of these interactions, find patterns and offer explanations for social behaviour in areas as diverse as marine planning, seafood trade or climate change adaptation. Data for social analysis can be gathered, as in Smythe (2017), via email surveys as opposed to methods that involve fieldwork (Dacks et al., 2018, Clarke et al., 2016), but also from archival or administrative data (Dell'Appa et al., 2013).

Alexander, S. M., Bodin, Ö., & Barnes, M. L. (2018). Untangling the drivers of community cohesion in small-scale fisheries. *International Journal of the Commons*, 12(1), 519–547. <https://doi.org/10.18352/ijc.843>

Cioffi-Revilla, C. (2017). *Introduction to computational social science. Principles and applications* (2nd ed.). Springer. <https://doi.org/10.1007/978-3-319-50131-4>

Clarke, B., Tually, S., & Scott, M. (2016). Social networks and decision-making for coastal land-use planning, development and adaptation response. *Australian Journal of Maritime and Ocean Affairs*, 8(2), 101–116. <https://doi.org/http://dx.doi.org/10.1080/18366503.2016.1217378>

Dacks, R., Tickin, T., Jupiter, S. D., & Friedlander, A. (2018). Drivers of fishing at the household scale in Fiji. *Ecology and Society*, 23(1), 37. <https://doi.org/10.5751/ES-09989-230137>

Dell'Apa, A., Johnson, J. C., Kimmel, D. G., & Rulifson, R. A. (2013). The international trade and fishery management of spiny dogfish: A social network approach. *Ocean and Coastal Management*, 80, 65–72. <https://doi.org/10.1016/j.ocecoaman.2013.04.007>

Gençer, M. (2020). *Applied social network analysis with R: emerging research and opportunities*. IGI Global, Engineering Science Reference.

- Jaja, J., Dawson, J., & Gaudet, J. (2017). Using social network analysis to examine the role that institutional integration plays in community-based adaptive capacity to climate change in Caribbean small island communities. *Local Environment*, 22(4), 424–442. <https://doi.org/10.1080/13549839.2016.1213711>
- Marega-Imamura, M., Michalski, F., Silva, K., Schiavetti, A., Le Pendu, Y., & de Carvalho Oliveira, L. (2020). Scientific collaboration networks in research on human threats to cetaceans in Brazil. *Marine Policy*, 112(February 2020). <https://doi.org/10.1016/j.marpol.2019.103738>
- Raj P.M., K. (2018). *Practical Social Network Analysis with Python* (A. Mohan & K. G. Srinivasa (Eds.); 1st ed. 20). Springer International Publishing. <https://doi.org/10.1007/978-3-319-96746-2>
- Scott, J. (2017). *Social Network Analysis* (Fourth). SAGE. <https://doi.org/10.4135/9781529716597>
- Smythe, T. C. (2017). Marine spatial planning as a tool for regional ocean governance? An analysis of the New England ocean planning network. *Ocean & Coastal Management*, 135, 11–24. <https://doi.org/https://doi.org/10.1016/j.ocecoaman.2016.10.015>

Social simulation

In the computational social sciences, social simulation modelling has been applied to policy analysis and among the different methodologies grouped under this label, agent-based modelling (ABM) is often used for the study of:

Complex crises and emergencies, given their ability to represent human communities in environments prone to natural, technological, or anthropogenic hazards. In another important application, as we shall see, agent-based models provide the first viable methodology for modeling entire societies, polities, and economies, as well as national, regional, and global scales of these social systems. (Cioffi-Revilla 2017, p. 17)

The use of ABM for policy decisions in socio-ecological systems and in particular, for the management of marine resources, including small-scale fisheries, is a field for emerging cooperation between social, natural and computer scientists. The papers referenced below indicate the increasing interest in the applications of ABM for the human dimensions of ocean and coastal management.

- Abar, S., Theodoropoulos, G. K., Lemarinier, P., & O'Hare, G. M. P. (2017). Agent Based Modelling and Simulation tools: A review of the state-of-art software. *Computer Science Review*, 24, 13–33. <https://doi.org/https://doi.org/10.1016/j.cosrev.2017.03.001>
- Burgess, M. G., Carrella, E., Drexler, M., Axtell, R. L., Bailey, R. M., Watson, J. R., Cabral, R. B., Clemence, M., Costello, C., Dorsett, C., Gaines, S. D., Klein, E. S., Koralus, P., Leonard, G., Levin, S. A., Little, L. R., Lynham, J., Madsen, J. K., Merkl, A., ... Wilcox, S. (2020). Opportunities for agent-based modelling in human dimensions of fisheries. *Fish and Fisheries*, 21(3), 570–587. <https://doi.org/10.1111/faf.12447>
- Cioffi-Revilla, C. (2017). *Introduction to Computational Social Science. Principles and Applications* (2nd ed.). Springer. <https://doi.org/10.1007/978-3-319-50131-4>
- Elsenbroich, C. (2017). Social Simulation and Online Research Methods. In N. G. Fielding, R. M. Lee, & G. Blank (Eds.), *The SAGE Handbook of Online Research Methods*. SAGE Publications. <https://doi.org/10.4135/9781473957992>
- Jager, W., Verbrugge, R., Flache, A., de Roo, G., Hoogduin, L., & Hemelrijk, C. (Eds.). (2017). *Advances in Social Simulation 2015* (1st ed. 20). Springer. <https://doi.org/10.1007/978-3-319-47253-9>
- Libre, S. V. D., van Voorn, G. A. K., ten Broeke, G. A., Bailey, M., Berentsen, P., & Bush, S. R. (2015). Effects of social factors on fishing effort: The case of the Philippine tuna purse seine fishery. *Fisheries Research*, 172, 250–260. <https://doi.org/https://doi.org/10.1016/j.fishres.2015.07.033>
- Lindkvist, E., Wijermans, N., Daw, T. M., Gonzalez-Mon, B., Giron-Nava, A., Johnson, A. F., van Putten, I., Basurto, X., & Schlüter, M. (2020). Navigating complexities: Agent-based modeling to support research, governance, and management in small-scale fisheries. *Frontiers in Marine Science*, 6(January), 733. <https://doi.org/10.3389/fmars.2019.00733>
- Santos J., Borit M., Vanhée L. (2020) Modelling the “Captain’s Nose”: Exploring the Shift Towards Autonomous Fishing with Social Simulation. In: Verhagen H., Borit M., Bravo G., Wijermans N. (eds) *Advances in Social Simulation*. Springer Proceedings in Complexity. Springer.
- ten Broeke, G. A., van Voorn, G. A. K., Ligtenberg, A., & Molenaar, J. (2019). Cooperation can improve the resilience of common-pool resource systems against over-harvesting. *Ecological Complexity*, 40(June 2017), 100742. <https://doi.org/https://doi.org/10.1016/j.ecocom.2018.08.009>
- Wijermans N., O'Neill E.D. (2020) Towards Modelling Interventions in Small-Scale Fisheries. In: Verhagen H., Borit M., Bravo G., Wijermans N. (eds) *Advances in Social Simulation*. Springer Proceedings in Complexity. Springer.

