Obtaining Record Linkage Consent: Results from a Wording Experiment in Germany

Survey Methods: Insights from the Field

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Abstract : Many sample surveys ask respondents for consent to link their survey information with administrative sources. There is significant variation in how linkage requests are administered and little experimental evidence to suggest which approaches are useful for achieving high consent rates. A common approach is to emphasize the positive benefits of linkage to respondents. However, some evidence suggests that emphasizing the negative consequences of not consenting to linkage is a more effective strategy. To further examine this issue, we conducted a gain-loss framing experiment in which we emphasized the benefit (gain) of linking or the negative consequence (loss) of not linking one's data as it related to the usefulness of their survey responses. In addition, we explored a sunk-prospective costs rationale by varying the emphasis on response usefulness for responses that the respondent had already provided prior to the linkage request (sunk costs) and responses that would be provided after the linkage request (prospective costs). We found a significant interaction between gain-loss framing and the sunk-prospective costs rationale: respondents in the gain-framing condition consented to linkage at a higher rate than those in the loss-framing condition when response usefulness was emphasized for responses to subsequent survey items. Conversely, the opposite pattern was observed when response usefulness was emphasized for responses that had already been provided: loss-framing resulted in a higher consent rate than the gain-framing, but this result did not reach statistical significance.

1. Introduction

In Germany and in many countries worldwide administrative records are commonly being linked to surveys. For example, the Institute for Employment Research (IAB) at the Federal Employment Agency in Nuremberg uses administrative data in several survey projects, including the "Working and Learning in a Changing World" (ALWA) study (Antoni and Seth, 2011), which links over 10,000 individual life histories to administrative records containing detailed information on their employment histories. Another IAB study, the Panel Study "Labour Market and Social Security" (PASS) (Trappmann et al., 2013), is a household survey that is used to study labour market reforms for which administrative employment records are used to sample and follow welfare benefit recipients. Outside of the IAB, the German Panel Survey of Health, Ageing and Retirement in Europe (SHARE) (Börsch-Supan, Jürges, and Lipps, 2003), based at the Max Planck Institute for Social Law and Social Policy in Munich, collects information on health, socio-economic status, and social and family networks, and links these data to administrative records held by the German

Pension Fund. Administrative records were further used as the basis for the 2011 German Census which eliminated direct interviewing for about two-thirds of Germany's population (Münnich et al., 2011).

Although administrative data can be useful for research purposes, German privacy law requires that surveys obtain consent from respondents prior to performing linkage (Federal Data Protection Act, 2013, Part I, Section 4; Code of Social Law X, 2013, Section 75). The consent process is a means of informing respondents about the intended uses of their data and providing assurances that the data will be protected. Despite these assurances, a sizable portion of respondents refuse to allow their administrative records to be linked. Linkage consent rates tend to vary across studies, countries, and the social, economic, and health disciplines (e.g., da Silva et al. 2012; Sakshaug et al., 2012), and there is evidence that consent rates are declining over time (Fulton, 2012). Several studies have identified systematic differences between those who provide linkage consent and those who do not based on socio-demographic and other substantive characteristics (Al Baghal, Knies, and Burton, 2014; Sala, Knies, and Burton, 2014; Korbmacher and Schroeder, 2013; Knies, Burton, and Sala, 2012; Sakshaug and Kreuter, 2012; Sala, Burton, and Knies, 2012), which suggests that inferences obtained from linked data may be biased.

In this article, we examine how the wording of the linkage request may impact linkage consent rates. Specifically, we build on an earlier study that found linkage consent rates to be influenced by the way in which the consent request is framed (Kreuter, Sakshaug, and Tourangeau, 2015). Understanding features of the consent request that influence respondents' likelihood of agreement is an important topic, particularly at a time when investigators are increasingly using linked survey and administrative data sources for empirical research (Chetty, 2012).

