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# Museum Visitor Comfort When Sharing Personal Information for Evaluation

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and Katy Börner 

## ABSTRACT

The article answers the research question: under what conditions and with what methods would museum visitors feel comfortable (and not comfortable) sharing sensitive information for the purposes of museum research or evaluation? We ground our study in literature about sharing personal information in person, online, and in the context of digital marketing and social media. In our interviews of  $n = 114$  science center visitors, we found that while majorities would share sensitive information in person with an evaluator, age and gender were important factors in predicting whether or not someone feels comfortable doing so in public settings or with tablet questionnaires. We then discuss the ethical importance of giving visitors choice in whether to and how to share their information for the purposes of evaluation.

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## Introduction

Museum researchers and evaluators often collect data from visitors for the purposes of better understanding their museum experience or understanding more about who those visitors are (i.e. *personal information*). Sometimes data collectors need to ask questions that museum visitors consider “sensitive” and uncomfortable to answer, and sometimes they may ask these questions in ways that make the visitor uncomfortable. Museum professionals, and particularly museum researchers and evaluators, would benefit from knowing which information potential respondents feel is personally sensitive, and under which conditions they would feel comfortable sharing that sensitive information, if at all.

In this article, we present the results of a study of visitors to a science museum which asked them: (1) which topics they found “sensitive,” and (2) under what conditions the respondents felt comfortable sharing these sensitive topics with a museum researcher/evaluator, if at all. In a publicly accessible entrance foyer to the Center of Science and Industry in Columbus, Ohio, we asked 163 adults (selected on a continuous ask basis) to participate in an in-person interview about sharing personal information; 114 agreed to participate.<sup>1</sup> We defined “sensitive” information as personal information that respondents reported “not wanting to share with just anyone.” Interviews explored attitudes toward sharing information with a researcher in person, in a group interview, via computer entry, and in public settings. We used exploratory factor analysis to reduce

our variables and logit regression modeling to predict whether people would share sensitive information in a variety of conditions, controlling for socioeconomic factors and which types of information they found to be sensitive.

Our results confirm many of the expectations in the current literature on sharing personal information online and on social media. In particular, we found that far and away, the information categories deemed most sensitive were household income, whether someone has a medical condition, and nearest street intersection. Age and gender emerged as potentially important factors in how comfortable a visitor felt sharing their sensitive information.

The article begins with a discussion of current literature on sharing personal information, the majority of which applies to digital, online settings, and social media. We also weave in foundational survey methodology literature on asking sensitive questions of people in person generally. Next, we briefly describe our methods, including our data collection and analysis strategies. Following this, we present the results of our analyses, and conclude with a discussion about what the results mean for museum researchers and evaluators.

## **Current literature on sharing personal information**

The proliferation of digital personal data collection has made many feel as though they have no control over their information.<sup>2</sup> Many are resigned to having no privacy as a result.<sup>3</sup> Feelings of both resignation and antipathy toward the digital spread of information likely impact how people feel about sharing information with those who wish to use such information for academic and policy-related purposes.<sup>4</sup> For this reason, researchers continue to try to identify what types of personal information people are willing to share in various ways, and why they are or are not willing to share that information.<sup>5</sup> For museum researchers and evaluators, who rely on in-person interviews, focus groups, and questionnaires, knowing the conditions under which people feel comfortable sharing their personal information (and *what* personal information) is of great importance. Further, because of the ethical and legal ramifications of Personally Identifiable Information (PII), museum researchers and evaluators also need to be wary of how data collected from visitors, whether comfortably or not, may uniquely identify a person.<sup>6</sup> Current literature includes several theoretical factors that influence whether people share their information: the topic of the information, incentives for sharing information, sense of control and transparency, the context in which information is shared, and the methods by which information is shared.

### ***Information topics people are (and are not) willing to share***

Personally Identifiable Information (PII), or *information that can directly identify a unique individual*, is most often thought of as information people are least likely to share.<sup>7</sup> Scholarship has considered several varying definitions of PII and how they apply to privacy laws throughout the United States,<sup>8</sup> commonly framing PII as a set of specific kinds of personal information (e.g. name, contact information, street address, Social Security Number).<sup>9</sup> Information such as contact information, street address,

etc., are typically not likely to be shared by people for the very reason that people know that the information can directly identify them.

