



# Public understanding and perceptions of data practices: a review of existing research

## REVIEW SUMMARY

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# WHAT WE DID AND WHY WE DID IT

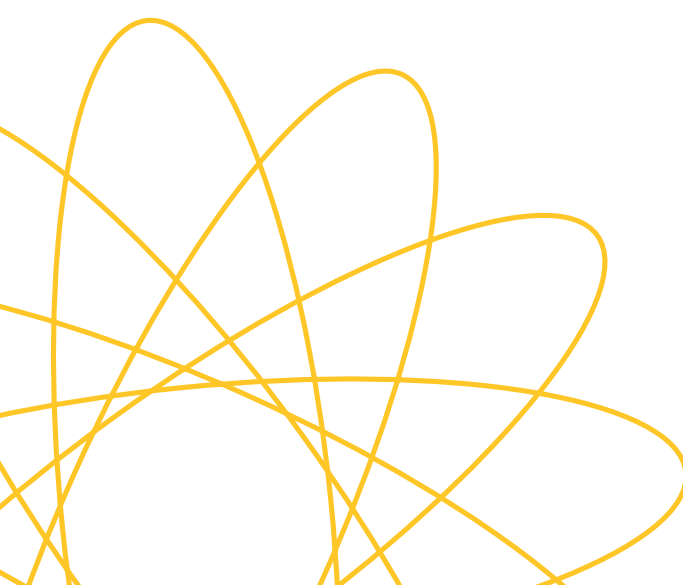
The ubiquitous collection and use of digital data is said to have wide-ranging effects. As these practices expand, interest in how the public perceives them has begun to grow. Understanding public views of data practices is considered to be important, to ensure that data works ‘for people and society’ (the mission of the Ada Lovelace Institute) and is ‘a force for good’ (an aim of the government Centre for Data Ethics and Innovation).

To improve understanding of public views of data practices, we conducted a review of original empirical research into public perceptions of, attitudes towards and feelings about data practices. We use the term ‘data practices’ to refer to the systematic collection, analysis and sharing of data and the outcomes of these processes. The data at the centre of such practices is often personal data, and related research often focuses on this data. Our review also covered related phenomena such as AI and facial recognition.

We carried out a systematic search of online academic research databases and a manual search, that began with literature with which we were already familiar, and then snowballed out. Our review covered a broad range of academic disciplines and grey literature – that is, literature produced by independent, civil society, third sector, governmental or commercial organisations or by academics for non-academic audiences. It focused on the past five years. We excluded a) literature about children’s understandings and perceptions of data practices because this is a specialist area beyond our remit, and b) literature focused on the health domain because high quality syntheses of literature focusing on this domain already exist. The grey literature we reviewed focused on the UK, whereas academic literature was international.

# WHAT WE FOUND

1. **People have some knowledge and understanding of data practices.** Findings from both quantitative and qualitative studies suggest that people’s knowledge about what happens to their data is mixed. Knowledge and understanding of data practices are varied. Some people understand some data practices, and they interpret their understanding in different ways which, in turn, leads to different levels of concern.
2. There is extensive evidence across all literature that **people are concerned about data practices.** This is an important finding that emerges from a lot of diverse research. Policy-makers and data practitioners need to be willing to address these concerns.
3. But this is not the whole picture: **people are not only concerned.** They find ways to negotiate, embed or resist data practices in their everyday lives. People often hold contradictory views about data practices, recognising their benefits and feeling concerned about potential harms at the same time. In some contexts, people feel they have some agency around their data, especially personal data that they can easily access, such as health self-tracking data.
4. **Emotions play an important role in understandings and perceptions of data practices.** Qualitative studies recognise the significant role that feelings play in perceptions of data practices. How emotions matter varies across demographic groups. Emotions inform and are informed by reason and rational thinking, so they need to be understood as an important element in public understanding and perceptions of data practices.
5. People **trust** some sectors with their data more than others. The relationship between trust in institutions in general and trust in institutions’ data practices is complicated, and findings are contradictory. For example, people trust the police with their data but they do not trust automated, data-driven decision-making in criminal justice practices. Qualitative research suggests that trust and distrust in data practices are not experienced separately. Trust and distrust are context-dependent, and sometimes trust and distrust co-exist. Sometimes, distrust is appropriate, because trust needs to be earned. Research suggests that people believe that better communication and the existence of safeguards, accountability and transparency would make organisations more trustworthy.



6. Some responses to data practices are seen as **apathy or acceptance**. But responses need to be understood in a context in which people feel unable to control the flows of their personal data, even if they want to. Some researchers see this as **digital resignation**, not apathy or acceptance. Using data-driven services does not mean that people accept data practices – we also saw that people are concerned about them and that people hold contradictory views about them. In addition, sometimes people resist data practices, and there are various ways in which they do this.