Expert elicitation

Expert elicitation 'may be defined as the facilitation of the quantitative expression of subjective judgement, whether about matters of fact or matters of value' (Dias et al. 2018, p. 1) and it is usually employed 'when existing data and models cannot provide needed information' (Colson & Cooke 2018, p. 113), often to inform policy decisions in conditions of uncertainty (Morgan, 2014). The data collection modes for this methodology can be in person (as in Singh et al, 2017) or through email (Singh et al., 2019), and it may be combined with other methods such as (social) network analysis.

Colson, A. R., & Cooke, R. M. (2018). Expert Elicitation: Using the Classical Model to Validate Experts' Judgments. *Review of Environmental Economics and Policy*, 12(1), 113–132. <https://doi.org/10.1093/reep/rev022>

Dias, L. C., Morton, A., & Quigley, J. (Eds.). (2018). *Elicitation The Science and Art of Structuring Judgement* (1st ed. 20). Springer International Publishing. <https://doi.org/10.1007/978-3-319-65052-4>

Morgan, M. G. (2014). Use (and abuse) of expert elicitation in support of decision making for public policy. *Proceedings of the National Academy of Sciences*, 111(20), 7176 LP – 7184. <https://doi.org/10.1073/pnas.1319946111>

Singh, G. G., Cisneros-Montemayor, A. M., Swartz, W., Cheung, W., Guy, J. A., Kenny, T.-A. A., McOwen, C. J., Asch, R., Geffert, J. L., Wabnitz, C. C. C., Sumaila, R., Hanich, Q., & Ota, Y. (2018). A rapid assessment of co-benefits and trade-offs among Sustainable Development Goals. *Marine Policy*, 93(March 2017), 223–231. <https://doi.org/https://doi.org/10.1016/j.marpol.2017.05.030>

Singh, G. G., Hilmi, N., Bernhardt, J. R., Cisneros Montemayor, A. M., Cashion, M., Ota, Y., Acar, S., Brown, J. M., Cottrell, R., Djoundourian, S., González-Espinosa, P. C., Lam, V., Marshall, N., Neumann, B., Pascal, N., Reygondeau, G., Rocklöv, J., Safa, A., Virto, L. R., & Cheung, W. (2019). Climate impacts on the ocean are making the Sustainable Development Goals a moving target travelling away from us. *People and Nature*, 1(3), 317–330. <https://doi.org/10.1002/pan3.26>

Singh, G. G., Sinner, J., Ellis, J., Kandlikar, M., Halpern, B. S., Satterfield, T., & Chan, K. M. A. (2017). Mechanisms and risk of cumulative impacts to coastal ecosystem services: An expert elicitation approach. *Journal of Environmental Management*, 199, 229–241. <https://doi.org/https://doi.org/10.1016/j.jenvman.2017.05.032>

Conducting research during COVID-19

Publications

A number of publications in 2020 illustrate the impacts of the pandemic at different levels. The references below are for papers on methodological implications as well as papers researching impacts of COVID on fisheries through a number of methods, from rapid assessments to online surveys. The first reference is a three-volume compilation of researchers' experiences and adaptations, encompassing New Methodologies (Volume 1), Care and Resilience (Volume 2) and Creativity and Ethics (Volume 3).

Kara, H., & Khoo, S.-M. (Eds.). (2020). *Researching in the Age of COVID-19. Volume I: Response and Reassessment*. Policy Press - Bristol University Press.

<https://policy.bristoluniversitypress.co.uk/researching-in-the-age-of-covid-19>

Kara, H., & Khoo, S.-M. (Eds.). (2020). *Researching in the Age of COVID-19. Volume II: Care and Resilience*. Policy Press - Bristol University Press. <https://policy.bristoluniversitypress.co.uk/researching-in-the-age-of-covid-2>

Kara, H., & Khoo, S.-M. (Eds.). (2020). *Researching in the Age of COVID-19. Volume III: Creativity and Ethics*. Policy Press - Bristol University Press. <https://policy.bristoluniversitypress.co.uk/researching-in-the-age-of-covid-1>

Aura, C. M., Nyamweya, C. S., Odoli, C. O., Owiti, H., Njiru, J. M., Otuo, P. W., Waithaka, E., & Malala, J. (2020). Consequences of calamities and their management: The case of COVID-19 pandemic and flooding on inland capture fisheries in Kenya. *Journal of Great Lakes Research*. <https://doi.org/https://doi.org/10.1016/j.jglr.2020.09.007>

Bennett, N. J., Finkbeiner, E. M., Ban, N. C., Belhabib, D., Jupiter, S. D., Kittinger, J. N., Mangubhai, S., Scholtens, J., Gill, D., & Christie, P. (2020). The COVID-19 Pandemic, Small-Scale Fisheries and Coastal Fishing Communities. In *Coastal Management* (Vol. 48, Issue 4, pp. 336–347). Taylor & Francis Ltd. <http://10.0.4.56/08920753.2020.1766937>

Bhat, B. A., Gull, S., & Jeelani, G. (2020). A Study on COVID-19 Lockdown Impact on Food, Agriculture, Fisheries and Precautionary Measures to Avoid COVID-19 Contamination. *Galore International Journal of Applied Sciences and Humanities*, 4(2), 8–18.

