| Code | Description | Example quotes |
|-----------------|---|--|
| Emotional react | tions | |
| worry | Participant expresses worry / concern / discomfort. | "Scary"; "This feels like an invasion of privacy"; "This seems very intrusive" |
| spy | Participant describes feeling of being spied upon. | "I don't like the 'big brother' silently watching idea at all" |
| indif | Participant expresses indifference. | "Don't see that any of that matters"; "It simply doesn't bother me" |
| cat | Participant expresses worries towards one or a few specific categories of data being disclosed. | "Physical data could lead to some problems." |
| rights | Participant fears that their rights are being violated by microphone-equipped technology. | "It's an infringement of my human rights"; "It is a breach of my rights" |
| surr | Participant expresses resigntation / surrender in face of the extent of data collection taking place. | "The whole situation is out of my hand" |
| fasc | Participant expresses fascination / amazement with regard to the possibilities of technology. | "I think the subject is fascinating"; "It's very interesting"; "More amazed than worried" |
| slight | Participant only expresses slight emotions. | "I'm only slightly worried"; "slightly unnerving" |
| amt | Participant expresses surprise at the amount of possible audio-based inferences. | "This is something I never thought about.", "I was not aware of these possibilities." |
| const | Particiant is worried about microphone- equipped devices listening to him/her constantly / in the background. | "I feel like they record you all the time not just when you are speaking to them" |
| Feared data mis | suses | |
| mT | Participant mentions targeted advertising as an example of feared data misuse. | "targeted adverts to manipulate the vulnerable"; "attempt to advertise to people who are drunk or mentally unwell" |
| mM | Participant mentions psychographic manipulation as an example of feared data misuse. | "could be used to manipulate me emotionally"; "use my data to persuade me to think a certain way" |
| mL | Participant mentions data sharing with law enforcement / government agencies as an example of feared data misuse. | "the government will be able to track me"; "private data might be sold to other [] governments" |
| mS | Participant expresses concern that personal data may be sold / lost / leaked to a third party (e.g., affiliated company, hackers). | "I'm worried about unintended entities getting this information"; "susceptible to be hacked or leaked" |
| mD | Participant mentions discrimination (e. g., by insurance, employer) as an example of feared data misuse. | This could lead to an unfair categorization of people"; "it could be used to prevent people from accessing goods or services" |
| mi | Participant mentions identity theft as an example of feared data misuse. | "the data could help a criminal commit identity fraud"; "ID theft" |
| mF | Participant mentions fraud / scam as an example of feared data misuse. | "The information gleaned my be used in fraud", "It might leave [,] myself or my property [] as victims of scams" |
| mOther | Participant mentions another type of data misuse. | "It might leave me vulnerable to physical attack either on myself or my property" |

| rep | Paricipant expresses fear of being | "I do not trust the people collecting this |
|----------------|---|---|
| - F | misrepresented by the inferred data. | information to correctly interpret it"; "could lead to false readings being made" |
| tra | Participant expresses concern about a lack of transparency in data collection / usage. | "these devices are less than transparent about what these devices can do"; "I don't know where this information is going and who might use it" |
| cre | Participant expresses concern about potential mission creep, i.e., secondary use of data | "This infromation could be mined as a a secondary event for unrelated purposes" |
| nocons | Participant expresses concern that data is collected / used / inferred without their consent or awareness. | "information can be gathered about you without your knowledge"; "I have no control over what my information is used for" |
| dep | Participants attitude towards microphone-equipped technology depends on how collected data will be used. | "Depends how the information is used"; "as long as not made use of in a negative way towards me these traits are ok if known" |
| purp | Participant is uncertain / wants to know the real purposes beind audio-based inferences | "why do they need to know this?"; "I wonder how they will use this information" |
| profit | Participant expresses scepticism towards organizations exploiting audio data for profit. | "I don't like the idea that companies may be using very personal information for commercial purposes." |
| distrust | Participant explicitly expresses distrust towards data controllers. | "I don't trust companies to protect my information or not to misuse it"; "I didn't know that companies can retain that sort of data for those purposes, and I don't trust them to delete it." |
| necc | Participant expresses the concern that microphone-equipped devices collect more data than necessary for their functionality. | "Gives away too much information that is unecessary for the purpose of the exchange." |
| Perceived bene | fits and inevitability of voice-based tec | hnology |
| ben | Participant mentions potential benefits of voice technology or audio-based inferences. | "I think it could be quite helpful for example with illnesses etc.", "will help to create a better service" |
| nto | Participant expresses the belief that embedded microphones and statistical inferences are a necessary trade-off for using modern technology. | "All improvements come alongside drawbacks", "It's the way technology is going." |
| Knowledge gap | s and misconceptions | |
| snt | Participant expresses the belief that personal data disclosure could not have any negative impact on him/her. | "I don't see how the data could be used against me"; "Why would I be worried? I have nothing to hide" |
| trus | Participant expresses general trust in companies' data practices and/or security mechanisms. (Such general trust is unwarranted, as explained in Sect. 5.3.4 of the paper.) | "I dont really feel worried about it as the data would be in a anonymous format anyway." |

