Women and Data Futures: Project Report

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Women and data futures – project report

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Summary

The *Women and Data Futures* project emerged from discussions between two community organisations, Knowle West Media Centre (KWMC) in South Bristol and 3Gs Community Development Trust (3GsCDT) in Gurnos, Merthyr Tydfil. Both organisations were involved in the *Productive Margins: Regulating for Engagement* research programme, but had not worked together before. So this co-produced research project was also intended to facilitate a knowledge exchange between these organisations.

The primary focus of the project was for researchers and the community organisations to begin to understand how a greater understanding of issues such as data ethics, privacy and ownership could empower local women and girls to make informed choices about how they use and value personal data. All participants were women; many were parents, those in Merthyr Tydfil tending to be older, with teenage children. Historically, both communities have been regarded as economically and socially disadvantaged, geographically located on the 'margins' of a larger population centre – Knowle West in Bristol and Gurnos in Merthyr Tydfil.

The project involved six workshops taking place in each location between February and March 2017. Topics included data privacy, understanding of personal and big data, the role of digital data in participants' neighbourhoods, and how big data companies use personal data. Finally, in May 2017, both groups came together to reflect, share and discuss the workshops.

- Workshop 1 focused on the meaning of data, introduction to Jawbone technology and some health data about the community.

- Workshop 2 introduced data visualization to help clarify numerical data, using data from wearable fit tech 'Jawbone' and using the application on their phones.

- Workshop 3 focused on how personal data tends to be public on social media and bringing awareness of social media sharing and data information.

- Workshop 4 concerned social media privacy settings, learning about cookies and data brokers, as well as targeted advertising.

- Workshop 5 was centred on terms and conditions of social media sites and the pros and cons of cookie tracking. Participants also looked at the Citizen Me application, which helped them control their data and get rewarded for it.

- Workshop 6 was spent digging deeper into data visualization and the positives and negatives of social media privacy and data visualization.

- The final joint workshop considered reflections on the workshops and the artists' creative outputs.

Workshops were facilitated by KWMC staff and three artists. The artists were immersed in the live and emerging debate around data privacy, data ethics and sense-making, which they used to co-create a new work in response to this agenda.

Key findings from this experimental project were:

1. Many people had limited information about how their personal data was used online. As participants became more aware they were increasingly concerned about the lack of privacy, and how and where their personal data was, and could be, shared without their knowledge.

2. At the beginning, participants were unaware of how their personal data could create an online identity (which may not match their true identity).

3. During the workshops process, participants gained further understanding about cookies, data brokers, targeted advertisements (e.g. on social networking sites).

4. Terms and conditions used by websites and social media companies tend to be long, complex and densely worded, which can mask the conditions for using these platforms which users have to agree to.

5. Once people understood how their personal data was used, they were able to make more conscious choices to use their agency and take control, e.g. changing Facebook settings.

6. Many participants responded positively to the potential for some forms of personal, intentional digital data collection, e.g. wearable technology, to help them track health goals. Their data had value, which could be translated into tangible economic benefits, such as through the Citizenme website[1].

7. Participants wanted to share what they had learned with friends, family and the wider community, to help others take control of their data.

8. Through creative facilitation and working with artists, participants created data maps/visualizations, which enabled them to see greater meaning in and relevance of their data, helping them to better understand their personal data and look at it, and themselves, differently.

9. By the end of the project, participants had learned about data and how their personal data could be used. They rated their learning highly, and offered warnings and advice to others based on being careful about what is put online.

An exhibition 'Women data and the future: test space' was developed and co-curated with Bristol participants[2]and a Policy Briefing published[3].

In this report photographs are by Iboya Feher and Pam Araujo de Maura: images credited separately.

[1] https://www.citizenme.com/
[2] http://kwmc.org.uk/projects/womenanddata/
[3] https://www.productivemargins.ac.uk/projects/women-and-data-futures/

1. Introduction

Whilst the original hope was that the internet would be democratising, a small number of large companies have dominated it; Google has over 90% of market share and Facebook has 89% of internet users (Symonds and Bass, 2017). Individuals have left rich trails of information, often signing away their data to advertisers for 'free' services; this has given people a more personalised experience but at the same time leaving their valuable data in the hands of powerful internet companies. There has been a lack of transparency about what data is kept and how it is used, with some of society's most important infrastructure now being unaccountable (Symonds and Bass, 2017). The potential of personal data to act as a resource for individuals themselves, particularly for more vulnerable communities, is relatively under-developed (Facer and Manchester, 2012).

'Harnessing digital space' was one of the themes within the research programme *Productive Margins-Regulating for Engagement,* a five-year programme of interdisciplinary research between seven community organisations across Bristol and South Wales, and the universities of Bristol and Cardiff[4]. This aimed to investigate how communities could harness digital spaces to create more opportunities and spaces for engagement[5]. One area of exploration concerned the need to democratise how data is being used in digital spaces, for instance by enabling people to design, gather and reflect on data themselves.

Within this programme, the *Women and Data Futures* project explored what some women residents of two communities knew about the use of the personal data they put online (such as on Facebook and Snapchat), and how they could take some control over their data.

'Profiling' and 'datafication'

Firms have been gathering data about individuals to analyse and predict their interests for marketing purposes ('profiling') such as targeting advertisements. Some online retailers have used profiling to discriminate against certain customers, and there are fears that in future online activity might be taken into account when applying for a loan or a job (Graham-Smith, 2017). Data brokers (people or companies who buy and sell data) may sell an individual's personal data to companies that target their advertising at people and to agencies that may use it for surveillance purposes (such as government).

Use of personal data in this way is based on what can be quantified, or proxy measures that can be quantified but which may bear little or no relation to what they are supposed to represent (Halpern, 2016). There may be a belief that large data sets offer a higher form of intelligence than previously possible, with the aura of truth, objectivity and accuracy; but simply making something quantifiable does not make it an objective fact, and data is often reduced to what can be made to fit a particular mode (boyd and Crawford, 2012).

'Datafication' often involves what has been called 'Big Data'. This does not just refer to data sets that are large, but concerns the *'capacity to search, aggregate and cross-reference large data sets*' (boyd

[4] http://www.productivemargins.ac.uk/
[5] 'Case for Support' - https://www.productivemargins.ac.uk/research/

and Crawford**,** 2012, p663). Big data can be defined as a cultural, technological and scholarly phenomenon, resting on the interplay of technology, analysis, mythology. With increased automation and algorithms there is a question about which systems are driving these practices, and which are regulating them. The four regulatory forces (markets, law, social norms and architecture (in this case, code) are frequently at odds in Big Data (boyd and Crawford, 2012).

