# Measuring Question Sensitivity

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**Abstract**

Sensitive questions may lead to distortions in survey responses that create serious threats to data quality. But little research has examined if interviewers also experience feelings of sensitivity when asking respondents about sensitive topics. We aimed to understand how to measure and reduce the perceived sensitivity of survey questions from the perspective of both respondents and interviewers. Participants completed an online task where they read excerpts from fictional vignettes depicting survey interviews. We manipulated the question type (forgiving wording or direct questions) and perspective (respondent or interviewer). Participants who took on the respondent perspective rated the questions as being more sensitive than those who took on the interviewer perspective. The use of forgiving wording increased the perceived sensitivity of survey questions, and this was more pronounced for the interviewer perspective. Participants' feelings of empathy toward the vignette character and attitudes toward the survey topics also predicted sensitivity levels. We discuss implications of these results for measuring sensitivity across both respondents and interviewers.

**Key Words:** Sensitive questions; social desirability; forgiving wording

## 1. Introduction

Responses to questions across a broad range of surveys and topics have been shown to be influenced by sensitivity, or how personal, invasive, threatening, or uneasy a question makes respondents feel. It is well documented that topics such as income or drug use are widely considered sensitive, but sometimes even questions that seem factual and impersonal, such as voting in a recent election or owning a library card, can also be perceived as sensitive and cause distortions in responses that create threats to data quality (Tourangeau & Yan, 2007). Despite widespread acknowledgement in the survey methodology literature that question sensitivity can bias responses, no standard methodology has been developed to assess the perceived sensitivity of questions. Instead, researchers tend to rely on their intuitions or assumptions about what questions or topics are considered sensitive, without consulting respondents or pre-testing questions for their level of sensitivity amongst subgroups of the population that might find particular questions more or less sensitive than other groups (e.g., Barnett, 1998; De Schrijver, 2012; Krumpal, 2013). Most sensitivity-reduction techniques that have been developed involve guaranteeing respondents anonymity in their answers, use of randomized response techniques (RRT), and putting sensitive questions at the end of a survey (e.g., Barnett, 1998; Bradburn, Sudman, & Wansink, 2004). In addition, respondents are more likely to

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disclose sensitive information when surveys are self-administered or when the presence of an interviewer is minimized, such as in an Audio Computer-Assisted Self-Interview, or ACASI (e.g., Kreuter, Presser, & Tourangeau, 2008; Lind, Schober, Conrad, & Reichert, 2013).

The interventions described above involve reducing the respondent's level of sensitivity and do not address the role of the interviewer. Aside from anecdotal evidence obtained from interviewer training and debriefing sessions, we know very little about interviewer sensitivity and its impact on data quality, as there is a lack of empirical research on the topic. Nonetheless, interviewers play an important role in the survey process, including verbally asking the survey question, recording a response, and also building rapport and trust with the respondent. Although in standardized surveys interviewers are trained to remain neutral and read questions exactly as worded (Conrad & Shober, 2000), they may also be affected by sensitive survey contexts and questions. An awareness of their own sensitivity or potential respondent sensitivity may then affect interviewer behavior, manifesting in an apology, distancing behavior (e.g., "I didn't write this question"), or skipping of the question. If interviewers are affected by sensitivity in any way, we expect that it would have effects on the answers respondents provide and the data obtained.

As such, little is known about how to reduce question sensitivity in interviewer-administered surveys for questions that may be perceived as highly sensitive in particular survey contexts using standardized interviewing techniques. One hurdle in developing such techniques is that not all survey questions are obviously sensitive or sensitive for all respondents. For instance, in many federal surveys, interviewers ask respondents about topics such as their employment status, health, alcohol expenditures, and how they spend their time. Although these topics may not seem overly sensitive at face value, depending on the context, such as the respondent's current employment or health status, these questions could be perceived as sensitive for particular subgroups of respondents. In addition, interviewers do not always know the "true value" of the response, for example, whether the respondent has recently been laid off or struggling to find work, or how she or he will react to being asked about these topics, adding a layer of complexity and uncertainty to the interviewers' task.

## 1.1 Forgiving Wording Interventions
One technique used to reduce respondents' feelings of sensitivity is known as a "forgiving wording" intervention (e.g., Tourangeau & Smith, 1996; Näher & Krumpal, 2012; Peter & Valekenburg, 2011), which encourages respondents to make potentially embarrassing admissions by "forgiving" the behavior or attitude in question. One classic example from Sudman and Bradburn (1982) is the "everyone does it approach," where a question assumes a negative or embarrassing behavior in the question to encourage honest reporting (italicized below):

> *"Even the calmest parents get angry at their children sometimes.* Did your children do anything in the past 7 days to make you angry?" (pp. 110).

Similarly, the Current Population Survey (CPS; Bureau of Labor Statistics) currently loads positive 'forgiving wording' to the front of the involuntary part-time work question (italicized below):

> *"Some people work part time because they cannot find full time work or because business is poor. Others work part time because of family obligations or other personal reasons.* What is your main reason for working part time?"