2. Background

One way of minimizing the risk of linkage bias in studies that link survey and administrative data sources is to achieve high consent rates. Investigators have studied ways of increasing consent rates in surveys by focusing on the specific wording (or framing) of the consent question. Some studies have experimented with framing the consent question in terms of potential benefits of linkage. In the United States, Bates, Wroblewski, and Pascale (2012) found that respondents were more receptive to the (hypothetical) idea of allowing the government to use administrative records as a substitute for a returning a Decennial Census form if it would reduce overall costs and respondent burden. However, wording experiments in actual linkage applications have failed to replicate these results. For example, Pascale (2011) found no differences in consent rates when three different linkage benefits were read to respondents over the telephone: improved data accuracy, reduced costs, and reduced respondent burden. Similarly, Sakshaug, Tutz, and Kreuter (2013) found no effect of benefit wording in a telephone study when the consent request was motivated in terms of time savings for the respondent.

The fact that emphasizing the benefits of linkage does not lead to higher linkage consent rates in interviewer-administered surveys is a puzzling finding and has raised the question of whether the opposite approach – emphasizing the negative consequences of *not* consenting to linkage – is a more effective strategy. Framing a choice in terms of losses rather than gains is an idea that has roots in prospect theory (Kahneman and Tversky, 1979; 1984). In a series of experiments, Kahneman and Tversky demonstrated that people's decision-making is influenced by whether the available choices are framed in terms of gains or losses. Specifically, they showed that people are more risk averse when the choices are framed in terms of gains and risk seeking when framed in terms of losses.

This framing idea was tested in an application of record linkage consent in a telephone study of registered voters in the state of Maryland, USA (Kreuter, Sakshaug, and Tourangeau, 2015). Respondents were asked for consent to link their responses to voting records. Prior to the linkage request, respondents were randomized to one of two framing conditions: gain or loss. Respondents assigned to the gain-framing condition were presented with the following request:

*"The information you have provided so far would be **a lot more valuable** to us if we could link it to public voting records. Do we have your permission to link your answers to your voting record?"* (Boldface added to highlight the gain-framing)

Respondents in the loss-framing condition were presented with a slightly different phrasing of the request:

*"The information you have provided so far would be **much less valuable** to us if we can't link it to public voting records. Do we have your permission to link your answers to your voting record?"* (Boldface added to highlight the loss-framing)

The loss-framing condition produced a consent rate that was 10-percentage points higher than the gain-framing condition. A similar result was found in an application of panel survey consent (Tourangeau and Ye, 2009), in which the loss-framing condition yielded a reinterview rate that was 10-percentage points higher than the gain-framing condition.

It is apparent from these findings that highlighting the negative aspects of not agreeing to a request is more effective than highlighting the benefits of agreeing to the same request. Aside from prospect theory, there is another possible explanation for these results – the so-called *sunk-cost* effect. The sunk-cost effect (Thaler and Johnson, 1990; Arkes and Blumer, 1985) is the general tendency for people to let their decisions be influenced by how much time, money, or effort they've already invested in a process. Incurring these "sunk costs" tends to promote risk seeking behavior, whereas not incurring them promotes risk aversion. In a real world demonstration of this phenomenon, Arkes and Blumer found that theatre customers were more likely to use their tickets at future shows if they paid full price for them versus receiving a $2 or $7 discount. The authors state that one reason why people continue to invest further into a situation is that stopping would constitute an admission that the prior investment was wasted.

The notion that people are less likely to disregard sunk costs when confronted with a decision could explain the findings from the aforementioned survey framing experiments. In both studies, consent to participate in a follow-up interview (Tourangeau and Ye, 2009) and record linkage (Kreuter, Sakshaug, and Tourangeau, 2015), the consent request came at the end of the interview after respondents had already provided significant amounts of information leading up to the request. Respondents were reminded about their prior investment and were told that their earlier responses would either be more or less valuable depending on whether they agreed to the request. According to the sunk costs rationale, it is plausible that most respondents were reluctant to let their responses (which required a considerable investment of time and effort to provide) lose their value by not agreeing to the consent requests.