However, with the digitization of datasets, algorithms can create dossiers of unique individuals by combining data not normally considered PII (e.g. hair color, formal educational attainment, shoe size, feelings about a museum exhibit).<sup>10</sup> Thus, people may not realize the extent to which information they share, including non-PII and non-sensitive data, can be used to identify them. Because of this vulnerability, scholars argue that evaluation in museums should *only* collect personal information from visitors that is within the scope of the project and has a direct theoretical impact on what is being evaluated.<sup>11</sup>

There are a number of factors that often determine a person's willingness to share personal information in a public setting. One major factor is the *type* or *topic* of personal data. Studies have found that people are more willing to share personal demographic and lifestyle information about themselves than financial data and other data that can directly identify an individual, such as their Social Security Number.<sup>12</sup> Still, when asked, people may feel uncomfortable sharing information about topics such as gender and race/ethnicity.<sup>13</sup> Other studies reveal that physiological information, such as height and weight, are sensitive to people, making them less willing to share this type of data.<sup>14</sup>

### ***Incentives for sharing information***

Sometimes receiving an incentive or benefit (such as a coupon, discount, or even recommendations of something of interest) convinces people to share their personal information.<sup>15</sup> Having even a small incentive, such as a piece of chocolate, has been shown to increase willingness to share some personal information, especially if the incentive was offered directly prior to asking the participant personal information.<sup>16</sup> People may consider a different kind of incentive when deciding whether or not to share personal information: whether sharing their information will help them access a service or a better experience.<sup>17</sup> For example, people may share sensitive information or PII with a social media site or a retailer if it means they can then participate in the site or purchase a product that they want.<sup>18</sup> Explaining how self-disclosure of personal information benefits an organization's activities and the user is another potential incentive that may mitigate concerns around control and trust.<sup>19</sup> However, for some people, the reluctance to share personal information often outweighs the incentives that are offered. This and other studies have found that many people are willing to give up compensation rather than share some types of personal data with individuals and/or groups, most likely due to the fear that the data will be misused.<sup>20</sup>

### ***Sense of control and transparency***

In the early 2000s, scholarship on the reluctance to share personal information found that it often stemmed from the lack of control people feel and lack of knowing how their information will eventually be used.<sup>21</sup> A lack of control over personal data usage had been highly correlated with changes in consumer behavior and disclosure.<sup>22</sup> Sometimes being more transparent about how personal data will be used can increase the likelihood that someone will share data. Being more transparent can make an individual more

confident in, and trusting of, a company or individual collecting information. This is especially true for individuals who have experienced invasions of their privacy, such as identity theft.<sup>23</sup> Visible privacy policies can help alleviate privacy concerns and is standard practice in research undertaken with Institutional Review Boards.<sup>24</sup>

More recent studies of younger people have noted a change in how people feel about the control they have of their personal information and the willingness they have to share it.<sup>25</sup> Researchers have identified a “privacy paradox” in information sharing behavior, describing how people who care about maintaining their privacy often freely share PII.<sup>26</sup> Focus group interviews suggest that news of high-profile data breaches and increasing time spent on social media platforms have made people less confident in their ability to control who sees their personal information, including PII.<sup>27</sup> This may make younger people more likely to share PII, especially if they trust the actor/institution asking for the information or if they perceive they will benefit from sharing their information.<sup>28</sup> At the same time, the focus group participants seemed to have less awareness of the ways in which algorithms can use non-PII to identify them.<sup>29</sup> Another study of undergraduates showed that the more people felt they could not control their personal information, the less they felt concerned about their self-image, possibly explaining why people seem to be more willing to share personal information, including PII, in practice.<sup>30</sup>

### ***Information sharing and interpersonal trust***

Not surprisingly, people are more likely to share personal information with people they trust and communicate with frequently, such as friends and relatives, but are less likely to share personal information with co-workers.<sup>31</sup> Trusted sources can include people individuals barely know, such as public health providers, high school teachers, police officers, or even researchers/evaluators at well-respected civic institutions.<sup>32</sup> Work by Wilkening for the American Alliance of Museums suggests that people trust museums more than other prominent institutions/actors, including government agencies, non-profits/NGOs, corporations, and even researchers.<sup>33</sup> The three main reasons people trust museums so highly, according to Wilkening, include the perception that museums present factual information; they take care of and display authentic objects; and are focused on research.<sup>34</sup> As a result, museum researchers and evaluators benefit from the trust that visitors have in museums, which makes visitors more likely to share personal information with people attached to the institutions.