In these examples, the forgiving introduction provides external attributions for why respondents may get angry at their children or not be able to find full-time work. These types of introductions may reduce question sensitivity and encourage more honest responses, and also make the question more comfortable for interviewers to ask of respondents who have experienced these situations. However, use of forgiving wording interventions has been based on experience conducting surveys rather than on empirical research (Barnett, 1998). Of the existing research on forgiving wording, there is mixed evidence on its effectiveness. The use of forgiving wording introductions has been shown to sometimes increase disclosure of socially undesirable behavior, such as not voting in a recent election (Belli, Traugott, & Beckmann, 2001; Belli, Moore, VanHoewyk, 2006; Holtgraves, Eck, & Lasky, 1997; Tourangeau & Smith, 1996). But in other studies, forgiving wording interventions had little to no effect on disclosure of socially undesirable behavior (Abelson, Loftus, & Greenwald, 1992; Presser, 1990). Another set of studies showed forgiving wording introductions were only effective for those with strong attitudes and opinions about the social norms regarding the survey topic, or those high in trait social desirability, who already have a propensity to answer survey questions in a socially desirable manner (e.g., Peter & Valekenburg, 2011; Näher & Krumpal, 2012). Thus, the literature has been inconsistent regarding the effectiveness of forgiving wording introductions in terms of reducing respondents' self-reports of socially desirable behaviors, and no research has yet been conducted on whether forgiving wording introductions make the question less sensitive for interviewers to ask.

It is important to note that the outcomes of the studies cited above were designed to assess the impact of forgiving wording interventions on the self-reporting of socially desirable behaviors. In the psychology literature, sensitivity and social desirability are often conceived of as separate, but highly related concepts. We take the approach of Tourangeau and Yan (2007) that social desirability is one component of sensitivity (in addition to intrusiveness and threat of disclosure) and that, "a question is sensitive when it asks for a socially undesirable answer, when it asks, in effect, that the respondent admit he or she has violated a social norm" (p. 860). In prior research assessing forgiving wording interventions, the forgiving context served to lessen the impact of a social norm. Thus, we expected that sensitivity relates closely to responding in a socially desirable manner. However, these studies did not assess the impact of forgiving wording interventions on the overall perceived *sensitivity* of the survey question. If forgiving wording introductions lower the sensitivity of a survey question for the respondent to answer or for the interviewer to ask, this may decrease socially desirable responding (e.g., Belli et al., 2001, 2006). Conversely, if forgiving wording introductions heighten sensitivity for the respondent or interviewer by drawing more attention to the sensitive topic or question, this may backfire and actually increase socially desirable responding (e.g., Peter & Valkenburg, 2011). Thus, an important part of understanding how to develop effective forgiving wording interventions is to determine whether such wording can reduce the perceived sensitivity of questions across survey contexts that differ in the "true value" (e.g., asking survey respondents about their current job status who are employed full-time versus struggling to find work), and measuring this from the perspective of both the respondent and the interviewer.

## 1.2 Individual Differences

A variety of individual differences may influence the perceived sensitivity of survey questions. One such factor is a person's own tendency to respond in socially desirable ways. For instance, people who exhibit high versus low levels of social desirability respond differently to survey questions such that they are more likely to provide answers that present themselves in a positive light, regardless of whether they reflect the truth (Paulhus, 1984). In one study, participants were differentially affected by forgiving wording introductions based on trait social desirability; forgiving wording introductions were only successful at reducing socially desirable responding for people who already had a strong tendency to respond in this way (e.g., Peter & Valekenburg, 2011). Thus, people who tend to respond honestly may not be affected by the forgiving wording introduction.

Individual differences in people's beliefs and attitudes about survey topics may also play a role. For instance, people who have permissive versus restrictive views on sensitive topics such as drug use or sexual behavior, are likely to vary in how sensitive they find questions on these topics and their propensity to answer them in socially desirable ways (e.g., Tourangeau & Smith, 1996). Similarly, a study by Näher and Krumpal (2012) found that the more a behavior was associated with a strong perceived social norm (e.g., it is acceptable to cheat on a partner, drive under the influence, or use antidepressants), the more likely people were to report having engaged in that behavior. Thus, attitudes and perceived social norms regarding the survey topic may be additional individual difference factors that influence the perceived sensitivity of survey questions.

## 2. Methods

### 2.1 Procedure

The present study aimed to explore whether respondents, as well as interviewers, may experience feelings of sensitivity when they are tasked with answering or asking about potentially sensitive questions across different types of survey contexts. In this research, we also aimed to assess whether the use of forgiving wording interventions was effective at reducing feelings of sensitivity, from the perspective of both respondents and interviewers. A final goal was to assess covariates of sensitivity, such as empathy for the respondent depicted in the vignettes, and attitudes toward the vignette characters and survey topic, to explore whether these factors are related to feelings of sensitivity across the survey contexts. Because the tendency to respond in socially desirable ways is minimized in an anonymous, online survey (Tourangeau & Yan, 2007), we did not measure this trait.