Braun, R., Blok, V., Loeber, A., & Wunderle, U. (2020). COVID-19 and the onlineification of research: kick-starting a dialogue on Responsible online Research and Innovation (RoRI). *Journal of Responsible Innovation*, 1–9. <https://doi.org/10.1080/23299460.2020.1789387>

Headey, D. D., Goudet, S., Lambrecht, I., Oo, T. Z., Maffioli, E. M., & Toth, R. (2020). *Poverty and food insecurity during COVID-19: Telephone survey evidence from mothers in rural and urban Myanmar* (Vol. 3). International Food Policy Research Institute.

Kaewnuratchadasorn, P., Smithrithee, M., Sato, A., Wanchana, W., Tongdee, N., & Sulit, V. T. (2020). Capturing the Impacts of COVID-19 on the Fisheries Value Chain of Southeast Asia. *Fish for the People*, 18(2), 2–8.

Kansiime, M. K., Tambo, J. A., Mugambi, I., Bundi, M., Kara, A., & Owuor, C. (2021). COVID-19 implications on household income and food security in Kenya and Uganda: Findings from a rapid assessment. *World Development*, 137, 105199. <https://doi.org/https://doi.org/10.1016/j.worlddev.2020.105199>

Kanter, R., & Boza, S. (2020). Strengthening Local Food Systems in Times of Concomitant Global Crises: Reflections From Chile. *American Journal of Public Health*, 110(7), 971–973. <https://doi.org/http://dx.doi.org/10.2105/AJPH.2020.305711>

Kemp, P. S., Froese, R., & Pauly, D. (2020). COVID-19 provides an opportunity to advance a sustainable UK fisheries policy in a post-Brexit brave new world. *Marine Policy*, 120, 104114. <https://doi.org/https://doi.org/10.1016/j.marpol.2020.104114>

Klassen, S., & Murphy, S. (2020). Equity as both a means and an end: Lessons for resilient food systems from COVID-19. *World Development*, 136, 105104. <https://doi.org/https://doi.org/10.1016/j.worlddev.2020.105104>

Knight, C. J., Burnham, T. L. U., Mansfield, E. J., Crowder, L. B., & Micheli, F. (2020). COVID-19 reveals vulnerability of small-scale fisheries to global market systems. *The Lancet Planetary Health*, 4(6), e219. [https://doi.org/10.1016/S2542-5196\(20\)30128-5](https://doi.org/10.1016/S2542-5196(20)30128-5)

Mamun, A.-A., Shieh, J., & Belton, B. (2020). *Qualitative assessment of COVID-19 impacts on aquatic food value chains in Bangladesh*. Penang, Malaysia. CGIAR Research Program on Fish and Agri-Food Systems.

Sorensen, J., Echard, J., & Weil, R. (2020). From Bad to Worse: The Impact of COVID-19 on Commercial Fisheries Workers. *Journal of Agromedicine*, 1–4. <https://doi.org/10.1080/1059924X.2020.1815617>

Steenbergen, D. J., Neihapi, P. T., Koran, D., Sami, A., Malverus, V., Ephraim, R., & Andrew, N. (2020). COVID-19 restrictions amidst cyclones and volcanoes: A rapid assessment of early impacts on livelihoods and food security in coastal communities in Vanuatu. *Marine Policy*, 104199. <https://doi.org/https://doi.org/10.1016/j.marpol.2020.104199>

Stokes, G. L., Lynch, A. J., Lowe, B. S., Funge-Smith, S., Valbo-Jørgensen, J., & Smidt, S. J. (2020). COVID-19 pandemic impacts on global inland fisheries. *Proceedings of the National Academy of Sciences*.

Pre-prints

In the Resources section below, we mention the LSE blog on how academic publishing may or not become faster to address urgent needs. The papers below are preprints shared in different research repositories.

Love, D., Allison, E., Asche, F., Belton, B., Cottrell, R., Froelich, H., Gephart, J., Hicks, C., Little, D., Nussbaumer, E., Pinto da Silva, P., Poulain, F., Rubio, A., Stoll, J., Tlusty, M., Thorne-Lyman, A., Troell, M., & Zhang, W. (2020). Emerging COVID-19 impacts, responses, and lessons for building resilience in the seafood system. *SocArxiv*. <https://doi.org/10.31235/osf.io/x8aew>

Okyere, I., Chuku, E. O., Ekumah, B., Angnuureng, D. B., Boakye-Appiah, J. K., Mills, D. J., Babanawo, R., Aheto, D. W., & Crawford, B. (2020). Physical distancing and risk of COVID-19 in small-scale fisheries: A remote sensing assessment in coastal Ghana. *Researchsquare*. <https://doi.org/10.21203/rs.3.rs-39872/v1>

Sunny, A. R., Sazzad, S. A., Datta, G. C., Sarker, A. K., Ashrafuzzaman, M., & Prodhan, S. H. (2020). *Assessing Impacts of COVID-19 on Aquatic Food System and Small-Scale Fisheries in Bangladesh*. *Preprints* **2020**, 2020060143. <https://doi.org/10.20944/preprints202006.0143.v1>

Ward-Paige, C., White, E. R., Madin, E. M. P., Bailes, L. K., Bateman, R. L., Belonje, E., Burns, K. V., Cullain, N., de Waegh, R. S., Eger, A. M., Ford, B. M., Green, E. R., Honeyman, C. J., House, J. E., Jordan, L. K., Levenson, J. J., Lucchini, K., Martí-Puig, P., McGuire, L., ... Vergara Florez, D. C. (2020). A framework for mapping and monitoring human-ocean interactions in near real-time during COVID-19 and beyond. *OSF Preprints*, 28 Aug. <https://doi.org/10.31219/osf.io/sxnu5>

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Insights from the current 'field'

In October and November 2020 we conducted nine interviews with doctoral students, postdoctoral researchers, senior researchers and research student supervisors about their experiences conducting research on ocean equity during the pandemic. We asked them what stage they and/or their students were at, what methodological adaptations had they considered, how they had approached the task, what challenges and opportunities they encountered, and what advice they would have for their colleagues. After the first two interviews, it was clear that we needed to include a question about their thoughts on what long-term influence the pandemic would have for qualitative researchers working with communities and the oceans.