A data collector who shares similar identity attributes with a respondent may further increase a sense of trust and increase the likelihood that a respondent may share personal information.<sup>35</sup> Friendly approaches and attempts at relationship-building between a data collector and an individual can also result in increased trust.<sup>36</sup> For retail corporations or institutions asking for personal information, some research has suggested the role that perceived “warmth” may play in counteracting any gap in trust between a person sharing information and the corporation/institution.<sup>37</sup> In the study, customers perceived an online retailer corporation as “warmer” when non-sensitive, personal information was asked *after* their product buying experience, and not prior to it.<sup>38</sup> Building trust between a potential respondent and a data collector has been shown to increase the effectiveness of incentives and decrease privacy concerns related to sharing personal information.<sup>39</sup>

### ***Gender differences in sharing personal information***

Gender can also play a role in the willingness to share personal information. Studies have found that women are often less willing to share personal data than men.<sup>40</sup> Some reasons for this include that women perceive (and in many instances experience) higher probability for online or in-person stalking and other harassing behaviors.<sup>41</sup> At the same time, research also has shown that women are more likely to share photos, feelings and updates with online friends as a means of staying in touch and building long-term online relationships, while men are more likely to share their interests and expertise online and to reach out to build new relationships.<sup>42</sup> Women are also more reluctant to share personal information concerning their body size and weight with relatives and closer friends than with strangers.<sup>43</sup>

### ***Age and environment as factors***

When we examine the effect age has on the willingness of a person to share personal information, we have found this to be more complex than a clear distinction between younger versus older persons' patterns. Willingness to share personal information can be governed by the environment in which the information will be shared.<sup>44</sup> For example, while younger persons have traditionally been the ones to share personal information on social networking sites, as the internet and social networking sites have become more integrated into our society, older adults have started sharing more personal information about themselves.<sup>45</sup> On the other hand, persons under 50 years of age are less likely to share personal information on an online medical records site than persons over 50.<sup>46</sup> Even when incentives are offered for sharing personal information, those described as Baby Boomers are much less likely to do so than Millennials.<sup>47</sup>

### ***"Sensitive" questions and ways of asking them***

The method, place, and other conditions around asking personal information may also affect how comfortable visitors feel sharing this information with museum researchers/evaluators. A key factor is the *degree of sensitivity* of the personal information that is being discussed and how the information that would be given is generally judged by society. For example, asking one to share their shoe size is usually not considered as sensitive as asking one to share their sexual orientation or LGBTQ+ identity. Because of socio-cultural norms around topics like sexual orientation, asking these questions of museum visitors, at least historically, has made some groups of people uncomfortable. Museum researchers/evaluators must first carefully weigh the ethics and benefits of getting answers to sensitive questions against the discomfort visitors may feel when asked the questions. If the benefits are worth asking sensitive questions, different methods and environments can help give visitors more agency and comfort when answering them.

In some studies, using a computer questionnaire to collect data has been found to heighten the feeling of privacy when collecting data.<sup>48</sup> Having a visitor answer questions on a computer by themselves can help reduce discomfort and enhance the sense of anonymity, especially when the respondent is alone when entering the data.<sup>49</sup> Additionally,

computer questionnaires can give the respondent the ability to skip any items that he/she deems to be too sensitive to answer without any sense of judgment by an in-person interviewer. The face-to-face interview, a method often used to collect data, cannot ensure total anonymity for the participant due to the very nature of the interviewer being the data collector.<sup>50</sup> Some studies have found that face-to-face interviews can result in higher response rates and validity, because the interviewer can read cues to help a respondent feel more comfortable. More recent evaluation scholarship posits the value of a “collaborative process approach,” in which real-time, collaborative meaning making around sensitive issues takes place between the respondent and the evaluator.<sup>51</sup> Here, by adopting counseling techniques, the evaluator can help the respondent feel supported and empowered, creating an environment conducive to more comfortable, trusting, and valid information sharing.<sup>52</sup> It is critical for the interviewer to create the correct environment that sets the individual at ease and creates a feeling of security and confidentiality.<sup>53</sup>