Image credit: Ness Digital Services

Such 'datafication' processes may not be visible to individual internet or social media users. One of the aims of this project was to make some of these processes visible to community residents. Whilst many individual internet users may have a vague idea about how their personal data are used and exploited by others, the details of how this is done remain unclear, and people do not always know how to protect their data (Lupton, 2015; Michael and Lupton, 2016).

Furthermore, data held about individuals by institutions are often regarded by individuals as the property of those institutions rather than their own – raising legal and ethical issues (Facer and Manchester, 2012).

Social media companies can restrict access to their large data-sets, and as analysing this is a skill restricted to those with a computing background, there are limited opportunities for their methodological claims to be tested by others, potentially creating a new digital divide based on who can access this data (boyd and Crawford, 2012). Using digital media to solve problems and communicate concepts creates a high premium on skills based on abstraction, systems thinking, experimentation and collaboration, highlighting the importance of education (Warshauer and Matuchiniak, 2010).

'Digital divide'

Assumptions about a 'digital divide' between those who have access to technology and those who do not often leads to a technological solution, based on the belief that simply by making a

technological system available, people will automatically take advantage of the opportunities offered; but access to technology varies across different contexts, so is also social, economic, cultural and political (Selwyn, 2004).

The notion of a digital divide also raises more complex questions about what is meant by 'information and communications technology' (ICT), access, how these are related and the consequences of engaging with ICT, such as the effect on individuals' and communities' social inclusion and empowerment (Selwyn 2004). The so-called digital divide is less of a static gap between haves and have-nots, but rather concerns complex relative differences between people, which are constantly changing; internet use is more common for people on higher incomes, younger age groups (especially under 24), those with a positive attitude towards internet use, and in a life stage where the internet is used (e.g. student) and in households with children (Eynon, 2009).

'Literacy' is not simply about skills but can be viewed as a social practice, within cultural and historical contexts (Buckingham, 2006). From this perspective, new digital media is not just a matter of technology nor information, but a cultural form, where relevant components are representation (ie interpretations of the world), language (reflecting broader conventions), production (who is communicating and why) and audience.

Data protection laws

There is increasing concern about online safety and the introduction of significant new laws on data protection. The Westminster government announced an internet strategy in October 2017, underpinned by three principles:

1. what is unacceptable offline should also be unacceptable online;
2. users should be empowered to manage online risks and stay safe, and
3. technology companies have a responsibility to their users (HM Government, 2017).

This included a new Data Protection Bill, containing measures to protect children and provide individuals with increased control over how their data is processed. The Bill also included provisions to bring European data protection laws into British law, due for implementation in May 2018. Like the Data Protection Act 1998, the new European Union General Data Protection Regulation (GDPR) 2016[6] applies to 'personal data' but has a more detailed definition and includes online identifiers (like an IP address) reflecting changes in technology and the way organisations collect information about people[7]. Provisions now include a strengthened 'right to be forgotten' and privacy notices being written in a clear, plain way which is understandable to users.

However, the Information Commissioners Office (ICO) noted that data protection laws do not work well with big data analytics (ICO, 2017a). The GDPR will cover 'profiling', applying to creating and making a decision based on a profile, requiring organisations to use mathematical or statistical methods to safeguard individual rights over their data and minimise bias (ICO, 2017b).

[6] The ICO states that GDPR will be implemented irrespective of Brexit
[7] https://ico.org.uk/for-organisations/data-protection-reform/overview-of-the-gdpr/

Taking back control

At the same time there has also been interest in how individuals and communities can begin to take back some control over ICT and their personal data, recognising its value. Social media technologies (e.g. wikis, blogs, video-sharing sites, social networking sites) can enable users to participate in online social networks and share information. The 'open data movement' aims to maximise the amount of data that are open to anyone to access, share and use[8] . Also, in relation to personal data, *Decode* (Decentralised Citizen Owned Data Ecosystems) is a major EU project developing practical tools to give people control over how their data is used and the ability to share it on their own terms[9]. But technical 'capital' can enable individuals to become producers and distributors of their own cultural products rather than active or passive consumers of others' (Selwyn 2004).

Image credit: Decode

Within this context the *Women and Data Futures* project picked up the theme of digital spaces through exploring how greater understanding of data usage, sharing and ownership could support participants to make informed choices about their personal data. The next section gives more detail about the project itself.

[8] https://theodi.org/data-spectrum
[9] https://www.decodeproject.eu/

2. Project aims

Women and Data Futures was an experimental project, aiming to co-produce research between the University of Bristol and the two community organisations to explore community understandings of data and how data is and can be used online by women in their localities.

Project aims and research questions

The *Productive Margins: Regulating for Engagement* programme was guided by programme-level research questions, one of which concerned digital spaces:

- *How can digital spaces be used by communities for creative and socially innovative purposes?*

The overarching aim of the project was:

- To explore how greater understanding of data ethics, privacy, sharing and ownership empower women and girls to make informed choices about how they use and value their personal data.

The focus on women came about because both organisations had contact with women who were interested in this issue. In Gurnos, there was a group of mothers with teenage daughters who were already engaged and interested in understanding data and its impact on the world of teenage/digital interface. In Knowle West there were young women who had been attending a toy and sensor making workshop who were identified by staff as having an interest in this issue. Staff also worked closely with the Knowle West Children's Centre to recruit further participants.

Project-specific research questions (RQs) were developed by the project team. These were:

RQ1: How is privacy, ethics and the idea of (Big and personal) data understood by the participants involved?

RQ2: How do participants understand the value of Big and personal data and how they can use and share it as they wish?

RQ3: How can participants learn to critically understand the role of digital data in their lives?

RQ4: What do participants understand about how companies (eg social media, banks) use systems learning to manage personal data about participants, and how participants can control this?

RQ5: How do participants feel about their identities as portrayed online? Through this process of learning (how) do they learn to take more ownership of their online/offline identities?

RQ6: What do participants think about the data that is held and used by others about their communities, (how) can they learn to take control and re-present their communities?

Community organisations and knowledge exchange

The community organisation partners in this project were Knowle West Media Centre (KWMC) in South Bristol and 3Gs Community Development Trust (3GsCDT) in Merthyr Tydfil.