In this section, we have grouped thematically the key issues referred by the researchers. Respondents are identified with a number at the end of the correspondent quotations.

Ethics and the move online

Ethical implications were a key element in the conversations when approaching the decisions whether to continue with research projects or move to research methods that could be conducted remotely.

- **Ethical concerns vis a vis the researched when moving online.** Interviewing people online becomes challenging, as the researchers feel that they are taking more time than ethically appropriate with their researched, who may additionally be dealing with the pandemic themselves:

I know that the people that I want to study are super busy, they're not fishers who leave their catches at the auction, they have businesses to run, they are selling your food, and for an entrepreneur every day is different. They're also highly dependent on weather conditions. So it would be very hard to pin people down, which is just ethically to me very difficult. (01)

When I started getting these responses, and their lack of responses, I realised that maybe for some people this [being interviewed during the pandemic] is a welcome distraction but there's a significant number of people for whom it is not, or it's a distraction, yes, but it's one that they can't handle. It really is making me even more thoughtful, more respectful of what I'm asking of people at this time. (06)

- **Adapting ethic approvals processes.** Adapting online situations in developing countries to ethics requirements for privacy and confidentiality may represent a steep learning curve both for researchers and for research ethics committees, as discussed in the Ethics section above (see also the Online discussions and resources section for resources). Some researchers mentioned the challenges involved in ensuring informed consent and maintaining privacy and confidentiality of data, especially when working remotely with third parties in-country:

They [these online processes] could be cruel sometimes, they could sometimes not be able to really satisfy most of the ethical things in detail, but of course it is necessary, we cannot fold our arms and say, because of that [we won't conduct the research], because so many people feel uncomfortable dealing with researchers online, when you don't see the person, and you don't know who else is watching you or listening to you whilst you are talking. (02)

The shift to remote research environments takes place as ethics committees adapt to the new conditions:

The ethics system is not set up to say 'I am personally not going to do this fieldwork, this fieldwork is going to be done by others as part of a network of relationships'. There is an assumption in the ethics process with all these checkboxes that you are there, or you are able to be there. And I think that that's probably one good thing, one very clear thing that you can probably pull out from the COVID perspective is that people are going to be remotely supervising research much more, ethics applications should change their structures to recognise this as a legitimate way of doing research and allow that to be a checkbox that then has its own branch to answer sets of questions. (10)

In this learning process, the specific requirements for the prevention of COVID-19 risks may represent an additional layer of uncertainty, even if they are partly dissociated from the ethics research process:

The university said, 'Well the ethics committee is not responsible for assessing the COVID-safe nature of activities, just the ethical nature of them in terms of standard research issues, and then it's up to the Faculty [Department] to look at each of research project they running and do the COVID risk analysis and figure out whether it can go ahead or not'. So the university has made it really easy for me to deal with ethics in terms of COVID and it hasn't added an extra burden at all. When it comes to the actual data collection, I don't know how [the Department] is going to deal with it, whether they are going to look at it and go we can't possibly put university student enumerators into any position of risk whatsoever if they're on our dime, so even if it's just leaving the house one day and catching the bus down the road and interview some people and go home, they might consider that too much of a risk, I don't know. (10)

And then again, in-country relationships are key:

If you have good quality networks and good quality relationships, my opinion is that's going to minimise the level of risk of something going wrong with the research, rather than if you don't really know your collaborators well and you don't know whether they really understand what you have to do and why you have to do it. So there will always be a need for Ethics committees to check these things out, but in the right situation, there should be no concern about undertaking research that is remotely supervised. (10)

Practical implications of moving research methods to the online 'field'

Most researchers interviewed had opted to move their data collection methods online, rather than completely redesigning their methodologies. The move online meant, for most projects, conducting interviews, focus groups and/or workshops online instead of face to face. Projects that counted on field observations as a data collection method had dispensed with it, rather than trying to compensate it with alternative observational methods. Efforts were directed to still being able to answer the original research questions and maintain the quality of the data. This process presented several realisations, as well as potential challenges and opportunities:

General

- **Online is not for everyone.** The tension between the need to adapt research methods and the researchers' own skills and motivations was raised occasionally and in this cases, it had influenced decisions to change locations rather than methods, or to pause research for a time.

I'm awkward about computers, like, not with computers but like, it's a very unnatural thing to me. It's never the same as having a kitchen table conversation over a cup of tea. It takes a lot of my energy to engage in digital meetings, I'm not comfortable asking that kind of time with people. (01)

Part of the challenges to the researchers' own research values, especially in projects like PhDs:

It's important to hold on to the spirit of your research, and I think the spirit of my research is this very deep kind of connection with the people I engage with. (01)

The digital piece, I just don't feel I am able to replicate it. Even though we could still make progress, I am very cognizant about not wanting to do extractive research¹. (06)

- **Steep learning curves.** Learning about the particular dynamics of online research demands technical upskilling:

It wasn't that much of a change to do the voice-based, one-to-one interviews. The big learning curve was when we had to do participatory engagement activities like small focus groups or workshops. (04)

The approach to this upskilling varied, in some cases jumping straight into the online and learning by trial and error, in other cases accessing literature and learning from peers. Whatever the approach, adapting is a work in progress:

¹ Extractive research is meant here as research that responds to the interests of the researchers, rather than to the needs and goals of the communities researched. As a result, it fails to provide a meaningful, thoughtful, and contextually appropriate return to communities for the time and knowledge that the subjects researched offer to the projects.