| dvc nbel | Participant believes not to be affected because they don't use voice-controlled devices. (As explained in Sect. 5.3.4 of the paper, this is a misconception, as audio data can be recorded, analyzed and transmitted to remote servers by a wide variety of devices – not only by voice-controlled devices.) Participant does not believe that audio- | "I don't use and don't intend to use voice activated devices." "There's no real evidence that this is | | |
|--|---|--|--|--|
| D | based inferences are really possible. | true"; "I find it hard to believe" | | |
| Desired / proposed solution approaches | | | | |
| law | Participant believes that better data protection laws are needed. | "Such activity needs more robust laws"; "absolute privacy requires laws" | | |
| ureg | Participant states that personal data derived from voice recordings should only be allowed to be used for a specified / limited range of purposes. | "It should be used for security only"; "voice technology should only be used to analyze questions and not how the speaker moods are" | | |
| rew | Participant demands a reward / profit participation for having their personal data collected and analyzed. | "I feel if companies are goinig to use my data I should be rewarded for it" | | |
| educ | Participant states that better user education is needed. | "it is best to just educate people about how these tools might make them vulnerable" | | |
| Reflections on o | device usage | | | |
| usage | Participant reflects upon their usage of voice-based devices in everyday life. | "I don't feel comfortable now using a device that you ask a question to.", "Makes me think twice about doing anything via voice rather than via a computer again." | | |
| still | Despite worries, the person will continue to use this technology | "However, it does not worry me to such an extent that I would think to limit my use of such technology." | | |
| Linguistic conte | ent of voice recordings | | | |
| ling | Participant states that they have only thought about the linguistic content of voice recordings so far (i.e., not thought about voice-based inferences). | "I always assumed the content of a voice recording would be more useful than the voice itself.", "I had not thought that it would be analysing more than what I said." | | |
| thling | Participant mentions a threat related to the linguistic content of voice recordings. | "This could reveal private conversations to others", "() find out code words to financial details" | | |
| Miscellaneous | | | | |
| dnaOther | Participant states that the privacy threat of audio-based inferences does not apply to him-/herself for a special reason. | "I have no larynx and speak using an eosophageal voice. I think this almost makes me "immune" to this type of harvesting." | | |
| prox | Participant expresses concern about being recorded by another person's device in the vicinity. | "I avoid it all myself but may come close to someone else's device." | | |
| ctrl | Participant is concerned that users cannot control which information is unconsciously revealed through their voice and speech characteristics. | "there is no way to control whether some aspects are expressed" | | |
| many | Participant points out the ubiquity of microphone-equipped devices in modern life. | "There is no way of hiding from these constant intrusions. Even the baby monitor." | | |

| lacc | Participant assumes that inference algorithms suffer from low accuracy. | "I do not feel that they will be correct.", "I don't believe that many of these variables are accurate.", "Not sure it will be accurate." |
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| naff | I'm not affected, because I don't use microphones / voice recordings | "I don't use any sound recording equipment." |
| already | Participant assumes that the information inferable from voice recordings is already available to companies through other sources (e.g. web tracking). | "What does it matter? The likes of Google, Amazon might guess or know these things from the things I search for, buy and from knowing my IP address." |
| dk | Participant remains vague or undecided. | "I don't know enough. I can not form an opinion of it." |
| zero | Participant does not provide a relevant and/or comprehensible response. | n/a |