#### 2.1.1 Vignettes

We asked study participants to read a series of four vignettes simulating interviews about employment status. Before reading the vignettes, we asked our study participants to take on either the role of the respondent or the interviewer. In doing so, we hoped to better understand how respondents and interviewers might feel when answering and asking potentially sensitive questions during survey interviews. The vignettes were loosely based on questions that are included in the CPS. The vignettes varied in how sensitive the context of the survey was (e.g., a recent college graduate looking for work provides for a less sensitive survey context because it is a common reason for temporary unemployment, as compared to a worker who was recently laid off, discouraged from participating in the labor force, or is forced to work part-time instead of full-time). Vignettes are a useful tool for researchers to use in exploratory work to pre-test respondents' reactions, interpretations,

and attitudes to survey questions and contexts (e.g., Beck, 2010). They also provide the benefit of reducing socially desirable responding – study participants may be more willing to admit a question was sensitive for a vignette character versus themselves (e.g., Lee, 1993).

The first vignette depicted an interview with a recent college graduate about what she has been doing to find work. Since this is a common reason for unemployment, this vignette was used as a control condition. The second vignette depicted an interview with a respondent who was recently laid off and struggling to find a job, and then asked about what she has been doing to find work. The third featured an interview with a respondent who was a discouraged worker that gave up on looking for a job due to age discrimination, who was then asked why she has not been looking for work. The fourth vignette was an interview with a respondent whose hours were recently cut to part-time work, who was then asked why she is working part-time instead of full-time.

*2.1.2 Design*
This research used a 2x2x4 mixed-model design with two between-subjects factors: Vignette Perspective (Respondent vs. Interviewer) and Question Type (Forgiving Wording vs. Direct Questioning). Study participants were randomly assigned to perspective and question type. The within-subjects factor was the four survey vignettes, where each participant read and provided ratings across each of the four survey vignettes. The vignettes were displayed in a random order to avoid carry-over effects from one vignette to another. Within these four vignettes, one was placed in a neutral context as a comparison vignette, which was designed to elicit relatively low levels of sensitivity. Three of the vignettes were placed in a more sensitive context and were designed to elicit higher levels of sensitivity (See the Appendix for the full text of all four vignettes).

Participants were introduced to the study and told that they would read vignettes describing survey respondents and excerpts of their survey responses. They were asked to take on the perspective of either the respondent or the interviewer while they read the excerpts (See the Appendix for all four interview excerpts), and each participant took on the same role across the four vignettes. Specifically, participants were instructed to "put themselves in the shoes of [*the person answering the interview questions / the interviewer*] in each of the vignettes, and to focus on how [*the person answering the interview questions / the interviewer*] would think, feel, and react while [*answering / asking*] each question." In addition, participants were told that all interviewers were required to read the questions exactly as written to mimic a standardized survey.

We also manipulated the type of question (forgiving wording intervention versus a direct question). The only difference between the two wording types was that the forgiving wording intervention contained the forgiving introduction. The direct, target question was identical between the two conditions. See the Appendix for the wording of the forgiving introductions and direct questions.

After reading each vignette, participants were asked, "How sensitive do you think [*vignette character / the interviewer*] felt while [*answering / asking*] this question?" on a 5-point scale from *Not at all sensitive / Slighty  sensitive / Moderately sensitive / Very sensitive / Extremely sensitive*). Because people may have different interpretations of the word "sensitive," we included a follow-up measure about unease ("How uneasy do you think [*vignette character / the interviewer*] felt while [*answering / asking*] this question?" on a 5-point scale as above, similar to the question used in Bradburn, Sudman, Blair, and

Stocking (1978). Study participants also rated their empathy toward the vignette characters (i.e., "How easy or difficult was it to put yourself in [the vignette character]'s shoes when reading the scenario?") on a 5-point scale: *Very easy / Somewhat easy / Neither easy nor difficult/ Somewhat difficult / Very Difficult.* We included this measure of empathy because we suspected that study participants' ability to imagine how the respondent or interviewer felt might affect the intensity of their sensitivity ratings. Study participants also answered two questions about their attitudes toward the vignette characters. The first question asked "How negatively or positively do you think most people would feel about [*vignette character*]?") on a 5-point scale: *Very Negatively / Somewhat negatively / Neither negatively nor positively / Somewhat positively / Very Positively.* The second attitude question was tailored to each vignette (e.g., "Thinking about the real world now, how easy or difficult is the job market facing recent college graduates these days?") all on 5-point scales (see the Appendix for a list of each attitude question and the response scales used). At the end of the task, study participants provided basic demographic information and were thanked for their participation in the study.