> **KWMC** is an internationally respected digital arts charity that supports people to use technology and the arts to create positive change in their lives and communities. Since its inception in 1996, KWMC has worked with people to develop projects that explore and tackle issues they care about, from food production and wellbeing to digital literacy[10].
>
> **3GsCDT**, originally set up by residents' associations in three areas of Merthyr Tydfil, is a charity and company aiming to enable local people to have a better quality of life by making neighbourhoods cohesive, productive and safe where people can work and thrive together and are proud to belong and contribute to their community[11].

The two organisations had been brought together before through working on the *Productive Margins* programme and were keen to do some joint work and to learn from each other's practice. The project provided the opportunity for knowledge exchange between KWMC and 3Gs; the former is a well-established media centre with over 20 years' experience in media and creative activities, and 3Gs is developing a media centre to add to its existing community development work.

This exchange helped to explore the potential for community media organisations to use digital tools and technologies, in the context of creative practice, to support communities to engage meaningfully and actively in regulatory spaces.

In particular the workshop process highlighted that courses based on the workshop format could be developed by a range of organisations for anyone, at any life stage, who is interested in understanding their data and how it is and can be used. Hence this exchange may also develop a series of shareable resources and methods that can be tested and utilised by other organisations.

Project context

Both communities are located on the edge of larger urban areas.

> **Knowle West** is located on the southern side of Bristol, originally built in the 1920s and 1930s as a council housing estate, constructed on garden city principles. Re-construction following the Second World War saw homes built to 'Radburn' design, with the back of homes facing the street and the fronts of homes facing one another, over common yards, in short *culs-de-sac*. Over the years the area has experienced social and economic pressures. The council ward of Filwood (within the Knowle West area) has been among the most 'deprived'[12] in Bristol and in England, over a third of residents 'deprived' according to indicators of income and a quarter in relation to employment (Bristol City Council, 2015). In 2015/16, Filwood ward residents were less likely than the Bristol average to feel that they belong to a neighbourhood and could influence (council) decisions, though almost half had

[10] http://kwmc.org.uk/
[11] http://www.3gs.org.uk/
[12] Across indicators such as income, employment, housing, health, crime

volunteered or helped out in their community work at least three times a year (Bristol City Council, 2017).

The **Gurnos estate** in north Merthyr Tydfil was included within the North Merthyr Cluster area for the Wales Government's *Communities First* poverty programme[13], targeting the most deprived 10% of areas according to the Welsh Index of Multiple Deprivation (Welsh Government, 2012). The most prominent types of deprivation are employment and health, followed by education and income. Like Knowle West, the estate was developed to the Radburn design. According to the Merthyr Tydfil Local Service Board (2014), compared to the Wales average, quality of life and health related risk behaviours, and economic measures were worse in Merthyr Tydfil; it was ranked the second highest of the 22 local authority areas for substance misuse referrals in 2012/13. Merthyr Tydfil and the Gurnos can be portrayed in negative light, for example in the TV series 'Skint'[14]. However, another *Productive Margins* study with young people showed that many felt positive about their lives in Merthyr, some scorning images of the town as negative (Thomas, 2016); and residents have been challenging this perception[15].

Within areas such as these, community organisations and groups are committed to building on local community assets (for example in Knowle West, the University of Local Knowledge emphasises the value of lived experience[16]).

Image credit: KWMC

Characteristics of community participants

Women in these localities were invited to take part in the project by the community organisation, KWMC and 3GsCDT. All participants were women, and most were parents. In Bristol, five participants were between the ages of 16-22, and in Merthyr Tydfil there were up to 13 participants between the ages of 24-50. As well as being an older age group, the Merthyr participants differed from those in the Bristol group as they already knew each other, being friends and members of a

[13] Phasing out by 2018 - http://gov.wales/topics/people-and-communities/communities/communitiesfirst/?lang=en
[14] http://www.dailymail.co.uk/tvshowbiz/article-3037477/Why-does-Channel-4-think-s-hilarious-mock-poor-CHRISTOPHER-STEVENS-reviews-night-s-TV.html
[15] http://www.walesonline.co.uk/news/wales-news/life-gurnos-what-its-really-12422321
[16] http://www.knowlewest.co.uk/campaigns-old/ulk/

running group facilitated by 3GsCDT. In contrast the stimulus for the Bristol group came from the local Children's Centre worker, and so participants were young mums coming together for the first time, mostly not knowing each other beforehand.

This was the backdrop for the *Women and Data Futures* project, which aimed to critically analyse and explore the intersection of digital data with issues of privacy, security, and value; and of art and technology, with a particular community of interest (women and girls).

3. Outline of methodology

The *Productive Margins* programme includes a commitment to co-producing research across social sciences and arts and humanities, using artists in neighbourhoods to produce new spaces of engagement and support engagement and social action[17]. Most projects have involved creative arts practice.

The *Women and Data Futures* project aim of making 'datafication' processes visible to internet users particularly draws on the strengths of one of the community partners in this project - the Knowle West Media Centre (KWMC) - which uses socially engaged arts practice to enable arts-based solutions to local issues and to enable people to articulate their concerns:

> *For us, socially engaged practice is about doing something but also thinking about it, reflecting on it and responding to it. It is a process that allows creative and arts-based 'solutions' to be identified that are based on local people's ideas, concerns and priorities*[18].

'Socially engaged arts' generally includes any art-form which involves people and communities in debate, collaboration or social interaction[19]. The participatory element can be more important than the resulting artwork itself. Socially engaged arts practice involves a process of working alongside people, together with a commitment to recognising and utilising different kinds of knowledge and expertise. It is also considered to be an educational process, where everyone can learn from each other.

Educational and socially engaged arts workshops

In each location, workshops brought together KWMC, researchers, artists and participants. Socially engaged arts practice was a format familiar to both community organisations, and so the *Women and Data Futures* project was largely undertaken within participatory workshops. This meant that there was a commitment that workshops should enhance individuals' awareness of how their data was being used and enabling them to make changes that could contribute to keeping their data safer. This included learning from each other and everyone participating in activities. For example, as well as participants, the facilitators and researcher used the fit bit technology 'Jawbone' wristband, recording their daily activity, also sharing this personal data in workshops.