7. Most research finds dissatisfaction with the current ways in which data is used and managed, and a desire for this to change. A number of characteristics of **changed, fairer data practices** have been identified. These include:

- Honesty, transparency and genuine dialogue with the public;
- Regulation, enforcing compliance, the existence of safeguards and accountability, and the right to redress;
- Personal control.

As with people's concerns and degrees of trust, contexts of data use influence people's thinking about whether they are fair or not.

8. Because people are concerned about existing data practices, because trust in them is limited, and because people have views about how data practices could be fairer, clearly, change is needed. Views about **what needs to change** are influenced by research discipline and researcher perspective. **Systems-focused literature** recommends changes in system design, foregrounding actions that could be taken by technology providers, such as clear communication, privacy by design, and attending to complex privacy and contextual dynamics. **Critical academic literature** and **some policy and practice-oriented grey literature** identify governments as the most important enablers of change. Changes proposed include the introduction and enforcement of just policies to guard against harms, especially to marginalised populations; greater transparency about existing data practices, state commitment to public consultation and education as a means to citizen empowerment. The possibility of opting out, training for users of data-driven systems, data security and privacy-by design are proposed changes which involve both state and industry.

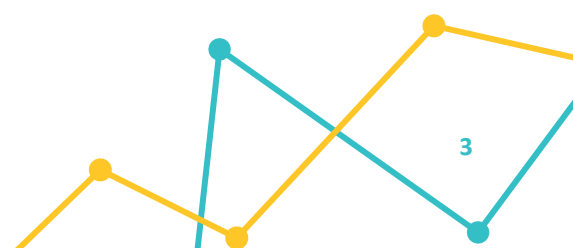
Some of these proposals are already provided for under GDPR, which is still in force in the UK at the time of writing. This raises questions for future research, about whether existing arrangements are perceived as fair but in need of better enforcement, or whether fairer regulation is seen as needed.

9. **Differences matter** when it comes to public perceptions of data practices. Not all data practices are the same, and people experience them from different social positions. Research is beginning to pay attention to differences, but more understanding of them is needed. Differences matter in relation to types of data or contexts of data use and how concern about data practices differs in significance from other concerns that people have. Most importantly, social inequalities play a major role in shaping people's experiences of data practices, and therefore their understanding and perceptions of them.

10. **How research is conducted makes a difference to what it finds**. Research methods, the questions asked, how findings are interpreted and presented, the disciplinary background and the political orientation of researchers all play a role in shaping findings that emerge and claims that are made in the research we reviewed. Decision-making based on the evidence we have reviewed should be alert to this fact.

Three **overarching conclusions** emerge:

- I. Data matters are **human matters**. This means that data-related governance and decision-making needs to be human-centric. It needs to start with the experiences and perceptions of the people who are affected by data practices.
- II. **Context matters**. Who gathers data, what and whose data is gathered, for what purpose and with what effects, influences people's attitudes.
- III. **Inequalities matter**. Social inequalities influence knowledge and understanding, concerns, degree of trust and feelings about data practices.



# WHAT SHOULD HAPPEN NEXT

Our review of existing research suggests that the following should happen:

## For policy-makers

- **Look beyond headline findings** about public perceptions of data practices. Policy-makers need to engage with the breadth of evidence available across academic disciplines, policy domains and the third sector, to understand that methods and framing shape research findings and to be wary of taking findings on face value.
- **Ensure data-related policy-making is 'joined-up'** with areas such as equalities and government transparency, because public experiences of and attitudes towards data practices relate to issues such as social inequality and expectations about fairness.
- Focus not only on the individual responsibilities of citizens to protect themselves from data-related harms, but also on **what government and practitioners can do to improve data practices**, given the important role that the state and industry play in a fairer data future.
- **Clear, accessible communication** that facilitates lay understanding and transparency about data practices is needed.

## For practitioners

- **Be transparent, clear and honest** about data practices.
- Enter into a **genuine dialogue with the public** about what they consider to be fair data practices, earning public trust and listening to the voices of minority / marginalised groups.
- **Educate data practitioners** to develop understanding of the potential negative consequences of data-driven decisions and broader data practices, especially for minority / marginalised groups.
- Understand that **people using data-driven systems are not all the same**, and that social inequalities mean that data practices impact more negatively on minority / marginalised groups.

## For researchers

- Carry out further research to advance understanding of **public perceptions of what fair data practices might look like** and what might need to change to make them fairer, to balance expert views with public views.
- Carry out further research to advance understanding of how **social inequalities** influence knowledge and understanding, concerns, degree of trust and feelings about data practices.
- Recognise **the importance of factors that are not easily captured by quantitative methods**. These include: the co-existence of contradictory views; the importance of emotions in shaping responses; people's everyday, mundane experiences of data; and how people negotiate or resist data practices.
- Be **detailed and transparent about context, methods and framings**, making it clear how these have shaped findings.
- **Avoid categorical claims** based on headline findings about public perceptions of data practices.

A full version of our report and a reference list of the literature on which it is based can be found at <http://livingwithdata.org/current-research/publications/>

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