## 3. Results

### 3.1 Participants
This research was part of a larger study examining measurement of sensitivity and a subset of the results are presented here. We analyzed data from a total of 432 (50.3% male) participants who were recruited for an online study using a convenience sample of adult U.S. citizens (18 years and older) from Amazon.com's Mechanical Turk panel. This study was focused on internal validity rather than representativeness of any population. The mean age of the sample was 35.61 ($SD$ = 11.58), and the median education was an Associate's/Bachelor's degree. Participants were compensated $1.00 to complete the task, which took 12 minutes on average to complete.

### 3.2 Sensitivity Ratings
We first examined sensitivity ratings across the four vignettes by conducting a repeated measures analysis of variance (ANOVA) on sensitivity ratings across all study participants. Collapsing across interviewer and respondent perspectives, the mean sensitivity ratings and standard deviations for each of the four vignettes were as follows (Vignette 1: $M$ = 2.13, $SD$ = 1.01; Vignette 2: $M$ = 2.73, SD = 1.15; Vignette 3: $M$ = 3.23, $SD$ = 1.32; Vignette 4: $M$ = 2.80, $SD$ = 1.13). As expected, the vignettes differed in their sensitivity ratings, $F(1,423)$ = 165.49, $p$ < .001. Individual contrasts revealed that, as expected, the neutral-context vignette (Vignette 1) was rated as less sensitive than all three of the sensitive-context vignettes (all $p$s < .001)[2]. Importantly, this indicated that our manipulations worked as expected, that is, that the vignette designed to represent a relatively neutral survey-context was rated as eliciting less sensitivity than the vignettes that were designed to represent a sensitive survey-context. In addition, Vignette 3, which depicted a worker who was discouraged from the job market due to age discrimination, was rated as the most sensitive of all of the vignettes (all $p$s < .001). Because a key goal of this research was to assess differences in sensitivity across survey contexts which are perceived as relatively neutral versus potentially sensitive, we averaged the sensitivity ratings across the three

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[2]A similar pattern of results was obtained when using the measure of "unease" (e.g., "How uneasy do you think [*vignette character / the interviewer*] felt while [*answering / asking*] this question?"), $F(1,428)$ = 114.96, $p$ < .001, and the neutral-context vignette (Vignette 1) was rated as eliciting less unease than all three of the sensitive-context vignettes (all $p$s < .001), indicating that most study participants likely interpreted "sensitive" to also mean causing unease.

sensitive-context vignettes in order to contrast them against the control, neutral context-vignette.

### 3.3 Effects of Survey Context, Perspective, and Wording on Sensitivity Ratings

Next, we conducted a mixed-model ANOVA with sensitivity ratings across each vignette context (neutral or sensitive) as the repeated measure. Perspective Type (Respondent vs. Interviewer) and Question Type (Forgiving vs. Direct) were the between-subjects factors. As Figure 1 below shows, the sensitive-context vignettes (sensitive context: $M = 2.92$, $SD = 0.98$) were rated as more sensitive than the neutral-context vignette, $F(1,422) = 73.86$, $p < .001$, across both the respondent and interviewer perspective types.
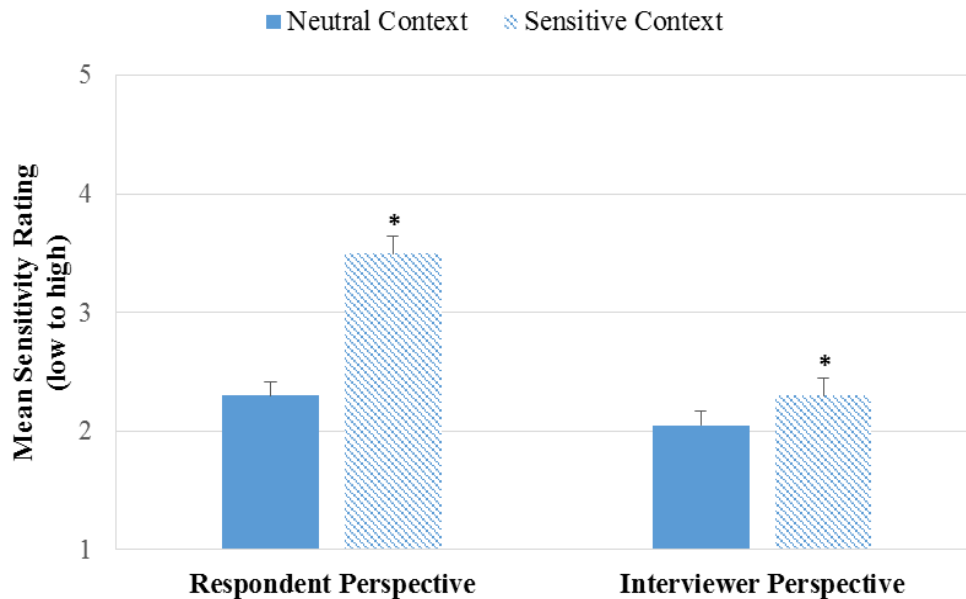