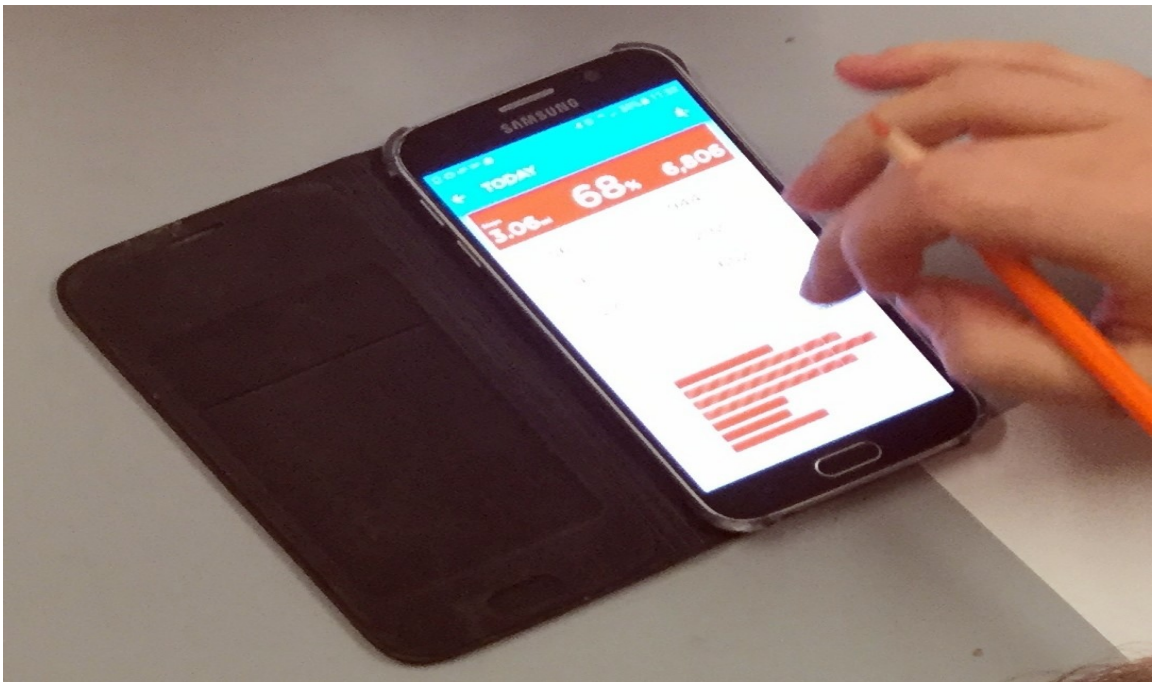
Arts practice was embedded in the project, with the aim of helping to make the digital world more accessible (for example using visualisations to make data more informative compared to spreadsheets). Within the workshops the women explored the concept of 'data' through a range of creative activities and processes supported by three artists and KWMC facilitators.

Each group took part in six workshops between February and March 2017. Each group experienced the same workshop series, with a final session where both groups came together to reflect, share and discuss the workshops process and outputs in May 2017.

[17] 'Case for Support' - https://www.productivemargins.ac.uk/research/
[18] http://kwmc.org.uk/about/research/sociallyengagedpractice/
[19] http://www.tate.org.uk/art/art-terms/s/socially-engaged-practice

Topics included health data and analysis (using 'Jawbone'), personal data, 'stalking yourself', targeted advertising, data visualisation, Instagram terms and conditions, and data ethics.

Participants also considered data about their local community, from official statistics like the Census.



Each workshop focused on one topic.

- Workshop 1 focused on the meaning of data, introduction to Jawbone technology and some health data about the community.

- Workshop 2 focused on introducing data visualization to help make clear numerical data, using data from wearable fit tech 'Jawbone' and using the application on their phones.

- Workshop 3 focused on how personal data tends to be public on social media and bringing awareness of social media sharing and data information.

- Workshop 4, participants looked closely at social media privacy settings, learned about cookies and data brokers, as well as targeted advertisement.

- Workshop 5 was centred on terms and conditions of social media sites and the pros and cons of cookie tracking. Participants also looked at the Citizen Me application which helped them control their data and get rewarded for it.

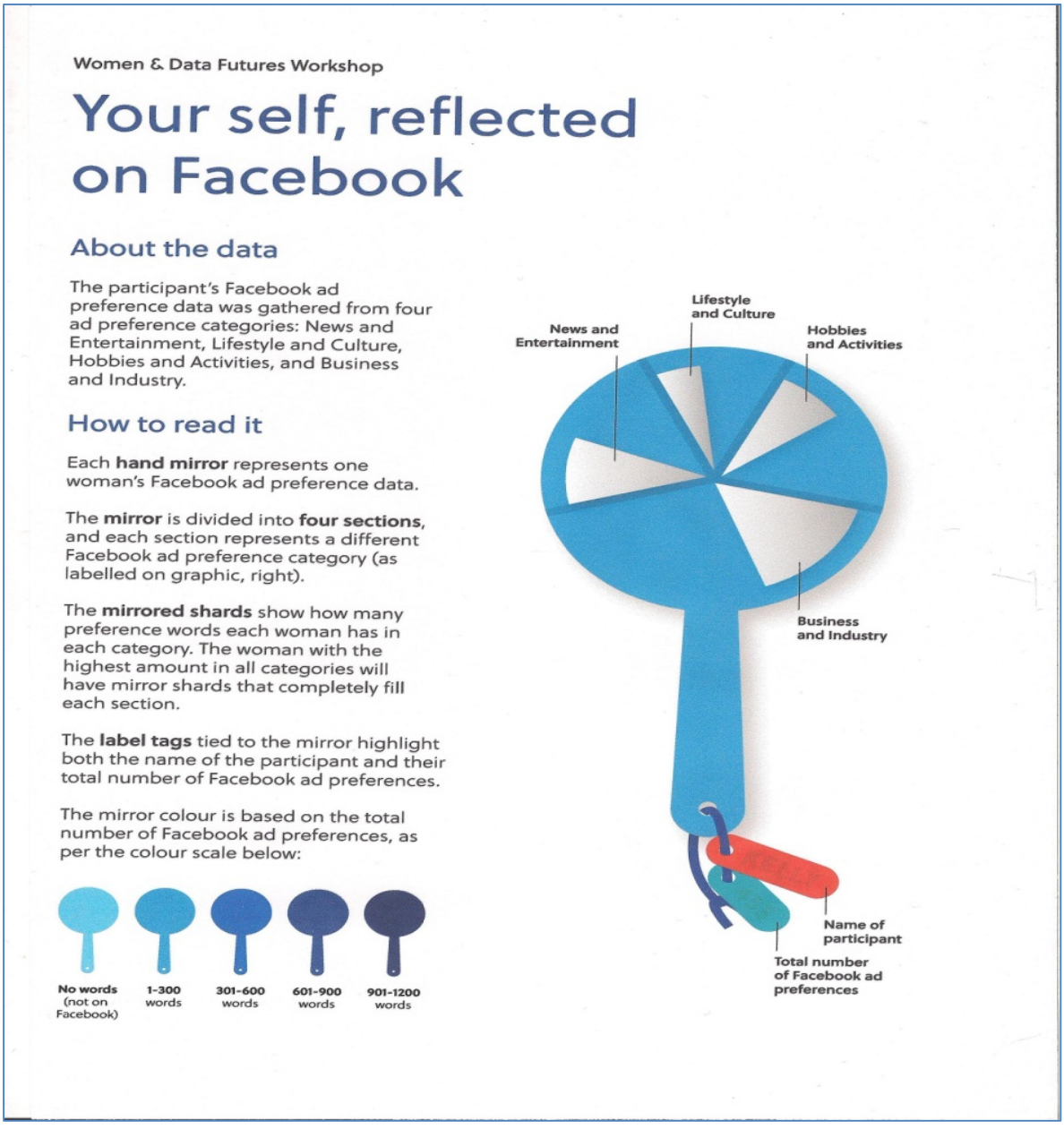
- Workshop 6 was spent digging deeper into data visualization and the positives and negatives of social media privacy and data visualization.