A wealth of research has revealed several contextual factors that impact how comfortable someone is to share personal information, and in particular, *sensitive* information. We used this literature to ground our own research that addresses the comfort of museum visitors in sharing personal and sensitive information with researchers/evaluators. In doing so, this article tests the validity of previous digital consumer/social media research findings in an in-person museum setting and informs museum researchers and evaluators about which underlying factors may be important predictors of whether people feel comfortable sharing their sensitive, personal information.

## Study design

The research setting chosen for our study, the Center of Science and Industry (COSI), represents a semi-public space. COSI is a science museum located across the Scioto River, and about a half mile away from, the center of downtown Columbus, Ohio. We characterize COSI as semi-public, because while it is open to the public during business hours most days of the week (usually 10am to 5pm), admission is required to access most of its building. We conducted our interviews just inside the East entrance to the building, a location accessible to the general public before purchasing admission.

We approached 163 adults (people appearing to be over the age of 18) by themselves or in a group, using a continuous ask basis to ask them to participate in the interview. Of the 163 we approached, 114 (69.9%) agreed to participate in the interview. Occasionally, a non-adult (e.g. someone under the age of 18) participated in the interview, but only when an accompanying guardian we approached gave consent. Respondents answered the interview questions using index cards placed on a whiteboard. The index cards contained closed-choice answers for the questions in our interview, informed by the literature on asking sensitive questions and sharing sensitive information. Our questions explored: *types of information I find sensitive; ways in which I would share my sensitive information with a researcher; places where I would share my sensitive information with a researcher; and what I would need to know to share my sensitive information with a researcher* (items in Appendices B, C, and D). Researchers recorded answers to the interview questions using an iPad. At the end of the interview, researchers gave respondents the iPad to answer demographic questions. The interview protocol can be found in Appendix F.



### **Analytical strategy**

Once we received answers to over 100 interviews, a target we calculated would provide us with sufficient data for regression analysis,<sup>54</sup> we calculated the proportion of respondents who thought a particular information topic was sensitive, as well as the proportion of respondents who answered affirmatively to questions about conditions in which they would share this information. We proceeded to model the data using logit regression. Logit regression models a binary outcome variable (e.g. whether or not a respondent feels comfortable sharing sensitive information under a certain condition) on several predictor variables. The predictor variables we chose include those from the literature found to be most influential to the willingness of someone to share personal information online: age, gender, LGBTQ+ identity, education, socioeconomic status (income), in addition to which information someone deemed sensitive in the first place.

To facilitate predictive logit regression modeling, we condensed information people deemed sensitive into factors using obliquin exploratory factor analysis, an approach which accounts for the underlying interrelatedness of the information. A two-factor solution proved the most efficient at explaining variance in the data (see Appendix C), though the factors did not incorporate all the topics. We included the two factors, two left-over topics found sensitive by majority of respondents (household income and nearest street intersection), and demographic information in each model. We checked for autocorrelation in the models using variance inflation factors (those above 4), and we include model fit statistics, including null deviance (intercept only model) and the reduction in deviance accounted for by the model (null deviance - model residual deviance). When this reduction in deviance is greater than the number of model parameters (“k” in the tables), then the proposed model fits the data better than the null model.

Lastly, we conducted validity checks to see if respondents were giving us accurate answers about their comfort in sharing types of information with researchers (see Appendix E). We did this by comparing the proportion of respondents who actually provided personal information in the tablet questionnaire with the proportion of respondents we would expect to provide that information, given their answers in the earlier parts of the interview. These checks suggest that respondents were likely providing accurate answers.