**Figure 1:** Mean sensitivity ratings as a function of perspective type and survey context (* $p < .001$).

In addition, as seen in Figure 1, we also found a main effect of perspective type, where participants who took on the respondent perspective had higher overall sensitivity ratings than participants who took on the interviewer perspective (respondent perspective: $M = 3.22$, $SD = 0.70$; interviewer perspective: $M = 2.25$, $SD = 0.72$), $F(1, 270) = 55.64$, $p < .001$. To assess the hypothesis that interviewers might also experience feelings of sensitivity when asking respondents about potentially sensitive topics, we conducted a series of individual $t$-tests to determine whether the sensitivity ratings for each of the vignettes differed significantly from the average rating that participants taking on the interviewer perspective had given to the neutral vignette ($M = 1.97$; $SD = 0.88$). We found that participants who took on the interviewer perspective also rated the vignettes in the sensitive as more sensitive than the average rating given to neutral-context vignette (Vignette 2: $M = 2.23$, $SD = 0.96$; Vignette 3: $M = 2.41$, $SD = 1.05$; Vignette 4: $M = 2.41$, $SD = 1.01$; all $ps < .001$), suggesting that study participants thought that interviewers may also experience feelings of sensitivity when asking respondents about sensitive topics.

When examining the effect of question type on sensitivity ratings across the vignettes, we found that use of forgiving wording was associated with significantly higher sensitivity ratings than the asking the question directly, (forgiving wording: $M = 2.87$; $SD = 0.81$;

direct question: $M$ = 2.63, SD = 0.86), $F(1, 270)$ = 3.94, $p$ = .048, regardless of whether study participants took on the perspective of the respondent or the interviewer. The interaction between perspective and question type was non-significant ($p$ = .29), but we explored a-priori contrasts to assess the effect of question type and perspective on sensitivity. Looking at just study participants who took on the respondent perspective, individual contrasts revealed no differences in sensitivity between direct questions and forgiving wording ($p$s > .30). This may be because participants who took on the respondent perspective found the survey questions more sensitive overall, and so the forgiving wording introduction had a relatively small impact on sensitivity.

As seen in Figure 2 below, we observed a different pattern for participants who took on the interviewer perspective. Questions using forgiving wording for the neutral-context vignette were rated as more sensitive than direct questions (forgiving wording: $M$ = 2.24, $SD$ = .82; direct question: $M$ = 1.86, $SD$ =0.90), $t(142)$ = 2.63, $p$ = .009. The same pattern was observed for the sensitive-context vignettes, where questions using forgiving wording were rated as more sensitive than those using direct questions (forgiving wording: $M$ = 2.56, $SD$ = 0.76; direct question: $M$ = 2.30, $SD$ = 0.77), $t(139)$ = 1.99, $p$ = .049. This may have been because forgiving wording drew more attention to what was already considered a sensitive survey context (e.g., Peter & Valkenburg, 2011). In this case, the forgiving wording intervention might have drawn more attention to the economy and why it can be hard to find a job these days. This may have caused study participants to rate these questions as more sensitive for interviewers to ask, relative to just asking the question directly.
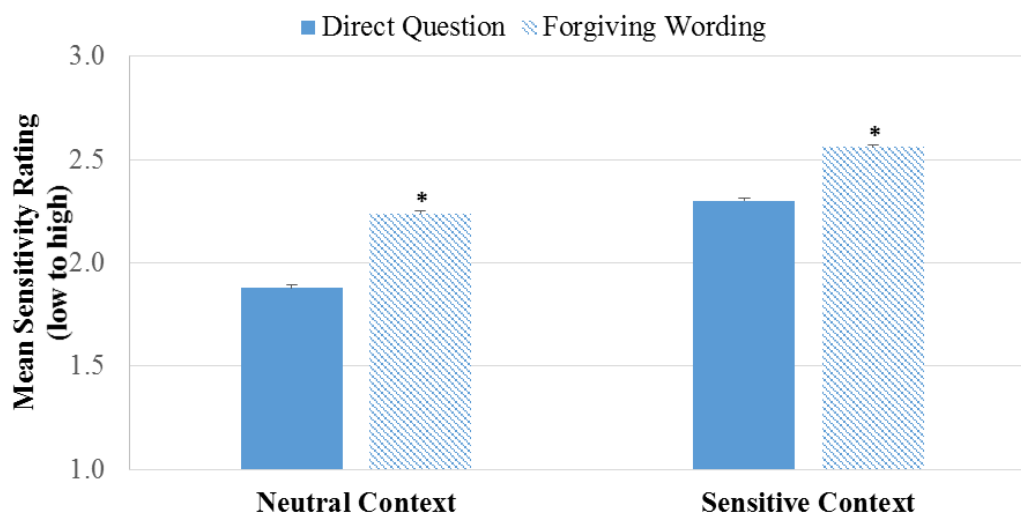


**Figure 2:** Mean sensitivity ratings for participants taking on the interviewer perspective as a function of survey context and wording type (* $p$ < .05).