However, not all surveys administer their consent requests at the end of the interview. In fact, some studies have shown that asking for linkage consent at the end of the interview leads to *lower* consent rates as compared to asking at the beginning, or in the context of topic-related items (Sala, Knies, and Burton, 2014; Sakshaug, Tutz, and Kreuter, 2013). In these situations, it may make more sense to

emphasize the diminished value of the responses (loss framing) that the respondent will provide *after* the linkage request and not before. We refer to the responses that respondents have not yet provided, but will provide during the subsequent portion of the interview, as "prospective costs." Prospective costs can be contrasted with sunk costs and generally refer to costs (e.g., time, money, effort) that have not been incurred. Based on the sunk-prospective costs rationale, we suspect that emphasizing the diminished value of responses that respondents have not yet provided may be less effective than for responses that they have already provided. The reasoning is that responses that have already been provided (sunk costs) are likely perceived as more tangible and would reflect a real loss of investment if their value was diminished, as compared to responses that have not yet been provided (prospective costs). In this context, we might expect the effect of loss-framing to be attenuated, or even reversed, in favor of gain-framing under the prospective-costs setting.

To shed further light on this issue, we conducted a gain-loss framing experiment of the linkage consent question in a telephone study of blue-collar workers in Germany. Similar to the aforementioned framing studies (Kreuter, Sakshaug, and Tourangeau, 2015; Tourangeau and Ye, 2009), respondents were randomized to receive either a gain- or loss-framing version of the linkage request: the gain-framing version emphasized that their survey responses will be "considerably more useful" if they consent to the linkage, whereas the loss-framing version emphasized that their responses will be "considerably less useful" if they do not consent to linkage. In addition, we tested a sunk-prospective costs rationale by varying the target of the response usefulness statement. In the sunk- costs condition, response usefulness was emphasized for the responses that respondents had already provided prior to the linkage request. In the "prospective-costs" condition, response usefulness was emphasized for the responses that they will provide after the linkage request.

3. Data and Methods

The data for this study come from the "Befragung zu Arbeitsbedingungen im Baugewerbe" (English translation: "Survey on Working Conditions in the Construction Sector"). The survey is based on a sample of workers selected within establishments in the construction sector subject to minimum wage legislation. The data were originally collected to study minimum wages in the German construction sector (Apel et al., 2012). Minimum wages were introduced in this sector of the economy in 1997. The German construction sector is characterized by predominantly male employment. The labor demand is very weather-dependent and carrying a foreign workforce is common. The goal of the survey was to close the time lapse of the existing administrative data, which at the time of the study was only complete until 2009. A parallel goal was to collect more detailed information that goes beyond what is available in the existing administrative data. The survey covered a range of topics, including employment history, job satisfaction, continuing education, union coverage and collective agreement, income, minimum wage, socio-demographic characteristics, and illicit labor.

3.1 Sampling and Data Collection

Establishments from the construction sector were sampled from the 2009 wave of the IAB Establishment Panel. The IAB Establishment Panel is a yearly employer survey that covers all German branches, regions, and firm sizes. For purposes of stratification, the Panel oversamples larger establishments and those from Eastern Germany. The selected establishments were then linked to their corresponding "Integrated Employment Biographies (IEB)" record. The IEB is a longitudinal database that contains individual histories of employment, unemployment benefits, job search, and participation in active labour market programs on a daily basis (Dorner et al., 2010). The sample, including 6,139 full-time male workers, was

drawn from the IEB using the reference date December 31st, 2009. The probability to be included in the sample decreased as establishment size increased. Establishments with 1 employee liable to social security contributions were sampled with probability 1, establishments with 2 employees with probability 0.5, establishments with 3 employees with probability 0.33, and so on with .1 being the minimum probability of selection.

The survey was carried out by the SOKO Institute from February 15th until March 30th, 2011. Computer-assisted telephone interviewing (CATI) was used. A total of 1,521 interviews were successfully completed. This resulted in a response rate of 24.8% (AAPOR Response Rate 1; AAPOR 2011, p. 44).

