

**Survey misreporting of welfare receipt -  
respondent, interviewer, and interview characteristics**

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We use matched survey and administrative data to study interviewer and interview related determinants of misreporting on welfare receipt in interviews. In our data, 12.2 % of German welfare recipients underreport benefit receipt. We find that underreporting is more likely in formal and standardized interviews compared to those with a more conversational character. Further, low interviewer education and matched interviewer-respondent characteristics with respect to immigration and education are associated with higher reporting quality.

JEL Code: I32, C81

Keywords: misreporting, interviewer style, conversational interviewing, standardized interviewing

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## **I. Introduction**

Much research, e.g., on participation in transfer programs relies on survey data. If survey data is error-ridden empirical research can turn out unreliable. An important reason for erroneous data is misreporting by survey respondents. One literature investigates the characteristics of misreporters (e.g., Bollinger and David 1997, 2001, or Meyer et al. 2009), another literature studies the relevance of interviewer characteristics and interviewing techniques for misreporting in surveys (e.g., O'Muircheartaigh and Campanelli 1998, or Schober and Conrad 1997). We provide new evidence on these issues by exploiting data that is rarely available: we combine information on misreporting in a large panel survey with information on interviewer and interview characteristics from an interviewer survey.

In prior work (Bruckmeier et al. 2014) we describe the characteristics of individuals who underreport welfare receipt. In agreement with the literature we find that particularly those individuals underreport welfare receipt who are close to the labor market and who receive small amounts of transfers for a short period of time. Here, we use paradata on survey data collection. We extend prior analyses and contribute to the discussion on the relevance of interviewer characteristics and interviewing techniques for respondent misreporting in surveys.

The literature on the role of interviewer characteristics agrees that age, gender, interviewer experience and the matching with respondent characteristics may be important for response quality.<sup>1</sup> We consider correlations that can be useful in the assignment of interviewers to respondents. Of particular interest are our data on interviewing style. Since the early contribution of Suchman and Jordan (1990) numerous authors debated the strengths and weaknesses of standardized vs. conversational interviewing.<sup>2</sup> Extant evidence suggests that the benefit of non-standardized interviewing rests in substantial increases in answer accuracy while

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<sup>1</sup> See, e.g., Essig and Winter (2009), Kalwij (2010), O'Muircheartaigh and Campanelli (1998), or Pickery et al. (2001).

<sup>2</sup> For details see, e.g., Currivan (2008), Schober and Conrad (1997).

the costs are prolonged interview durations. Recent work has broadened the approach; Schober et al. (2012) found that depending on interviewing technique respondent fluency of speech and gaze direction during answers predict answer quality. Our data allow us to identify instances of misreporting. We test whether misreporting responds to interview style. The answer to this question is important for interviewing and survey strategies and can contribute to improve data quality.

## **II. Data and Approach**

We apply data taken from the fourth survey wave of the household panel study "Labour Market and Social Security" (PASS). The study started in 2006/07 and was designed for research on unemployment and poverty (Trappmann *et al.* 2013).<sup>3</sup> Its dual sampling frame combines a subsample of welfare benefit recipients with a random population sample that oversamples households with low socio-economic status. To account for this sampling design we use sampling weights in our analysis. A major advantage of the PASS survey is that it asks respondents about *current* welfare receipt which circumvents recall error. The survey started out with about 6,000 households in each of the two subsamples; over time some households attrited from the panel and refreshment samples where added. The fourth survey wave was gathered in 2010 and administered to 7,848 households of which 5,618 households could be linked to information from an interviewer survey. We omit observations of respondents above age 65 and keep those 4,747 households with valid information on welfare receipt. About 94.2 % of these households agreed to match their administrative records to the survey data and of those who agreed again about 91.6 % (N = 4,094) could be matched based on the available information.

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<sup>3</sup> The study's primary purpose is to create a longitudinal database for research into the Hartz-reforms, one of the major postwar reforms of the German social security system.

Based on information from administrative data 1,884 of these households received welfare at the time of the survey. We can now code an error of omission, i.e., a non-reporting of actual welfare receipt, and an error of commission, i.e., an erroneous (over-)reporting of welfare receipt for the date of the interview. We find that 12.2 % of welfare recipients underreport their actual welfare receipt, while 1.9 % over-report a welfare receipt which is not recorded in the administrative data.<sup>4</sup> After dropping observations with missing values on covariates our regression sample contains 1,632 observations.