Preparing for a physical workshop is very time demanding as it is, but preparing for an online workshop to make sure the materials are adequate and logical for the participants, takes about three times as much. (04)

It becomes more difficult for people to maintain concentration; you need to incorporate breaks. (07)

In a lot of these focus groups that I've done, so many people have their camera off. I started up by telling them that if they didn't feel comfortable keeping the camera on, that it was ok to turn it off, and then I stopped saying that, and then they had their cameras on and it was a lot better. (07)

I tried to give everyone a spreadsheet to fill out online and a google doc so that I could see where everyone was filling it out at the same time but [it] would still just have been so much easier to give them a piece of paper and a pen. (07)

- **Inclusivity.** The alteration in the sampling and recruitment of participants has different effects depending on the target audience. Projects that are targeted to technical staff (eg. local staff in developing countries who work in offices with computers and are familiar with online interaction) may benefit from moving online, as travel ceases to be an issue for participation. For researchers intending to include people without access to the infrastructure and skills for online interaction, however, moving research online has effectively meant not being able to include those kinds of participants.

I wanted to go there and talk to the people there and see what they were interested in me researching but none of them have phones or emails so it's pretty much impossible to do community-based action-oriented research without physically being there. (07)

Opportunities

- **Timely research on the effects of COVID-19.** PhD students studying transformational issues reported that the ability to adapt their methods represented an opportunity to conduct timely research on the impacts of COVID-19 on coastal communities.

There is a lot of opportunity to study the impacts of COVID-19 on the fishing communities, especially in the policy aspects. (07)

If we can't do research at this time to really show the impact or otherwise of COVID on the ocean sector and we wait for COVID to finish, what are we going to say about the impact of COVID on that sector too? (02)

- **Methodological innovation.** The challenges imposed by the pandemic pushed researchers out of their 'comfort zone' to try unfamiliar methodologies. This is potentially beneficial to projects, researchers' skills development, and as an impetus to innovate in ways that researchers already felt they should but had not yet started. .

I never used for example photo elicitation, which a friend of mine used and I found fascinating but at that time I didn't really get it and now 'Oh photo elicitation, this reminds me...' a way to just capture data in a completely different way and interpret it. If I draw up an interview protocol, how can I translate that into something that could be captured through photo elicitation. Is that even possible? Those are the sort of things that we're going to have to start thinking about now. (09)

For researchers in the field of ocean or fisheries this is an opportunity for all of us to innovate. We've been calling for innovation in many aspects of our research, this is now time for us to innovate ourselves. We should see this as an opportunity because the issues that we've been talking about, and the issues that we're trying to project to wider audiences in policy making positions, in governments, in civil society, they cannot wait, these issues are happening, and so we can't sit and wait for COVID to end before we speak about them. (02)

- **Methodological self-consciousness.** The impossibility of conducting research as before opens up an avenue for self-reflection on the researchers' own methodological adaptation:

One thing I found very useful for a set of workshops that I did is that I actually wrote a brief reflection on the process, only one or two pages to tell the story of what worked and what didn't. As a researcher, that helped a lot. (04)

I think these pieces about technology forced me to see in even a stronger way the importance of introductions and relationship building in that way, showed me not just that it is important to go back to doing face to face but also go back to doing face to face

and improve the way that I approached introductions and relationship building capacity. (06)

- **Improved data quality.** When the participants are able to participate online, adaptation of participatory activities to the online space may enhance quality:

Rather than doing a two- or three-days' workshop we were able to divide them into intensive 90 minute or two-hour sessions spread across four weeks. That meant that we were able to take home the output for each day, learn from it, adapt it and then use it to inform the following workshop. (04)

One researcher also found that participants were more willing to give additional help to the researcher in order to overcome the limitations of online interaction:

[I have been] more open to express the challenges of being remote with participants, and they have sent pictures, 'Oh I can share a video I have on that', or they are more open to connecting you with somebody. (05)

Challenges

- **Building and maintaining relationships remotely.** Researchers found it especially challenging to maintain relationships remotely, let alone starting conversations towards participatory, community-oriented projects.

It's hard to develop and maintain a relationship over Zoom or skype and things like that but I think that trying and make it happen as much as possible is key. (05)

Helpful approaches for online relationship building may be feasible for researchers who are employed in different projects (as opposed to PhD students who are dependent on the success of their project):

The only way to do that is building a relationship outside research. At the moment, it's not about trying to gain entry into the community, forget the 'selfish' goal to be liked by the community so that access may be granted, but just trying to make some friends, whether or not the research may continue. That is the starting point: being ready to lose the opportunity to lose the research, not do it properly, and accept it, and nevertheless establish online communication and start conversations. (09)

- **Distrust.** Researchers mentioned several instances where the medium was perceived as problematic, as for example in the use of Google tools that communities feared could result in the loss of intellectual property (06) or were not private enough for conflictive or contentious issues (08). This may ultimately pose risks to the data collected and may result in the discontinuation of the project:

I didn't want to get only partial information. Certainly, I only want to gather information that people feel comfortable sharing but I don't want them to only share things or not share certain things because are afraid that the medium in which they share it isn't safe. (06)

- **Sampling and recruitment.** One of the key adaptations reported by researchers was in the recruitment process. This was especially acute in the projects that aimed at collecting data from fish workers in developing countries, where snowball sampling conducted by asking around in the field was no longer possible.

Instead of going out to the docks and interviewing fishermen at the docks I had just then call people and interview people on the phone. (07)

This made it harder to recruit participants from specific segments of the community, such as deckhands instead of business owners, or individual fishermen with no phone or email.

Researchers followed a variety of methods to maintain data quality:

- Recruiting community leaders instead of individual participants: Interviewing community leaders and modifying the requirements allows to aggregate the data and compensate for the ability to reach fewer individual participants. (02)
- Snowball sampling can be mimicked on the phone, but it takes more time. Reaching members of the community is still possible, but it becomes a slower process. (05, 07)
- Devising alternative ways to conduct interviews to produce quality data, such as family members assuming the role of interviewers to enable greater confidence of participants. (09)

Building resilience

Participants were asked to share their main takeaways from the experience and highlighted some key messages.

- **Remain flexible.** Flexibility was mentioned repeatedly in connection to the need to adapt projects once it became clear that COVID-19 restrictions may last for a long time.