3.2 Experimental Design

All respondents were randomized to the gain-loss framing and sunk-prospective costs conditions with equal probability. At the approximate midpoint of the interview, each respondent was asked for permission to link their survey records with their corresponding IEB record. Respondents were randomly assigned to receive either the gain- or loss-framing version of the linkage consent question, which emphasized that their responses would be "considerably more useful" (gain) or "considerably less useful" (loss) if they consented or did not consent to linkage, respectively. Respondents were further randomized into sunk-costs and prospective-costs conditions that emphasized the usefulness of their responses (gain or loss) for responses that they had already provided prior to the consent request (sunk-costs) and responses which would be provided after the consent request (prospective-costs). The gain-loss framing and sunk-prospective costs conditions were fully crossed. The number of respondents assigned to each of the conditions is summarized in Table 1.

Table 1. Sample Size by Gain-Loss Framing and Sunk-Prospective Costs Conditions

	Framing condition		
Costs condition	Gain	Loss	Total
Prospective	390	364	754
Sunk	360	407	767
Total	750	771	1,521

Respondents assigned to receive the gain-framing and prospective-costs version of the linkage consent request were read the following (ENGLISH TRANSLATION):

"To keep the interview as short as possible we would like to include excerpts of data available at the Federal Employment Agency for evaluation. The data include, for example, additional information on your work history. It is guaranteed that all data security rules will be strictly observed. It goes without saying that your agreement is completely voluntary. You can withdraw it at any time. The information that you will give us are ***considerably more useful*** *if you agree to the merge of the data to the Federal Employment Agency. Do you agree to the merge of your data?"* [Boldface added to highlight the gain-framing.]

Respondents who were assigned to receive the loss-framing and prospective-costs version of the linkage consent request were read the following:

"*To keep the interview as short as possible we would like to include excerpts of data available at the*

Federal Employment Agency for evaluation. The data include, for example, additional information on your work history. It is guaranteed that all data security rules will be strictly observed. It goes without saying that your agreement is completely voluntary. You can withdraw it at any time. Unfortunately the information that you will give us are ***considerably less useful*** *if you oppose the merge to the data of the Federal Employment Agency. Do you agree to the merge of your data?"* [Boldface added to highlight the loss-framing.]

The first sentence in the request was adopted from another IAB study, the Panel Study "Labour Market and Social Security" (PASS) study (Trappmann et al., 2013). PASS asks for linkage consent towards the beginning of the questionnaire, which is implied by the phrase "To keep the interview as short as possible..." In the sunk-costs conditions, this phrase was slightly reworded to "We kept this interview short on purpose." These introductory phrases were intended to increase the salience of the respective sunk- and prospective-costs conditions. However, we do not believe the introductory phrase impacted the consent rates as was found in a subsequent telephone wording experiment in Germany (Sakshaug, Tutz, and Kreuter, 2013).

Respondents assigned to the gain-framing and sunk-costs conditions were read the following statement:

"We kept this interview short on purpose and therefore would like to include excerpts of data available at the Federal Employment Agency for evaluation. The data include, for example, additional information on your work history. It is guaranteed that all data security rules will be strictly observed. It goes without saying that your agreement is completely voluntary. You can withdraw it at any time. The information that ***you have already given*** *us are considerably more useful if you agree to the merge of the data to the Federal Employment Agency. Do you agree to the merge of your data?*" [Bolding added to highlight the sunk-costs wording.]

Lastly, respondents in the loss-framing and sunk-costs conditions were read the following:

"We kept this interview short on purpose and therefore would like to include excerpts of data available at the Federal Employment Agency for evaluation. The data include, for example, additional information on your work history. It is guaranteed that all data security rules will be strictly observed. It goes without saying that your agreement is completely voluntary. You can withdraw it at any time. Unfortunately the information that you have already given us are considerably less useful if you oppose the merge to the data of the Federal Employment Agency. Do you agree to the merge of your data?"