In our analysis, we investigate the relationship between the propensity to underreport welfare receipt and the interview style, interview situation, observable characteristics of the interviewer, and of the respondent:

$$P(\text{underreport}) = \beta_0 + \beta_1 \text{Interview Style} + \beta_2 \text{Characteristics Interviewer} \\ + \beta_3 \text{Interview Situation} + \beta_4 \text{Characteristics Respondent} + e.$$

We apply a probit estimator and cluster standard errors at the interviewer level. Our indicators of interview style consider whether the interviewer speaks slowly, helps, or explains the question if the respondent has trouble understanding, whether he or she strictly follows a standardized protocol, whether the interviewer shortens questions and speaks faster if the respondent is in a hurry. We control for personal vs. telephone interviews.<sup>5</sup> Among the interviewer characteristics we consider immigrant status, welfare receipt, education, interviewing experience, and age. As indicators of the interview situation we use the number of contact attempts, refusal conversion, disturbances during the interview, and presence of a third person. We also control for respondent characteristics which comprise education, immigrant

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<sup>4</sup> Given that the precise timing of their ongoing welfare payments may not be completely transparent to recipients we evaluated whether respondents actually received benefits within a time window of plus or minus 15 or 30 days around the interview or at any other time within the calendar month of the interview. The resulting rates of misreporting were similar.

<sup>5</sup> As it is not a random selection of respondents that ends up in personal interviews we refrain from interpreting the CAPI coefficient as a mode effect.

status, household structure, and household economic situation, and consider indicators of matching characteristics between respondents and interviewers.<sup>6</sup>

Table 1 describes our explanatory variables for the regression sample of 1,632 households for which we have complete information and who are welfare recipients based on administrative records. Tests for the equality of means yield significant differences for a number of characteristics which we explore in multivariate analyses.

We estimate three model specifications to investigate the patterns of benefit underreports: first, we consider only interview style and interviewer characteristics, then we add characteristics of the interview situation, and finally we control for the match of respondent and interviewer characteristics. All models control for respondent characteristics.

### **III. Estimation results**

Table 2 shows the estimation results.<sup>7</sup> The estimates describing the association of interview style, interviewer characteristics, and interview situation with the propensity to underreport are stable across the different specifications in columns 1-3. We find strong evidence that sticking to a standardized interview protocol increases the propensity to underreport welfare receipt: not providing additional help, adhere exactly to the questionnaire, speaking fast, and not speaking slower in situations of respondent difficulties all go along with significantly and substantially higher propensities of underreporting. Among the interviewer characteristics we find no confirmation for beneficial experience effects as they were pointed out, e.g., by Essig and Winter (2009). Instead, low education supports truthful responses on welfare receipt. In column 2 we find weak evidence that converted interview refusals generate

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<sup>6</sup> As a robustness test we replaced the specifications with indicators for matching characteristics by models with separate controls for interviewer and respondent characteristics. The key results are robust to this specification change.

<sup>7</sup> The estimates for respondent and household characteristics agree with prior findings (Bruckmeier et al. 2014) and are available upon request. In an Appendix we show the covariates when each group of variables is considered separately in the specification.

poor interview quality. Interestingly, having a third person present during the interview is associated with more truthful answers on welfare receipt.

A number of prior studies investigated the relevance of matching interviewer and respondent characteristics. Among others, McKenzie (1977), Riphahn and Serfling (2005), and Gong and Aadland (2011) confirm the relevance of matched respondent-interviewer characteristics with respect to, e.g., gender, and race. Our evidence supports that matching the interview participants on migration background and education can yield a significantly lower propensity of welfare underreporting.

#### **IV. Conclusions**

This research exploits unusually rich data that allow us to match administrative and survey information with details on the interviewer, interview situation, and interview style. We confirm Schaeffer and Conrad (1997) in that a more conversational interviewing style reduces misreporting. While conversational as opposed to standardized interviewing may be more expensive in terms of additional interview time, it may pay off in terms of improved survey responses to sensitive or difficult questions. Other mechanisms that can contribute to improve survey quality at lower cost are to pick an interviewer from a similar background as the respondent or to pay attention to having a third party witness the interview.