- The final workshop considered reflections on the workshops and the artists' creative outputs.

Three artists were involved in the *Women and Data Futures* project: Stefanie Posevac (data visualisation), Eliza Lomas (sound recording), and Erica Jewell (Facebook software developer). Each artist had a particular contribution to make to the workshops process and to its creative outputs. Eliza facilitated sound interviews to be used as podcasts by participants during workshop 3 in both locations. Erica provided input on Facebook and data brokers to each group during workshop 4, also worked with the women to make maps of key words they used to give an image of what advertisers see of the individual.

In workshop 6 and the joint workshop, artist Stefanie developed data visualisations and produced a 'mirror' for each participant. Each hand mirror represented one woman's Facebook and preference data across four categories.

Glass shards on the mirror showed how much of themselves was portrayed online (see below). These shards were sized according to the number of words in each category, so that a woman with the highest number of words had a shard occupying the whole of that segment.



Project data sources

For research purposes, observational notes on the first six workshops were taken by the University of Bristol researcher, Pam Araujo de Moura, in each location. Notes of the final workshops with both groups together were taken by Marilyn Howard, Productive Margins Research Associate. During workshops photographs were taken by Pam and by a professional photographer, Ibolya Feher, and podcast recordings by Eliza Lomas. At the final workshop, the women were asked to record their reflections on the process, including indicating how much knowledge they had about certain aspects of data (such as 'how much did you know about who uses your data?') before and after the workshops. They were also asked to write down some reflections about what they have learned about data: a warning they would give to someone now about data; a piece of advice they would give to someone and their predictions for the future.

Other important features of the research process were:

1. Obtaining specific ethical approval from the University of Bristol Law and Social Sciences Faculty ethics committee. Because some of the women were under the age of 18, facilitators required security checks needed for those working with children, through the Disclosure and Barring Service.

2. Consistent with the aims of the project for greater transparency about data, it was important to also include information about how the research data from workshops would be used and stored. Participants knew where and how their contributions were used: e.g. consent forms were co-designed by the University and community organisations and workshop discussions included about data privacy and ethics within the research process itself.

4. Initial findings

The *Women and Data Futures* project was experimental, giving a snapshot of how two groups understood their personal data, and was not intended to provide information about how the two communities as a whole used personal data online.

The project highlights that the workshop process, using a socially engaged arts approach, has the potential to:

- give knowledge about digital data,
- support individuals to change their online behaviour, and
- motivate people to spread this knowledge more widely in the community.

This section highlights initial findings from this experimental project, drawing out the relevance for each of the research questions, noted in section 2 above, which were:

> RQ1: How is privacy, ethics and the idea of (Big and personal) data understood by the participants involved?
>
> RQ2: How do participants understand the value of Big and personal data and how they can use and share it as they wish?
>
> RQ3: How can participants learn to critically understand the role of digital data in their lives?
>
> RQ4: What do participants understand about how companies (eg social media, banks) use systems learning to manage personal data about participants, and how participants can control this?
>
> RQ5: How do participants feel about their identities as portrayed online? Through this process of learning (how) do they learn to take more ownership of their online/offline identities?
>
> RQ6: What do participants think about the data that is held and used by others about their communities, (how) can they learn to take control and re-present their communities?

These findings are drawn from researchers' workshop notes and from the final, joint workshop, the women's own reflections about their learning across the duration of the project

Findings

The workshops were the first time that most participants had been involved in a group about, or had discussions about, digital technology, and the first time that they had thought about data issues. At the start of the project, women from both groups used smartphones, many used Facebook but without much knowledge of how this operated.

1: Becoming aware - privacy

At the beginning of the process, participants did not realise what was publicly available about them online, such as who had access to their Facebook posts.

It's a bit naughty, isn't it? People just taking your information and putting it out there! (Bristol notes)

As the women became more aware, they became increasingly concerned about the lack of privacy, and how and where their personal data was being shared.

I've been catfished before for posting a picture of myself online. Someone took my picture and posted it and wrote about me. Made me feel sick. (Merthyr notes)

Merthyr Tydfil participants expressed concern about their families (such as their teenage children's social media usage) as well as their own personal data, whereas in Bristol the prime concern expressed was for themselves. This might reflect the age differences and that the Merthyr participants knew each other before the project started.

In the third workshop, participants watched the *Data-To-Go* video[20], which showed how information from Facebook could be used by cafe staff to 'personalise' the coffee given to customers.

Nothing is private! That café video bugs me. (Bristol notes)

There was also an exercise to 'stalk' the KWMC receptionist to see how much information participants could find out about her from different websites. The women were surprised how easy it was to find such personal information about people, such as seeing the receptionist's friends and events she may be attending. A lot could be discovered through simple 'likes' on social media. When asked what advice they would give to others following the stalking exercise, suggestions included:

[20] https://www.youtube.com/watch?v=sq-0tjv4_BA

- *Think before you put something on*
- *Don't tag people you don't know*
- *Don't put your kids on Facebook*
- *Kids first, Facebook second (Merthyr notes)*

Participants became more aware of implications of photographs or posts on social media, many concerning them and their families, subsequently limiting the amount and content of posts on social media (i.e.: pictures of children, etc).

> *Facilitator 1: those pictures actually never disappear.*
> *Participant 1: Oh no! I've sent so many naughty pictures to my husband*
> *Facilitator 2: Snapchat has a big building that stores all that data.*
> *Participant 2: kids do send those pics, don't they? They don't realize it, do they? (Merthyr notes)*

Participants were also shown how Smartphones can show someone's location.