4. Results

Across all experimental conditions, a total of 1,397 (out of 1,521), or 91.9 percent, of respondents consented to the record linkage request. The consent rate is comparable to other consent requests for surveys commissioned by the IAB (Sakshaug, Tutz, and Kreuter, 2013; Bender et al. 2008; Christoph et al. 2008). Table 2 shows the overall composition of the sample and consent rates within subgroups. There is little variation in consent rates between subgroups with the exception of birthplace. Persons born within Germany tend to consent at a higher rate compared to persons who were born outside of Germany (χ^2 = 7.35; p = 0.025) with East Germans consenting at a rate of 93.3 percent, 91.5 percent for West Germans, and 86.2 percent for foreign born residents. We now summarize the results of the gain-loss framing and sunk-prospective costs experiments separately before examining them jointly.

Table 2. Sample Composition and Linkage Consent Rates.

Sample characteristics	% (N)	Consent %	Chi-squared test (χ^2) p-value
Age			0.771
20-34	18.3 (277)	92.1	
35-45	26.8 (406)	92.1	
46-55	37.5 (568)	91.4	
56-66	17.3 (262)	93.5	
Birthplace			0.025
East Germany	46.1 (700)	93.3	
West Germany	45.9 (697)	91.5	
Other	8.1 (123)	86.2	
Education			0.425
Low	44.8 (680)	91.0	
Intermediate	49.2 (747)	92.9	
High	5.9 (90)	92.2	

Note: Education was categorized into 3 groups: low, intermediate, and high. The low group includes persons who finished schooling with or without an Abschluss. The intermediate group includes persons who received a Mittlere Reife, Realschulabschluss, or a Polytechnische Oberschule. The high group includes those who received a Fachhochschulreife or Abitur.

4.1 Gain-Loss Framing Experiment

Table 3 shows the results of the gain-loss framing experiment. The consent rate among respondents who received the gain-framing version of the consent request is 92.5 percent. In comparison, the consent rate among respondents who received the loss-framing version of the consent request is 91.2 percent. While other studies have found that the loss-framing version of the consent request achieves higher rates of consent compared to the gain-framing version (Kreuter, Sakshaug, and Tourangeau, 2015; Tourangeau and Ye, 2009), the same pattern is not replicated in the current study and no significant main effect of gain-loss framing on consent is found ($\chi^2 = 0.93$; $p = 0.335$).

Table 3. Contingency Table of Consent by Framing Condition.

Framing condition	No consent % (N)	Consent % (N)	Total (N)
Gain	7.5 (56)	92.5 (694)	750
Loss	8.8 (68)	91.2 (703)	771
Chi-squared test statistic = 0.93; p-value = 0.335			

4.2 Sunk-Prospective Costs Experiment

Table 4 shows the impact of the sunk-prospective costs conditions on consent. The group of respondents who were administered the prospective-costs version of the linkage request achieve a consent rate of 91.8 percent. Respondents who received the sunk costs version of the linkage request achieve a 91.9

percent consent rate. The difference between the two consent rates is substantively and statistically insignificant (χ^2 = 0.01; p = 0.921), suggesting no main effect of sunk-prospective costs on consent.

Table 4. Contingency Table of Consent by Sunk-Prospective Costs Conditions.

Costs condition	No consent % (N)	Consent % (N)	Total (N)
Prospective	8.2 (62)	91.8 (692)	754
Sunk	8.1 (62)	91.9 (705)	767
Chi-squared test statistic = 0.01; p-value = 0.921			