## 3.4 Individual Differences
In addition to factors of perspective and wording, we were also interested in understanding whether there were individual differences in ratings of sensitivity across the vignettes. We conducted a hierarchical regression analysis predicting sensitivity ratings. We entered Perspective Type (Respondent vs. Interviewer) at Step 1, Question Wording (Forgiving vs. Direct) at Step 2, and our individual differences measures at Step 3. The first individual difference measure was empathy, or how well the study participants were able to take on

the perspective of the vignette character (i.e., "How easy or difficult was it to put yourself in [the vignette character]'s shoes when reading the scenario?"). The second individual difference measure comprised two questions about study participants' attitudes toward the vignette character, which consisted of averaging two attitude ratings: "How negatively or positively do you think most people would feel about [*vignette character*]?" and an attitude question tailored to each vignette (e.g., "Thinking about the real world now, how easy or difficult is the job market facing recent college graduates these days?") (See the Appendix for the wording of these questions). At Step 4, we added the interaction between study participants' empathy and attitudes toward the vignette character.

Table 1 displays the results of the final model, which was significant at Step 4, $F(2, 258) = 22.20$, $p < .001$. These analyses show that in addition to effects of perspective and question wording described above, we found an interaction between participants' empathy and attitude measures on sensitivity ratings.

**Table 1:** Hierarchical Linear Regression Predicting Sensitivity Ratings

| Predictor | $B$ | $SE\ B$ | $\beta$ |
|---|---|---|---|
| Step 1 | | | |
| Perspective Type | -0.87 | 0.09 | -0.51*** |
| (1 = Interviewer; 0 = Respondent) | | | |
| Step 2 | | | |
| Question Wording | 0.20 | 0.09 | 0.12* |
| (1 = Forgiving; 0 = Direct) | | | |
| Step 3 | | | |
| Empathy | 0.08 | 0.08 | 0.05 |
| Attitudes | -0.08 | 0.13 | -0.03 |
| Step 4 | | | |
| Interaction Empathy X Attitudes | 0.40 | 0.13 | 0.16** |

*Note:* Empathy and Attitudes were centered at Step 3

Adjusted $R$ Square = 0.29 at Step 4

*** $p < .001$; ** $p < .01$, * $p < .05$; $N = 432$

Figure 3 plots the nature of the interaction between study participants' empathy and attitudes towards the vignette characters on sensitivity ratings. Study participants with a lot of empathy and a positive attitude toward the vignette character displayed higher sensitivity ratings. This form of sensitivity may be perceived positively, for instance, participants may have perceived that the respondent and interviewer had a positive rapport, and that the use of forgiving wording suggested that the interviewer displayed sensitivity toward the respondent's situation. We also observed another facet of sensitivity where participants with little empathy and a negative attitude toward the vignette character *also* predicted more sensitivity. This may be a more negative form of sensitivity, where study participants perceived the respondent and interviewer as having negative rapport because the forgiving wording was perceived as the interviewer drawing additional attention to the sensitive survey context (e.g., Peter & Valkenburg, 2011), and this may have heightened

pre-existing negative attitudes toward the vignette character. Study participants that had a mix of high empathy and a negative attitude, or low empathy, and a positive attitude towards the vignette character, displayed more moderate levels of sensitivity. These mixed feelings about the vignette character may have a mitigating effect on sensitivity.
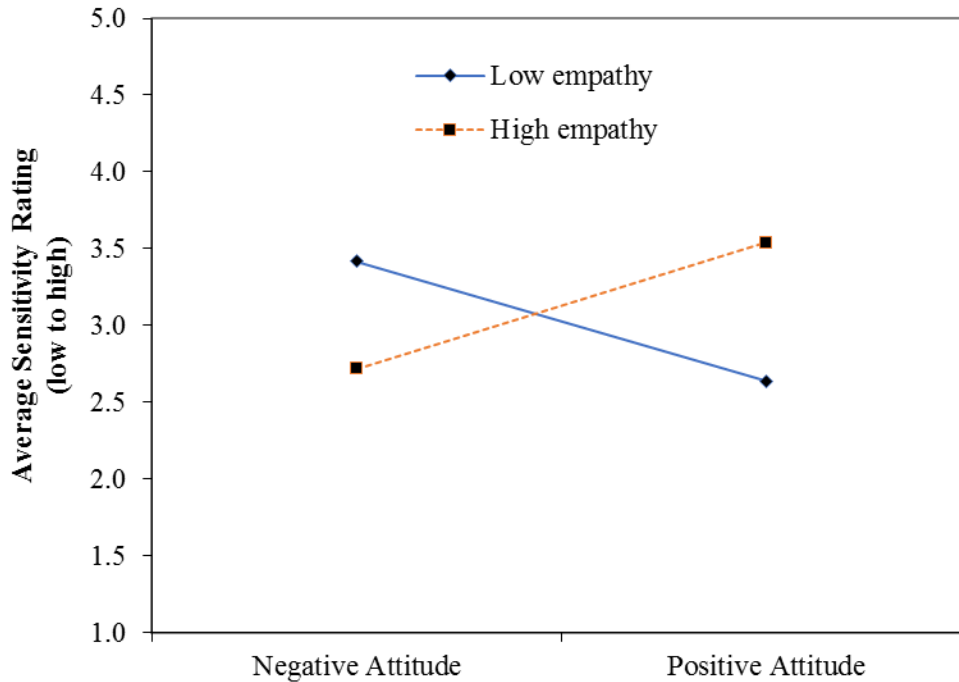


**Figure 3***:* Interaction between study participants' empathy and attitudes toward vignette characters on sensitivity ratings.