> *I always have my location on to see bus times and stuff, but I always forget to turn it off. (Bristol notes)*

2: Identities as portrayed online

Prior to the workshops, participants did not know how much information was available about them online. At the beginning, participants were unaware of the extent that their personal data could create an online identity (relevant to RQ5) that could be used by companies, such as in targeted advertising:

> *The things that Facebook coming up with that's about me is sometimes really weird & random & unrelated (joint notes)*

During the workshops process two Merthyr participants spent many hours exploring their online identities, through adding, deleting and amending preferences and posts on Facebook. This also generated debate about online and offline identities, and that these may not be the same:

> *I lie about my age on Facebook, so they don't know everything about me! A girl still needs to keep her secrets. Merthyr Tydfil notes)*

> *You can like something, and it suggests what you may be interested in… but it has nothing to do with what I like (Bristol notes)*

There was also recognition of the difference between Facebook 'friends' and other friends:

> *you have 400 friends, and if I threw a party, only 10 people would come (Merthyr Tydfil notes)*

3: Understanding the technology

Participants gained knowledge of how companies use their personal data after learning about aspects of the internet, such as cookies:

I think they should tell us what cookies are (Merthyr Tydfil notes)

The women also became more aware of how their information could be used by bigger companies to target advertisements at them (e.g. on social networking sites: advertising is how social media websites make their money, whilst remaining free for individuals to use).

Image: KWMC symposium

Participants felt they were more aware of where these advertisements were coming from and why, and that they could opt out or filter targeted advertisements on Facebook.

> *The things that Facebook coming up with that's about me is sometimes really weird & random & unrelated (joint notes)*

Participants became aware of how their data was being used by data brokers:

> *They make (it) really hard to get out of it but really easy to get in (Merthyr Tydfil notes)*

Regarding their understanding about how companies use systems learning to manage personal data (RQ4), some participants had believed they were protecting their data by taking safety measures such as never having their banking information saved on their phones or logging in each time into their social media accounts.

After learning about data brokers and cookies, participants saw the pros and cons. For example, the advantages of having cookies were having adverts that were applicable to them, and websites remembering their information; disadvantages were credit card numbers being stored on a website that is not trusted.

4: Understanding terms and conditions

Websites include terms and conditions that internet users must agree, but this also allowed the company to access their data. Such terms and conditions tended to be complex, long and densely worded, enabling companies to hide behind opaque language.

Image: KWMC symposium

Looking at Instagram terms and conditions, reactions in the Merthyr Tydfil workshop were noted as:

> *Participant 1: I never read these*
> *Participant 2: there's too many*
> *Participant 3: I don't read these at all*
> *Participant 4: I read the top one usually (Merthyr notes)*

And in Bristol:

> *I only read the first part and I'm bored already. I usually just skim it. (Bristol notes)*

The women said that terms and conditions were usually too long and took up a lot of time. Participants looked at a condensed and simplified version of Instagram terms and conditions, produced by lawyers. When put into simpler language, participants were surprised at what they had agreed to:

Oh, my goodness they give all our information to others! That's really wrong! (Merthyr Tydfil notes)

Participants also called for companies to produce a shortened version of their terms and conditions, so people can understand what they are signing up to.

A particular concern about Instagram terms and conditions was that the site could be used by anyone aged 13 and over, which was felt to be too young.

5: Making conscious choices and taking action

As noted above, Big Data can be assumed to be 'true' although controlled by vested interests, such as social media and retail companies. Discovering more about how companies use their personal data helped participants start to question this, and use their 'agency' to take steps to control their data and protect themselves.

With greater awareness of how their personal data was being used, participants learned how they could protect their privacy, and took steps to do so (relevant to RQ1 and RQ4). During the workshop programme, participants turned off Facebook settings and deleted many friends on Facebook who seemed unnecessary:

We tried adding and unfriending each other, they still could see everything in my profile after trying to block them! The only way they couldn't see stuff is because of our mutual friends. So if they removed me they have to remove all of our mutual friends in order to be actually private (Merthyr Tydfil notes)

Being aware of privacy issues changed participants' social media activity and attitudes toward displaying their information online; participants said they were being more careful when posting online. Some reviewed their privacy settings in their social media accounts as well as other websites which had collected their personal data.

In relation to the Instagram terms and conditions:

Shocked with terms & conditions – can pass this info to my teenage children (joint notes)

6: Positive internet uses

As well as becoming concerned about the risks of using the internet and social media, participants also valued the opportunities that these platforms offered:

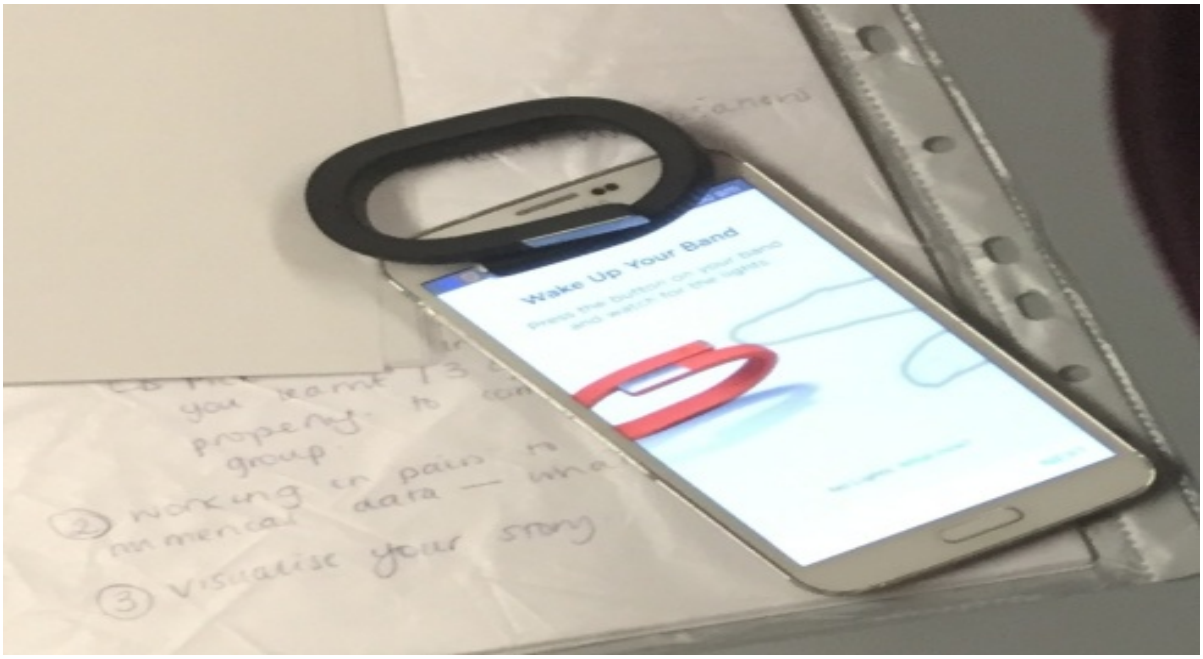
It is nice to put stuff on Facebook sometimes for recognition. (Merthyr notes)

Women also used social media websites to join health community groups to help get information about autism, support groups, etc.