I would not be advising any PhD student to be patient and wait until things become normal again. That's not going to happen. (08)

Maintaining that flexibility, knowing that that project isn't going to work and just continuing forward in the programme and in the research however you can is better than waiting for flights to open up and the pandemic to be over to start your dream project. (07)

- **Accept limitations.** Observations or other fieldwork data collection instruments may be difficult to replicate.

What that actually means is that we had to reduce our expectations on what data we could collect. It was hard to accept that we were going to be limited to interviews and very small focus groups, as we knew we were not going to get the depth of analysis that we would have had if we had gone to the country. (04)

- **Retain the essentials.** Supervisors and experienced researchers highlighted the fundamental goals of a PhD projects: to formulate relevant research questions and be able to answer them with the means available.

The difficulty with the PhD is always refining your question down to something that is achievable and contributes something to knowledge. And then not just becoming expert in your subject matter but also becoming clear on how to approach your subject matter or your research question with your methodology or hypothesis. (08)

- **Contact your peers.** Both experienced researchers and PhD students mentioned benefits from sharing their approaches to methodological adaptation with their peers. Qualitative researchers worldwide are engaged in similar learning processes and discussions are flourishing (see next Section for resources).

The other thing I found very useful is that everyone is doing it [moving research online] as well, so talking to staff and peers informally, on Teams, or on Twitter, there's a lot of chat on Twitter, and see what else is going on was a really good way to rapidly absorb what's happening. (04)

Where I get concerned about is that it's really imperative that PhD students are able to have peer to peer support. That they are able to be with each other, to bitch about their supervisors, to share insights, 'have you looked at this this is really good', yada yada. (08)

Ethical research and global inequalities

Among the ethical considerations reported by researchers, the responsibilities regarding participatory research in developing countries was raised by experienced researchers. Researchers who would usually conduct fieldwork found themselves engaged in a critical revision of how participatory research under COVID-19 conditions may result in greater agency, ownership, and capacity of the communities researched:

COVID is basically preventing all of us wealthy white academics from going in-country and doing our research. But it's also enabling us to have a second think. It's the same with climate change, we're all trying to cut our travel down because of carbon emissions anyway, we're struggling to do that to varying degrees, and then COVID just comes and says basically 'you're f--ing grounded'. How can we also think about that in the context of better engaging with local people and building local research capacity. (08)

COVID has pushed us to do things which we always said we were going to do but we never quite got around to doing. In the past, if we got work like this we'd go in-country and we'd supervise the fieldwork. And we would always justify this work in terms of capacity building for local organisations, whereas in this case we're in a position where we have to hand over real responsibility to organisations in country and collaborators in country, and that's actually much better for them. Assuming the work goes well, and it's

well constructed and well managed and the relationships do support it, it actually leads to more capacity building for them and they can take on more work in the future. (10)

Because I am not able to do the community pieces myself, one of the things I've considered doing is maybe I could give some of those savings for me to travel there, maybe I could give some of that money to the community organisations and then maybe they can host the focus groups themselves and then just tell me what they've learned. I'm putting a lot of faith and trust in their skills and the way they structure everything but then that also gives them that agency and that power but then it's also a way to compensate them even more, because people in community organisations are struggling, and maybe give them, if this is something they are interested in, a way to tie this work in this project into the conversations that they're going to be having anyway. (06)

A big part of my research is with some NGO partners and we've discussed potentially training in-country staff to at least go out to the field and do some of these observations or interviews and use that as a compromise for not being there ourselves, so I think it could be in-country personnel, it's a really cool thing that could come out of it. (05)

This, however, may require novel needs for negotiations on to data collection methods:

The methodologies will be the same or similar but we will be putting them in the hands of different people and we have to have different expectations of what they may look like. (09)

Our funding body, which is based in country and is helping to manage some of the research activities as a partnership, they just don't have experience with some of the workshop based methods we use, and they don't realise that those methods can be a really legitimate form of data collection. They just don't have the skills and the understanding yet, of those more specialised social research processes. So we've had to reduce that side of it and we've had to go into a much more traditional survey method, because that's what they know how to do and that's what they understand and feel comfortable with. (10)

Beyond building local research capacity, shifting responsibility for elements of the research enables not only greater commitment with the researched (09, 06) but also the opportunity to engage with communities in the co-design of research that may suit their needs and interests:

We are trying to get the community organisations and NGOs to take the lead in deciding what is it that they want us to do, and we are still at the stage where they are still looking at us to tell them what we want to be done. So right now we just have occasional calls and we have conversations and we don't try to pin anything down, we're still kind of just chatting to see whether we can get to the point where they are comfortable being the ones to say ok, this is what we want to do. (09)

This kind of participatory research, which is already slow research, becomes even slower:

For me, that's not really a problem. Maybe frustrating at times but it's a frustration that I expect, and we just will work through it. The key thing for us is to avoid the temptation to speed it up and for me that's where I have to work on, the urge to prescribe things or suggest things that may be just the very thing that they end up wanting to do, so the slow process is the way that the process should be. (09)

However, if the slow approach works, it represents an opportunity for communities to take ownership of the research:

Ultimately, if it works, the organisation will truly take ownership of the research idea and when we're no longer there they will still be able to move on it or to take it in whatever direction they want and not depend on us. (09)

And it may also reformulate the role of (experienced) researchers:

The researcher becomes more of an external consultant on the sidelines, available if the local team needs some expert advice, or needs some additional input or wants some different standpoint. (09)

But will require institutional support:

It is really critical that institutions demonstrate that they value this type of knowledge creation, that they allow their faculty and their doctoral students to do this kind of work and not penalize them for it. (09)

What will normal look like in the future?