### **Who responded and what we found out**

The topics identified as sensitive by respondents, and the conditions under which respondents would feel comfortable sharing them in person, with social researchers, generally comport with the current literature about online, digital means of collecting sensitive respondent data. Age and gender emerged frequently as significant factors, particularly with respect to data collection methods and environments. In contrast with our expectations, LGBTQ+ identity (or non-identity) did not emerge as a significant predictor of comfort in sharing, except for needing to know how their information is stored.

### **Sample description and what respondents felt was sensitive information**

Of the 114 respondents we interviewed, a majority (55.3%) identified as female, most were between the ages of 25 and 44 (59.6%); more than three-quarters identified as



White/Caucasian (78.1%); and a plurality responded as having a bachelor's or graduate degree level education (48.3%). A notable percentage (often more than 7%) of respondents decided not to share or selected "other" for each demographic question. See Appendix A for the full descriptive statistics of respondent demographics. The information most often selected as "sensitive" by respondents was household income (75.9% of respondents), followed by medical condition (57.8%) and nearest street intersection (56.6%). Information types selected by the fewest number of people were hair color (3.6%) and whether someone wore glasses (4.8%). See Appendices A and B for the results of the full list of personal information topics included.

### ***Age and gender as significant factors in sharing sensitive information, in person, with a museum researcher/evaluator***

Most respondents reported feeling comfortable sharing their sensitive information with "a trusted source, like a researcher" (57.8%, Appendix D). This is in contrast with nearly all respondents that said they were comfortable with members of their immediate family knowing their sensitive information (96.4%), and a small fraction (10.8%) saying they were comfortable with strangers knowing their sensitive information. Large majorities of respondents reported that they would feel comfortable sharing their sensitive information with researchers using several common social research, in-person methods: pen and paper surveys (81.9%), face-to-face interviews (78.3%), and computer entry (74.9%; Appendix D). A minority said they would feel comfortable sharing sensitive information in a group interview (26.5%). When controlling for demographic characteristics of our sample, the modeling suggests that older respondents are significantly less likely to feel comfortable sharing their sensitive information in group interviews and even entering their information via a computer (Table 1). To a lesser extent, this may also be true of female respondents.

Older respondents and female respondents also tended to be less comfortable sharing their sensitive information with social researchers in public areas (Table 2). While most respondents reported feeling comfortable sharing their information in an uncrowded public place (60.2%; Appendix D), the models show older respondents and female respondents being significantly less likely to feel comfortable sharing sensitive information with researchers in these spaces (Table 2). A minority of respondents reported feeling comfortable sharing their sensitive information with researchers in a crowded

**Table 1.** Logit regression models: *with which methods* respondents felt comfortable sharing sensitive information with a trusted source, like a museum researcher or evaluator.

	Face-to-face interview	Paper and pencil	Group interview	Enter into a computer
Age (in log years)	-0.399	-0.854	** -1.907	*** -2.753
Female (binary)	-0.665	-0.252	** -1.436	* -1.183
Not LGBTQ+ (binary)	-0.425	-0.295	-0.120	-1.543
College educated (binary)	-0.257	-0.228	0.516	1.087
Income above \$100k (binary)	** -1.524	-0.495	-0.838	-0.832
Null deviance (d.f.)	86.8 (82)	78.4 (82)	96.0 (82)	91.7 (82)
Reduction in deviance ( <i>k</i> )	12.8 (10)	10.4 (10)	19.2 (10)	18.8 (10)

Notes: significance codes \*\*\*  $p <= 0.001$ , \*\*  $p <= 0.01$ , \*  $p <= 0.05$ ,  $p <= 0.10$ ; intercept, sensitive topic factors, and other sensitive topic fixed effects for models not shown to save space; *k* is the number of model parameters; reduction in deviance = null deviance - model residual deviance.

**Table 2.** Logit regression models: *where* respondents felt comfortable sharing sensitive information with a trusted source, like a museum researcher or evaluator.