4.3 Interaction between Gain-Loss Framing and Sunk-Prospective Costs

The preceding analyses examined the main effects of gain-loss framing and sunk-prospective costs on linkage consent independently, finding no effect of either feature. The next set of analyses examines the interaction of both features on linkage consent. Figure 1 presents the linkage consent rates for each gain-loss framing and sunk-prospective costs combination. One can see that when the prospective-costs version of the consent question is administered (emphasizing the usefulness of the responses that the respondent will provide after the linkage request), the gain-framing condition achieves a higher consent rate than the loss-framing condition (93.9 percent vs. 89.6 percent). The difference between the two conditions is statistically significant (χ^2 = 4.61; p = 0.032). The 89.6 percent consent rate for the loss-framing/prospective-costs condition is the lowest across all of the experimental conditions. Clearly, emphasizing the diminished usefulness of responses that the respondent has not yet provided is not an optimal strategy for obtaining consent compared to the other approaches. In the context of the sunk-costs condition (emphasizing the usefulness of the responses that the respondent has already provided), the loss-framing condition achieves a slightly higher consent rate than the gain-framing condition (92.6 percent vs. 91.1 percent). That is, framing the consent request in terms of diminished usefulness of the responses that the respondent has already provided yields a higher consent rate than emphasizing the increased usefulness of the previously-provided responses. Although this pattern is in line with our expectation based on the gain-loss framing and sunk costs literature, the difference between the gain-loss framing conditions does not reach statistical significance (χ^2 = 0.59; p = 0.442).

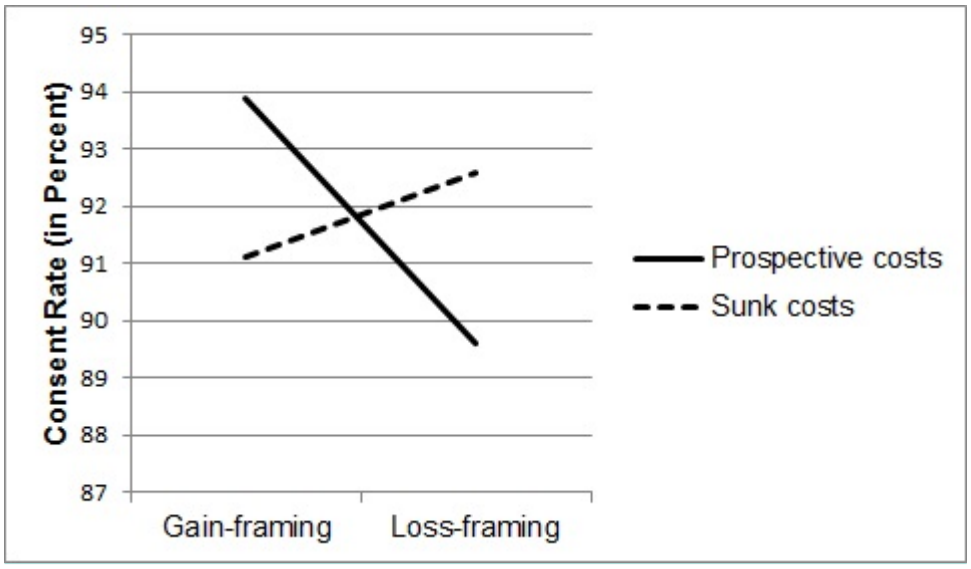

Figure 1. Linkage Consent Rates by Gain-Loss Framing and Sunk-Prospective Costs Conditions

5. Discussion

In this study we examined the joint impact of a gain-loss framing and a sunk-prospective costs rationale on linkage consent rates. Specifically, respondents were presented with a linkage consent request that was framed in a way that emphasized the increased (gain) or diminished (loss) usefulness of their survey responses that they had already provided prior to the linkage request (sunk costs) or will provide after the linkage request (prospective costs).

Our analyses revealed that the impact of the gain-loss framing does indeed depend on whether the gains or losses affect the information that has (or has not) already been provided by the respondent. Specifically, the gain-framing condition of the request yielded a higher consent rate – and the highest consent rate overall – compared to the loss-framing condition when response usefulness was emphasized for responses that the respondent had not yet provided. In contrast, when response usefulness was emphasized for the previously-provided responses, there was no significant difference between the loss- and gain-framing strategies.