## 4. Summary

It is well established that the sensitivity of survey questions can have a large impact on data quality (Tourangeau & Yan, 2007), but most prior research has focused on question sensitivity solely from the perspective of the respondent. This study was interested in assessing the sensitivity of survey questions from both the respondent and interviewer perspective. We were also interested in whether wording interventions designed to lessen the tendency to respond in a socially desirable manner ("forgiving wording") would decrease the perceived sensitivity of survey questions (placed in both neutral and sensitive contexts) from the perspective of both the respondents who have to answer these questions, and the interviewers tasked with asking them. In this research, study participants read fictional vignettes about survey respondents answering questions about their employment status, placed in either a neutral or sensitive survey context, while taking on either the perspective of the respondent or the interviewer. Some of the questions contained a forgiving wording introduction, while others asked the question directly. Study participants then rated how sensitive the respondent or interviewer felt while answering or asking each survey question. They also rated how easy or difficult it was to take on the respondent or interviewer perspective (empathy), along with their and attitudes toward the vignette characters.

We found that study participants taking on the respondent perspective rated the survey questions as eliciting higher levels of sensitivity overall than the study participants who took on the interviewer perspective. This is somewhat unsurprising, given that in surveys, respondents are asked to reveal sensitive or personal information about themselves, whereas the interviewer typically asks questions as scripted. But study participants who took on the interviewer perspective, and imagined having to ask respondents about potentially sensitive information, *also* rated the survey questions as eliciting more sensitivity relative to interviewing a respondent in a more neutral survey-context. This finding suggests that interviewers may also experience feelings of sensitivity in situations where they know the answer to a survey question may cause discomfort or unease for respondents.

With regard to the type of question wording used, we found that forgiving wording actually increased sensitivity across all study participants. This may have occurred for several reasons, but one possibility is that forgiving wording introductions may cause what is already a sensitive survey context to become even more salient, heightening the overall sensitivity of the survey question and the awareness that the question is sensitive (e.g., Peter & Valkenburg, 2011). This pattern was more pronounced for study participants taking on the perspective of the interviewer. Thus, it is possible that interviewers may also experience additional feelings of sensitivity when the question wording draws additional attention to the sensitive context.

In addition, we found that study participants who found it easy to empathize, or take on their assigned perspective (respondent or interviewer), and held positive attitudes toward the vignette characters predicted high levels of sensitivity. But low levels of empathy and negative attitudes *also* predicted high levels of sensitivity. This may have occurred for several reasons. One possibility is that forgiving introductions signaled to our study participants that the interviewer was showing concern or sensitivity toward the respondents' employment situation. In such a context, where study participants were able to easily take on their assigned perspective and felt positive attitudes toward the vignette characters, the use of forgiving wording may have been perceived more positively, as facilitating the rapport between the respondent and interviewer. Conversely, study participants with low levels of empathy and negative attitudes toward the vignette character might have perceived the use of forgiving wording more negatively. Because the forgiving wording intervention drew more attention to what was already a sensitive survey context, it may have made any pre-existing negative attitudes more salient. Thus, these participants may have perceived the use of forgiving wording negatively and as hurting the rapport between the respondent and interviewer.

These findings are consistent with previous research by Näher and Krumpal (2012) showing that forgiving wording interventions were only effective for people who had strong attitudes or beliefs about the social norms surrounding the survey topic. Our findings show that our study participants with more extreme levels of empathy and attitudes towards the vignette characters were most affected by the use of forgiving wording in terms of the intensity of their sensitivity ratings. Participants with more moderate or mixed levels of empathy and attitudes towards the vignette characters were less affected by the forgiving wording instructions, which mitigated sensitivity ratings.

# 4. Conclusions

In conclusion, the findings from this study suggest that feelings of sensitivity across the respondent and interviewer perspectives is nuanced, context-dependent, and may be affected by individual differences. It might be that in some contexts, forgiving wording heightens sensitivity in a positive way, and other times in a more negative way. This may account for some of the discrepancies in the literature about the effectiveness of forgiving wording. Future work should examine the possibility that sensitivity is multi-faceted, and can differ based on question wording, the sensitivity of the survey context, the interviewers' knowledge of the survey respondent, and feelings of empathy and pre-existing attitudes.