	Private space	Uncrowded public place	Crowded public place
Age (in log years)	2.807	** -2.223	*** -4.464
Female (binary)	-1.474	** -1.147	-0.211
Not LGBTQ+ (binary)	0.137	-0.633	-1.357
College educated (binary)	1.397	** 1.186	0.548
Income above \$100k (binary)	0.569	-1.024	0.801
Null deviance (d.f.)	43.1 (82)	111.6 (82)	86.8 (82)
Reduction in deviance ( <i>k</i> )	14.9 (10)	18.1 (10)	23.6 (10)

Notes: significance codes \*\*\*\*  $p <= 0.001$ , \*\*\*  $p <= 0.01$ , \*\*  $p <= 0.05$ , \*  $p <= 0.10$ ; intercept, sensitive topic factors, and other sensitive topic fixed effects for models not shown to save space; *k* is the number of model parameters; reduction in deviance = null deviance - model residual deviance.

public place (Appendix D), and modeling again showed older respondents in particular to be significantly less comfortable sharing in these settings (Table 2). Older respondents also were more likely to need to know how their information was going to be used by a researcher in order to feel comfortable sharing with the researcher (Table 3).

The emergence of age and gender as significant factors follows the expectations set out in the literature on means of sharing sensitive information, even in a time when digital means of data collection are ubiquitous, personal information is more readily available, and privacy is not expected.<sup>55</sup> Our study suggests that older respondents still have reservations about sharing sensitive data with researchers when in public and when using technology (see Tables 1 and 2). One explanation for this is that a lack of comfort associated with older generations using technology may exacerbate already fraught feelings about sharing sensitive information.<sup>56</sup> The greater comfort that younger respondents, who have grown up with personal computers and in a culture where personal information is displayed publicly on social media, may further account for the negative correlation of age with comfort in sharing sensitive information with a researcher in public and using a computer.

Our study also suggests that female respondents have less comfort sharing sensitive information with researchers in group interviews and in public settings (Tables 1 and 2). This follows the conclusions of previous studies that showed women being less likely to share personal information than men.<sup>57</sup> However, the gender (i.e. female identity) factor was not significant in predicting sensitive-information-sharing methods with just the researcher (one-on-one interviews, Table 1) or in controlled environments (private space, Table 2). Studies have shown female respondents to perceive greater risks in sharing personal information,<sup>58</sup> and the significance of female identity in predicting comfort in public environments and group interview settings bears this out. However, the results of our study may also suggest that female respondents view researchers and private environments as safe for sharing sensitive information in person.

### **Other factors in sharing sensitive information, in-person, with a researcher**

Other demographic factors emerged as statistically significant predictors of comfort in sharing sensitive information with researchers. These included annual household income above \$100,000 for predicting comfort sharing information in a one-on-one interview (Table 1); college education for predicting comfort sharing information in

**Table 3.** Logit regression models: *what respondents needed to know to feel comfortable sharing sensitive information with a trusted source, like a museum researcher or evaluator.*

	How info is used	How info is stored	Why info is needed	Will there be an incentive
Age (in log years)	** -3.124	-0.448	-1.605	-1.781
Female (binary)	-1.030	-0.727	-1.942	0.353
Not LGBTQ+ (binary)	0.595	**2.071	2.072	17.530
College educated (binary)	0.623	-0.353	-0.395	0.932
Income above \$100k (binary)	-0.451	0.096	0.318	*-1.994
Null deviance (d.f.)	57.0 (82)	72.1 (82)	43.1 (82)	64.93 (82)
Reduction in deviance ( <i>k</i> )	14.6 (10)	13.3 (10)	8.5 (10)	8.8 (10)

Notes: significance codes \*\*\*\*  $p <= 0.001$ , \*\*\*  $p <= 0.01$ , \*\*  $p <= 0.05$ , \*  $p <= 0.10$ ; intercept, sensitive topic factors, and other sensitive topic fixed effects for models not shown to save space; *k* is the number of model parameters; reduction in deviance = null deviance - model residual deviance.

an uncrowded public place (Table 2); and LGBTQ+ non-identity in predicting the need to know how information is stored before sharing sensitive information (Table 3). However, because of the lack in consistency of these factors across the models and the dearth of theoretical grounding for explaining their significance, we cannot say much about these in this study without more in-depth follow up.