All researchers interviewed highlighted the importance of conducting face to face interactions for their research and expressed doubts about the capacity of online methods to replace face to face research:

I think there's some room for technology to help in certain instances but at least in the research that I'm interested in, I don't see technology being an adequate substitution [for face to face interactions]. If anything, I think these pieces about technology forced me to see in even a stronger way the importance of introductions and relationship building. (06)

This was especially the case with data collection methods such as observations:

Observations would have played a large role in both components of my research. We're looking at something like working conditions, or other indicators of labour, human rights violations. I think not having the opportunity to be in the field and see the vessels or access to resources or things like that is still a huge gap. (05)

Several adaptations resulted in a change of location (from a developing country to the researcher's own country). This prompted the question as to whether there may be increasing gaps in published research:

I'd be horrified to see COVID begin to limit what research actually gets published. I suspect it will limit that to some degree, but I also think that it actually reflects the inequities that exist in global research, both in gender and capital. (08)

The redefinition of travel was mentioned repeatedly, especially in the case of experienced researchers:

I'll be questioning more the need to travel, like whether I need to spend a week overseas for two meetings. There will be a lot more of that reframing happening, which I think is important for a range of reasons: personal health and time, climate emissions, or project budgets. I think we'll see a lot more discussion, hopefully, around whether travel is needed. Having said that, I do think there'll be a place for intensive face to face interaction, only I think it will just not be as frequent as we were used to. (04)

Although experienced researchers may be increasingly questioning travel, fieldwork should continue to be a key formative element for junior researchers:

For PhDs, it's still going to be quite important to get out into the field and do the actual physical work once the world opens up again, just because those unintended side-benefits of relationships and understanding the context in which you are working are very hard to grasp otherwise; you'd have to do a lot more reading, a lot more different ways of understanding context and culture than if you were there in person. I think the PhD, because it's research training, should expose you to that. (04)

Success in methodological adaptation to online means, whether in-country or abroad, was occasionally felt as a double-edged sword:

What my colleagues and I are worried about is, even if everything is safe and it is safe to travel again, that it may be decided that it is cost-prohibitive, because proven we can do it online, why not do it online. (07)

Online discussions and resources

In the past few months, the disruptive effects of the pandemic on social research methods have become evident and resources and discussions have flourished worldwide. Below is a list of resources, including several compilations, as well as events and discussions on methodological adaptations during the pandemic and beyond.

Resources, essays, posts

International Food Policy Research Institute

Like some of the sites below, this research institute has brought together its COVID-related material in a section that hosts blog posts, publications, events, data tools and more, detailing how the pandemic is challenging food systems around the world: <https://www.ifpri.org/topic/covid-19>

Living With Data - Conducting research during COVID-19

Living With Data is a group of research projects which aim to understand the new role of data in society. This set of resources in their web is a wonderfully updated [compilation of resources and experiences](#) on the ethical and methodological challenges faced by qualitative researchers in social inequities. Resources are grouped under the following headings:

- Sources addressing inequalities
- Online methods and platforms (more broadly)
- Interviews and focus groups
- Ethnography and observation
- Diaries, workshops and participatory research
- Recruitment, access and research relationships
- Ethical issues and challenges
- Other resource lists

LSE Impact Blog – Rapid or Rushed? Exploring rapid response publishing in covid times.

The LSE Impact Blog at the London School of Economics Department of Media and Communications is devoted to maximising the impact of academic work in the social sciences. One of its resources is a six-week series of posts devoted to the [role of short, fast books on the pandemic](#) and whether the pandemic has or will change academic publishing. One of posts is [How the pandemic has transformed research methods and ethics: 3 lessons from 33 rapid responses](#), which reflects on the experiences of 90 researchers worldwide compiled in the *Research in the Age of COVID-19* reference (see above, p. 23).

Research ethics practices during COVID-19 – International Development Research Centre – Centre de recherches pour le développement international

The Canadian IDRC – CRDI has put together a structured reflection of the main ethical questions researchers should be posing themselves [here](#), together with a number of relevant research ethics sources.

SAGE Ocean

SAGE Ocean (<https://ocean.sagepub.com/>) collates several resources for social scientists aiming to work with Big Data and Technology. The site offers two useful tools for a first overview of diverse computational methods: a compendium of resources for social scientists entering this field (<https://ocean.sagepub.com/start-working-with-big-data>) including books, videos, webinars and learner stories; and an overview of the software tools most used in the different CSS methodologies (<https://ocean.sagepub.com/research-tools-directory>).

Social Science Research Council

The series [Covid-19 and the Social Sciences](#) in the Insights section of the Social Science Research Council offers a plethora of reactions to how social research can contribute to the pandemic. Essays

reflect on the following themes: Mediated Crisis; Policy Models in Pandemic; Disaster Studies; Democracy and Pandemics; Social Research and Insecurity; Covid-19 in Africa; Society after Pandemic; Pandemic, religion, and public life; and A Time Capsule for Future Social Researchers.

Social Science Space

This site, also at SAGE, offers resources for researchers, educators and students, and for visualising and mapping COVID-19 data. It is targeted specifically at behavioural social scientists:

<https://www.socialsciencespace.com/coronavirus/>

Visioning Resilient Food Systems in the Pacific

A common consideration in adapting methodologies to work with local contacts is the existence of solid networks and trusted relationships between the partnerships. For example, researchers in the Pacific Community's [Food Systems Integrated Program](#) were able to switch successfully and in a short timeframe to a web-based space due to COVID-19 travel restrictions to reflect on the future of food systems and health outcomes in the region.

WorldFish: COVID-19 impacts on fish and aquatic food systems

The Worldfish center has compiled research, resources and events on and during COVID in the following link: <https://www.worldfishcenter.org/pages/covid-19/>

Conferences, webinars, events

American Anthropological Association

The Association features a series of [webinars](#) on the impacts and responses to COVID-19 and the role of anthropologists in these, such as 'COVID-19, ongoing responses and social impact (Costa Rica, Kenya, and India)' or 'Pandemic Change-Up – Invisible Social Structure Revealed' (a discussion on how human networks around the world –Mumbai, Stockholm, Nairobi, Bogota—can be revealed through photo narratives).

CGIAR – Platform for Big Data in Agriculture

The Socio-Economic Data Community of Practice of this CGIAR (Consortium of International Agricultural Research Centers) hosted a webinar on 14 May 2020 to discuss the [harmonisation of COVID-19 phone surveys in CGIAR](#), anticipating that the restrictions in travel and mobility will result in an uptake of phone surveys for agricultural research.