Most participants responded positively to the potential for some forms of digital data collection, e.g. wearable technology, which could help them track health goals (one participant had problems getting the Jawbone technology to work, and took some time to get used to it). Participants' Jawbone data showed that the technology had helped them to increase the amount of exercise they were doing.

Helps me to want to increase the exercise I do. I want to beat my daily steps. I enjoy monitoring what I do on the app (joint workshop)

Women said that they had also interacted with other participants through the app, which they found increased their motivation. Women said that they enjoyed friendly competition when connected to each other through the app.



RQ2 also concerns the issue of value, which refers to monetary and other kinds of the value to individuals of their own data. One workshop session included the value of personal data and how in some cases this could be translated into tangible economic benefits, such as through Citizenme website[21]. This app gives people control of the data they are giving, showing them that their data is valued:

Citizen me gives me rewards (joint notes)

7: Sharing knowledge with others

During the project participants wanted to share what they had learned with friends, family and the wider community to help others take control of their data. As participants' understanding of how their personal data can be used online increased, they became interested in sharing this information with others in the community. This included supporting other similar workshops, distributing leaflets, showing videos, and spreading the information for the wider community to show others how to take control of their own information:

Facilitator: would you want to tell other people in the community about what you've learned?

Participant 1: I have already! I've shown everyone the video of the coffee to go to them. Another thing I noticed is that [S]'s page is not private. I was gonna tell her (Merthyr notes)

[21] https://www.citizenme.com/

With regards to the Jawbone and health data, one participant:

> *told her friend about data and what it is for and explains what the band does. Her friends say it is fascinating and recommended it to all her friends. (Bristol notes)*

8: Data visualisation

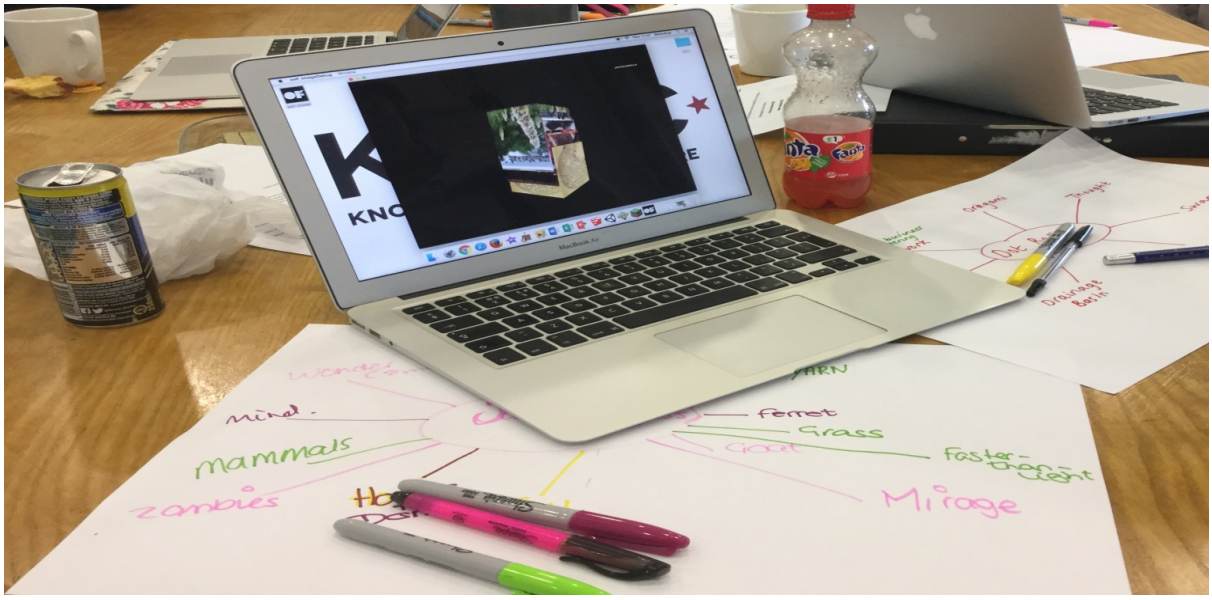
Workshop sessions looking at official statistics or data generated through the Jawbone technology highlighted that 'data' presented in numerical ways tended to be less understandable.

> *They all look at the numerical data*
> - *this doesn't mean anything to me.*
> - *I can see dates?*
> - *I don't understand how to read it (Merthyr Tydfil notes)*

Words associated with data included:

> *Confusing, boring, interesting, lost, strange, weird, creepy, useful, proud when seeing good data, surprising, shocking (Bristol notes)*

> *Collective, informational, frightening, numbers, in awe, realisation, shock, good, bad, practical, organised, important, good for keeping track, confusing (Merthyr Tydfil notes)*



Working with artists, participants created mind maps and other visual aids. This data visualisation was hard to understand at first but made more sense to participants than just looking at numerical data, and when interacting with specific examples. Data visualisation helped the women to better understand their personal data and look at it differently.

> *Participant 4: looking back in school, with data, they show if they're doing well and which reading group they are, and that's why data is important for each child to see where their child is. To see where they have improved.*
> *Participant 2: Data is getting more imaginative, isn't it? Before it was all pie chart and other things (Merthyr Tydfil notes)*

Sessions exploring data relating to the locality also highlighted a range of negative representations of the neighbourhood, of relevance to RQ6 (data held and used by others about the community). One workshop discussed statistics regarding smoking, drinking, obesity, teenage pregnancy and burglaries in their community; much of this data were not regarded as surprising as participants had heard about these issues before. It raised some discussions about differences between statistical data and how media can represent data.