Of particular note, LGBTQ+ identity generally did not emerge as a significant predictor of comfort in sharing sensitive information with a researcher, regardless of method or data collection environment. The one exception was modeling the need to know how information is stored (Table 3). Here identifying as “not LGBTQ+” emerged as a significant factor in predicting whether a respondent would need to know how their information was being stored. Due to a lack of grounding theory to explain such an outcome, we cannot be sure how to interpret this result without more data. The general lack of an effect of LGBTQ+ identity (or non-identity) on sharing sensitive information may reflect how many societies (particularly in North America and Western Europe) have come to be more accepting of LGBTQ+ people.

### Implications for museum researchers and evaluators

The kinds of information people considered sensitive did not surprise us: more than three out of every four respondents cited household income as sensitive. Just over half considered medical conditions and the closest intersection to one’s house as sensitive subjects. All other kinds of information we asked (e.g. weight, sexual orientation, age, religion) were considered by clear majorities of respondents to *not* be sensitive topics (Appendix B).

As far as whether people feel comfortable sharing their sensitive information in person with museum researchers/evaluators, the results suggest that pen and paper questionnaires and face-to-face interviews, given in private settings, provide the most comfort. However, in cases where a private space is not available, or when pen and paper questionnaires are not practical, researchers should consider the lack of comfort that older respondents and female respondents may have providing their sensitive information. This is particularly the case for when research methods call for group interviews or intercepting people in public places.

The evidence from our study confirms much of what the literature says about sharing sensitive information digitally. In an age when people share their personal information

via social media, and when that information is used by multiple entities, in-person sharing of personal information is still likely fraught for people such as museum visitors. Our research shows that younger people are more likely to be comfortable with sharing what they consider “sensitive information” with a trusted person like a researcher. Older people are less likely to share this information.

As we found with our initial interview protocol, people do not currently feel as though they have control of their information; many people believe that all their information is already “out there on the internet.” As a consequence of this perception/reality, respondents did not initially feel any point to keeping even sensitive information private from visitor researchers. Museum researchers and evaluators must not abuse this resignation of privacy, and should continue to give participants agency in whether and how they share their information both online and in person.<sup>59</sup> By understanding the factors that may make visitors uncomfortable sharing personal information, museum researchers/evaluators can more ethically make decisions on what they should ask visitors, as well as plan strategies to minimize this discomfort or eliminate it all together. Based on the results of our study, here are a few suggestions for museum researchers and evaluators to use when deciding what information they need to collect from visitors, as well as how they collect that information:

- Tell museum visitors why their data are being collected, and remind them that even non-PII data can potentially be used to identify them.
- Remind the visitor that they do not have to provide any information.
- Only ask for sensitive personal information (identified in our study mainly as income, medical conditions, or where someone lives) if the information is necessary for the evaluation/study and will be used to benefit the individual or society in a clear way.
- If sensitive personal information needs to be collected, and a visitor agrees to share the information, provide a space out of sight of other museum visitors to collect the information, and consider using paper and pencil surveys or face-to-face interview methods, especially with older visitors.

Because visitors see museums as trustworthy, society-serving institutions, visitors may assume that any personal data collected by museum researchers or evaluators will be used to somehow benefit society. Thus, data researchers and evaluators should collect data in a way that gives visitors agency in deciding whether to share their personal information, care sensitively for the comfort of the visitor if they do choose to share personal information, and ensure it is done for purposes that are transparent and beneficial to society.<sup>60</sup>

## Notes

1. Data collection for this study took place before the COVID 19 Pandemic.
2. André et al., “Consumer Choice,” 28–37.
3. Rainie and Duggin, “Privacy and Information Sharing,” 47; Marwick and Eszter, “Nothing to Hide, Nothing to Lose?”
4. Hargittai and Marwick, “Explaining the Privacy Paradox,” 3737–3757.
5. Miltgen, “Online Consumer Privacy,” 574–603.
6. Narayanan and Shmatikov, “Privacy and Security,” 24–26.
7. Ibid.

8. Schwartz and Solove, "The PII Problem," 1814–1894.
9. Narayanan and Shmatikov, "Privacy and Security," 24–26.
10. Ibid.
11. Frederick, "When to Ask (or Not Ask)."
12. Phelps et al., "Privacy Concerns and Consumer"; Schaar et al., "The Impact of User Diversity," 174–193.
13. Frederick, "When to Ask (or Not Ask)."
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