The finding that the gain-loss framing and sunk-prospective costs rationale of the linkage request jointly impact the consent rate is an interesting addition to the linkage consent literature. While some studies have shown that framing survey requests in terms of losses (e.g., diminished value of the previously-provided information) is more effective than framing the request in terms of gains (e.g., increased value of the previously-provided information; Kreuter, Sakshaug, and Tourangeau, 2015; Tourangeau and Ye, 2009), our study provides some evidence that emphasizing the gains can be more effective than emphasizing the losses when those gains or losses affect the value of the information that the respondent will subsequently provide.

A practical implication of this finding is potentially relevant to the placement of the linkage consent question in surveys. The majority of linkage studies place the consent question near the end of the questionnaire despite experimental evidence that suggests this approach is suboptimal for maximizing consent rates (Sala, Knies, and Burton, 2014; Sakshaug, Tutz, and Kreuter, 2013). Surveys that do not ask for linkage consent at the end of the interview may benefit the most from implementing a strategy that emphasizes the benefits of linkage as they relate to information that respondents will provide later in the interview. Experimenting with different placements of the consent request and different gain-loss framing strategies that emphasize the usefulness of the information that the respondent has already provided, or will provide later, is a topic for future work.

The null difference between the gain- and loss-framing conditions when response usefulness was emphasized for previously-provided responses could be due to the fact that the consent question appeared at the approximate midpoint of the interview rather than at the very end. Respondents may not have been as sensitive to the diminished usefulness of their previously-provided responses knowing that they had not yet made a full investment in completing the interview. Respondents were made aware of the approximate duration of the interview at the outset, so it is possible that respondents were aware of their relative progress during the interview. A relevant question for future research is, what are the factors that make respondents more sensitive to loss-framing statements about the diminished usefulness of their already-provided information? Potential factors may include, for example, the percentage of questions completed prior to the linkage request, or the level of complexity (or response burden)

associated with the provided information.

Our results should be interpreted in the context of several limitations. First, our study population consisted of a single occupation group comprised of men in Germany. Although the consent rate was similar to other studies in Germany, the results should nevertheless be generalized with caution. Second, about 8 percent of the respondents were foreign workers. This has the potential to affect the wording experiment, especially if the respondents are not familiar with German. We investigated this possibility by excluding foreign workers and re-analyzing the data, but the findings did not change. Third, no refusal conversion procedures were performed during the recruitment period. It is possible that the study results were affected by this decision. That is, less cooperative respondents (had they been recruited into the respondent pool) may be unwilling to consent to linkage regardless of how it is worded or framed. Conversely, the low response rate (less than 25 percent) likely led to a strong selection of the most cooperative respondents and this can have implications on acquiescence to consent to linkage. It is therefore not surprising that we found little variation in the sample composition.

Fourth, it is possible that some interviewers failed to read the linkage consent question as scripted, which may have led to an underestimation of the interaction between gain-loss framing and the sunk-prospective costs conditions. Interviews were not recorded, thus, we could not explore this possibility. Lastly, it is possible that the change in introductory phrasing between the prospective- and sunk-cost conditions affected the results. Both were intended to increase the salience of the respective conditions, but it's possible they introduced unintended confounding instead. However, we suspect the introductory phrase did not affect the consent rate as this was the finding in a subsequent telephone wording experiment in Germany (Sakshaug, Tutz, and Kreuter, 2013). Still, we cannot rule out the possibility of confounding.

In spite of these limitations, our study has a potentially useful implication for survey research. Studies that ask for linkage consent prior to the end of the interview may benefit from emphasizing the increased usefulness of responses that respondents will provide after the linkage request. It is possible that this approach may also be useful in the context of other survey-related requests, such as consent to physical or biological measurements (e.g., blood, saliva), or to encourage more honest reporting of sensitive items (e.g., income, illicit drug use). These are topics for further investigation. Another topic for future work is the framing of the survey introduction. Typically survey introductions are framed in terms of gains (e.g., benefits to society), but experimenting with alternative framing strategies might lead to improvements in recruitment.

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