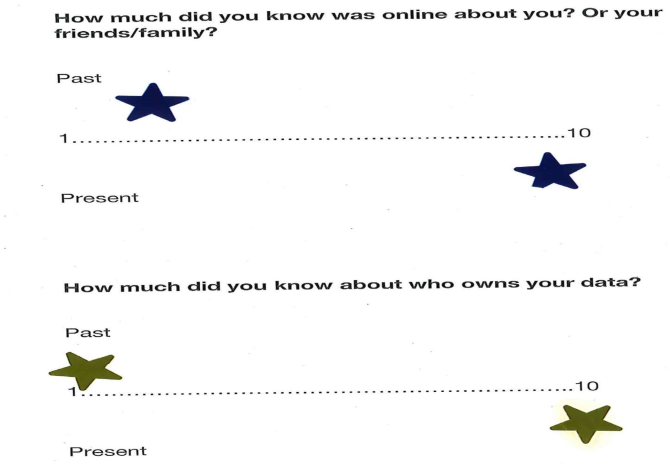
> *When she heard about the workshop and how it was going to be about data she thought it was going to be boring, but after they researched data about Filwood on the last workshop, she was fascinated and became more interested. .. She also looked up data at Knowle West on her own time. (Bristol notes referring to one participant)*

9: What participants learned

Participants had different reactions and views about the process and what they learned. With regards to the health data workshops, participants saw that using the Jawbone helped them to track their daily activity and sleep, which informed their health decisions. Many of them found it useful to know how many steps a day they should take. Jawbone helped their motivation and enabled them to be more active. They learned that it was important to track their progress in order to be healthier.

> *It helped me realize how much steps and how much sleep I get every day and I can still connect with my friends .. and I enjoyed learning all these things because I can monitor why I'm so tired and why I haven't done enough steps (Bristol notes)*

At the final workshop, the women were asked to record their reflections on the process, including indicating how much knowledge they had about certain aspects of data (such as 'how much did you know about who uses your data?') before and after the workshops.



Overall, participants present in that session rated that they knew more about data than before. This included what information was online about them and their families, how their data was used, who owned their data, and what they should consider when sharing information online.

Participants were also asked to consider, now that they knew about data, what warning and advice they would give to someone else, and their predictions of the future. There were common themes across these reflections, and some issues were mentioned in both warnings and advice.

- Warnings included: Don't share everything and think before you like something; Read the terms and condition.

- Advice included: Be careful what you put online; Watch the video (*Data-To-Go*)

RQ3 concerned how participants can learn to critically understand the role of digital data in their lives. During the workshops process, participants were challenged to look at and explore their social media activity as well as the content of their posts. Once they had learned the pros and cons of using digital data, most could adapt and be critical about what they were posting online.

5. Conclusions and recommendations

As this was an experimental and relatively short-term project, the potential of this approach to answer our research questions in detail was limited. However, the indications were that such a process:

- Could enable participants to gain knowledge from workshops and use this knowledge to take steps to exert greater control of their data, such as through changing settings on social media accounts and being cautious about what they post online;
- Could show how data can become easier to understand through different kinds of visualisation;
- Demonstrates that a socially engaged arts approach, starting from participants' knowledge and with a commitment to participation, could have an impact on knowledge of and action relating to personal data and data literacy.

The *Women and Data Futures* project also highlights parental concern about their children's online safety. Participants were hungry for information that could help them educate their children to be data-savvy.

In the context of existing gaps in digital literacy, it becomes more important to take action to enable people living in localities such as Knowle West and Gurnos to become more aware of how their personal and community date can be used online and for internet companies to be more accountable and transparent.

Reflections from the process

Participants' learning

The way that workshops were structured was aimed at enhancing learning opportunities. Facilitators had developed a standard 'skeleton' approach for each workshop, which also included the flexibility to adapt this to participants' feelings on the day. Consistent with the socially engaged arts practice (discussed in the introduction) workshops started from the participants' needs and built in layers of 'telling and doing'.

Certain aspects of workshops seemed to facilitate understanding and subsequent action. The *Data-To-Go* [22] video and stalking exercise sparked discussion about what data is held by others, and following this session, most participants took some action (such as changing their Facebook settings).

Similarly, having seen their health data from the Jawbone technology, the women expressed greater intentions to walk, and to do school runs walking instead of driving.

[22] https://www.youtube.com/watch?v=sq-0tjv4_BA

Facilitators' reflections and future research

Before the workshops started, participants had limited information about how their personal data was used online. This suggests that others in similar situations might also benefit from a similar workshop-based approach. Similar approaches could be undertaken with a range of other participants; however, the format may need to be adjusted to take into account age differences and the level of digital literacy, assessed before workshops start.

Undertaking the same skeleton workshops in both localities enabled facilitators to observe different perspectives between the two groups. For example, the Merthyr Tydfil group were older than the Bristol group, having older (teenage) children, so were concerned about the impact of data and social media on their families as well as themselves. (The Bristol group were younger, with babies and pre-school children). The Merthyr group also remembered life before social media.

The *Women and Data Futures* project took place within a short time scale. Ideally there would be a more substantial programme of work, such as weekly session over a period of 12 weeks, with set tasks between each week (such as homework activities). In addition, more planning and preparation time would be factored in for facilitators.

Ingredients of the approach which facilitators regarded as most successful were:

- Using something not too abstract e.g. Jawbones as a hook
- Using recognisable 'data' e.g. Facebook
- Building in reflections from the groups, during the process and formally at the end

Further research would be fruitful, for example in the context of technological developments arising from initiatives such as Smart Cities generational and demographic digital literacy, and to become more familiar with the new data protection legislation.

The potential of this process to help people understand and play with their identities, both as individuals and as members of a particular geographical community, needs further research.

Image: KWMC symposium

Recommendations for organisations and decision-makers

A. **Educational establishments** – should build in education about personal data, starting early in life; schools and other educational establishments should include this in the curriculum such as in PSHE (Personal, Social, and Health Education).

B. **Online businesses** – such as internet service providers, social media companies, hosts and moderators of discussion forums – should make their data gathering and data use policies more transparent. Companies should also make their Terms and Conditions shorter and simpler, so that these are more accessible to users.

C. **Data brokers** – (individuals and companies who gather and sell personal data), those who buy data from data brokers, and companies such as Google and Facebook, should be more transparent about their processes and enable individuals to identify and delete outdated or inappropriate personal information held online

D. **Organisations providing services to local communities** - (such as local councils) should develop digital interfaces and data handling in consultation with service users and community organisations.

E. **Organisations developing technology** - should be informed by and accessible to the needs and priorities of individual citizens and their communities.

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