Data collection in a time of multiple crises: The social research response to COVID-19, bushfires, and drought, ANU, 21 May 2020

This [online Conference](#), organised by the Centre for Social Research & Methods at the Australian National University on 21 May 2020 presented several challenges related to the collection of survey data. [The recordings from the Conference are not publicly available, but our notes can be provided on request.](#)

Sessions 1 and 4 of this Conference presented a discussion on the actions and challenges that the pandemic is posing to data collection for surveys.

Session 2 and a **lunchtime workshop on online survey design** offered further insights from the experience of conducting surveys in emergency settings, panellists reflected on problems and alternatives.

Session 4 offered further insights into the experience of social researchers conducting surveys and qualitative research during the pandemic. From examples of the differences between conducting focus groups online and face-to-face in assessing the social impacts of COVID-19 ([Social Research Centre](#)) to how face-to-face data collection modes may transition to online collection in longitudinal household surveys ([Institute for Social and Economic Research](#)), or partnering with technological companies to develop large-scale surveys ([University of Maryland](#)). The session's Q&A offered some considerations for the future:

- A greater use of technology in social research, whether quantitative or qualitative.
- Uncertainty (and excitement) as to what the 'new normal' will be for social researchers in terms of adapting methodologies.

- The awareness that the transition to alternative methodologies for social research has been accelerated.

Methods for Participatory Research in COVID: exchanging practices and possibilities, Institute for Sustainable Communities, University of Canberra, 2 November 2020

This two-hour session organised by Ass. Prof. Katherine McKinnon for practitioners in participatory research aimed at providing shared experiences on how to maintain ethical research and relationships with communities when you can't be with people. The initial presentations offered insights into different ways to maintain research during lockdowns. Margie Appel presented her research conducting **Online focus groups using photo elicitation**, Kuntala Lahiri-Dutt shared her experience in **Feminist research during lockdown**, and Barbara Pamphilon outlined a process being trialled in rural PNG during the pandemic employing local staff to collect stories in **Stories Plus**. The second part of the session discussed the possibility of establishing a community of practice for adapting, innovating, and strengthening community partnerships online.

National Centre for Research Methods, Changing research practice: Undertaking social science research in the context of COVID-19. Workshops October 2020 - January 2021

The NCRM is a partnership between the University of Southampton, University of Manchester and University of Edinburgh. The project Changing Research Practice intends to assess, collect resources and share lessons learned on how social researchers are adapting their research methodologies. Part of the project involves 8 online workshops focused on knowledge exchange and supporting the co-production of resources to support the research community and facilitate the building of research relationships and solutions.

- 24 September 2020, 10:00-12:45, Interviewing
- 1 October 2020, 10:00-12:45, Working with participant groups with additional challenges
- 15 October 2020, 10:00-12:45, Participatory and deliberative methods
- 22 October 2020, 10:00-12:45, Research ethics in Covid-19
- 5 November 2020, 10:00-12:45, Creative and sensory research
- 19 November 2020, 10:00-12:45, Online ethnographic methods
- 26 November 2020, 10:00-12:45, Surveys and longitudinal studies
- 10 December 2020, 10:00-12:45, Secondary data and Covid-19 data

There are also two webinars in for sharing project findings.

- 28 January 2021: **Social Research Methods Suited or Adapted to Covid-19 Times**
- 11 February 2021: **Emerging Issues in Changing Research Practices for Covid-19 Times**

To register your interest in receiving further details: Robert.Meckin@manchester.ac.uk.

Privacy and Pandemics: A Thoughtful Discussion, Future of Privacy Forum, 26 March 2020

The main takeaways of this virtual workshop with a dozen ethicists, academics, government officials, and corporate leaders to discuss responsible data sharing in times of crisis are available at <https://fpf.org/2020/03/27/privacy-and-pandemics-a-thoughtful-discussion/>

Using Mobile Phones for Survey Research in the Time of COVID-19 Lockdowns and Beyond, PRCI, 29 May 2020

The Innovation Lab for Food Security Policy, Research, Capacity and Influence at the Michigan State University hosts the video of this [webinar](#) held on 29 May 2020 to discuss the opportunities offered by the increasing availability of mobile phones in developing countries to conduct research during the pandemic (<https://www.canr.msu.edu/news/prci-webinar-on-using-mobile-phones-for-survey-research-now-available>).

World Council of Anthropological Associations

The [1st WCAA Webinar: Culture and public health in the era of Coronavirus](#) on 16 April 2020 was followed by a second [Fieldwork in an era of pandemia: digital \(and other\) alternatives](#) on 19 May. The recordings can be found in the Videos section of the WCAA website (www.wcaanet.org).

Resuming field research – academic guidance

Many universities have started to provide advice on when to resume field activities, revised ethics procedures and instructions on how to conduct fieldwork. Advice varies according to specific conditions, university policies, ethics requirements, and foreseeable deadlines. The examples below show the variety of aspects involved and the evolving nature of these measures. Although these are not methodological in nature, they do present implications for data collection methods that need to be gauged when planning data collection in the near future.

Australian National University, Humanities and Social Sciences: Guide to Fieldwork Strategies in Response to COVID-19 (September 2020):

<https://www.anu.edu.au/files/guidance/ANU%20Guide%20to%20Fieldwork%20Strategies%20in%20Response%20to%20COVID-19%2C%20v1.0.pdf>

McMaster University: <https://hr.mcmaster.ca/app/uploads/2020/05/Fieldwork-Research-Guidelines-COVID-19-FINAL.pdf>

University of California, Berkeley: <https://ehs.berkeley.edu/news-alerts/covid-19-precautions-and-considerations-travel-or-fieldwork>

University of Glasgow, COVID-19 fieldwork guidelines: https://www.gla.ac.uk/media/Media_730345_smx.docx

University of Maine: https://umaine.edu/research-compliance/wp-content/uploads/sites/445/2020/06/FieldWorkGuidance_02June2020.pdf

University of Oxford: <https://safety.admin.ox.ac.uk/travel-and-fieldwork>

University of Washington: <https://www.washington.edu/research/or/guidance-for-returning-to-in-person-research/>. It includes a decision tree: <https://www.washington.edu/research/wp/wp-content/uploads/Returning-to-In-Person-Research-Decision-Tree.pdf>