Second, as survey designers, we tend to focus almost exclusively on respondent sensitivity when designing survey questions. However, we found evidence that interviewers may also experience feelings of sensitivity when tasked with asking respondents about potentially sensitive topics. An awareness of their own sensitivity or potential respondent sensitivity may then affect interviewer behaviors such as probe selection and the quality of rapport, which could have implications for data quality. But the present findings do not yet tell us what effect the ratings of sensitivity have on actual behavior, or the tendency to respond in socially desirable ways. Future research should assess whether interviewers feel sensitivity during interviews, whether this affects data quality, and if so, positively or negatively. In addition, this research was conducted online as an anonymous, self-administered survey, which in itself reduces the effects of sensitivity and socially desirable responding (Tourangeau & Yan, 2007). Thus, future research should investigate the effect of forgiving wording introductions using interviewer-administered surveys.

Finally, there is not much consensus in the field about how to define, measure, or quantify sensitivity, and no standardized method to pre-test questions for sensitivity. Instead, survey designers often rely on their intuition as to what questions may be sensitive for most people. But sensitivity is inherently context-dependent. In the future, we hope that this research can be used as a stepping stone to develop standardized methods to measure sensitivity for both respondents and interviewers in various contexts where survey questions are likely to be perceived as sensitive to help design questions with the most effective wording possible.

## Acknowledgements

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# Appendix

## 1. Vignettes and Interview Excerpts

*Vignette 1: Unemployed and Looking for Work (Neutral Context)*
Wendy recently graduated from college with a degree in early childhood education. Since graduating, she has been searching for a full-time teaching job, but did not work for pay.

-Interviewer: (Forgiving Introduction- Despite wanting fulfilling jobs that contribute to society, many people take a long time to find work because business is poor, or due to a lack of job openings in their industry or geographic location.) *Have you been doing*

*anything to find work during the last 4 weeks?*
-Wendy: Well, I worked on my resume and went on 4 job interviews. I heard back from 2 of them, but I haven't gotten an offer yet.
-Interviewer: Did you do anything else?
-Wendy: No.

### Vignette 2: Unemployed and Looking for Work (Sensitive Context)
Beth has worked full-time for a motor company since 1995, where she assembled engine parts for large trucks. Nine months ago, the plant where she worked decided it was going to stop production of its trucks and begin manufacturing at a different plant in another city instead.

-Interviewer: (Forgiving Introduction- Despite wanting fulfilling jobs that contribute to society, many people take a long time to find work because business is poor, or due to a lack of job openings in their industry or geographic location.) *Have you been doing anything to find work during the last 4 weeks?*
-Beth: Like I mentioned earlier, the assembly plant was shut down. I looked for work for over 6 weeks – it was 46 days, I counted - and have come up with nothing so far.

### Vignette 3: Discouraged Worker (Sensitive Context)
Charlene was recently hired as an elementary school teacher in Ashville County. It is summer vacation time. Charlene doesn't know if Ashville County wants her back to teach in the fall. There is talk about lack of school funding.

-Interviewer: (Forgiving Introduction - Many people have given up on finding work because business is poor, a lack of job openings in their geographic location, or a lack of necessary job skills.) *What is the main reason you were not looking for work during the last 4 weeks?*
-Charlene: I'm so tired of hearing: 'Your resume is excellent but the position requires someone more up-to-date on the newest teaching methods.' I can't help how old I am.
-Interviewer: So there's just nothing available in your line of work for someone your age, or you just couldn't find any work, or…? –
-Charlene: I looked for work for 14 straight weeks and came up with nothing. That's more than anyone else I know. My friend John looked for only 12 weeks. I won't go through that again. There's no job out there for me.

### Vignette 4: Involuntary Part-Time Worker (Sensitive Context)
Pat lives in Vail, CO where she worked as a manager at a resort hotel. At the end of July, the hotel was closed for major renovations. The hotel owners told Pat that her job would be waiting for her when the hotel reopens in October, but had to cut her hours in the meantime to pay for renovations.

-Interviewer: (Forgiving Introduction - Some people work part time because they cannot find full time work or because business is poor. Others work part time because of family obligations or other personal reasons.) *What is your main reason for working part time?*
-Pat: To pay for renovations, my employer cut my hours in half.
-Interviewer: So is that you can only find part-time work?
-Pat: [Short pause] I've been trying for 8 weeks, but can't another full-time manager position at another hotel. I applied to 6 jobs. I even am looking at hotels as far as 55 miles away from home. I'm having a hard time making ends meet with so few hours.

## 2. Attitude Questions for Each Vignette

Vignette 1: How easy or difficult is the job market facing recent college graduates these days?

Very easy / Somewhat easy / Neither easy nor difficult / Somewhat difficult / Very difficult

Vignette 2: In your opinion, how important would you say that manufacturing is to the health of the US economy?

Not at all important / Slightly important / Moderately important / Very important / Extremely important

Vignette 3: In your opinion, how easy or difficult is it for older people to find jobs these days?

Very easy / Somewhat easy / Neither easy nor difficult / Somewhat difficult / Very difficult

Vignette 4: In your opinion, how important would you say it is for companies to ensure all of their employees can make ends meet?

Not at all important / Slightly important / Moderately important / Very important / Extremely important