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**Table 1** Descriptive statistics

	All (N=1632)		Underreport=0 (N=1476)		Underreport=1 (N=156)		
	mean	sd	mean	sd	mean	sd	
<b>Interview Style</b>							
No help even if trouble understanding	0,75	0,43	0,75	0,44	0,78	0,41	
Explain question if trouble understanding	0,34	0,47	0,34	0,47	0,35	0,48	
Adhere exactly to questionnaire	0,97	0,18	0,97	0,18	0,95	0,22	
Abbreviate questions	0,17	0,37	0,17	0,37	0,17	0,37	
Speak faster if respondent in a hurry	0,63	0,48	0,61	0,49	0,76	0,43	***
Speak slower if trouble understanding	0,98	0,13	0,99	0,12	0,97	0,16	
CAPI Interview	0,58	0,49	0,57	0,50	0,63	0,49	
<b>Characteristics of the Interviewer</b>							
Interviewer immigrant	0,19	0,39	0,20	0,40	0,12	0,32	**
Interviewer welfare receipt	0,16	0,36	0,16	0,36	0,15	0,36	
Interviewer low education (reference)	0,04	0,21	0,05	0,21	0,01	0,11	***
Interviewer middle education	0,25	0,43	0,23	0,42	0,40	0,49	***
Interviewer high education	0,71	0,45	0,72	0,45	0,59	0,49	**
Experience interviewing (in years)	7,36	6,88	7,39	6,91	7,10	6,69	
Number interviews in this survey year (log)	3,44	0,68	3,44	0,67	3,45	0,71	
Interviewer age (in years/10)	4,91	1,38	4,88	1,39	5,14	1,26	*
<b>Characteristics of the Interview Situation</b>							
Number of contact attempts until interview (log)	1,82	0,76	1,82	0,76	1,86	0,75	
Interview from refusal conversion	0,04	0,19	0,03	0,18	0,08	0,27	
Interview interrupted	0,06	0,23	0,05	0,22	0,07	0,26	
Third party influencing the interview response	0,02	0,14	0,02	0,15	0,01	0,08	***
<b>Match of Interviewer-Interviewee Characteristics</b>							
Age difference (interviewer-respondent)	0,76	1,92	0,73	1,94	1,01	1,73	
Both immigrants	0,05	0,23	0,06	0,24	0,01	0,10	***
Same education	0,22	0,41	0,22	0,42	0,18	0,38	
Respondent male, interviewer male (reference)	0,24	0,43	0,23	0,42	0,26	0,44	
Respondent female, interviewer male	0,29	0,46	0,30	0,46	0,29	0,45	
Respondent male, interviewer female	0,21	0,41	0,21	0,41	0,21	0,41	
Respondent female, interviewer female	0,26	0,44	0,26	0,44	0,25	0,43	
<b>Characteristics of Respondent</b>							
Immigrant	0,26	0,44	0,26	0,44	0,23	0,42	
Regular employed person in household	0,15	0,36	0,10	0,31	0,53	0,50	***
HH: Single household (reference)	0,46	0,50	0,45	0,50	0,52	0,50	
HH: Couple no kids	0,14	0,34	0,14	0,34	0,14	0,35	
HH: Single parent	0,23	0,42	0,23	0,42	0,18	0,38	
HH: Couple with kids	0,17	0,38	0,17	0,38	0,17	0,37	
HH: Other	0,00	0,07	0,01	0,07	0,00	0,05	
Household income: <500 € (reference)	0,14	0,35	0,15	0,35	0,09	0,28	**
Household income: 500-749 €	0,45	0,50	0,47	0,50	0,33	0,47	**
Household income: 750-999 €	0,32	0,47	0,32	0,47	0,31	0,46	
Household income: > 1000 €	0,09	0,29	0,07	0,25	0,28	0,45	***
Savings: none (reference)	0,58	0,49	0,59	0,49	0,53	0,50	
Savings: <1000 €	0,30	0,46	0,30	0,46	0,28	0,45	
Savings: <2500 €	0,06	0,24	0,05	0,22	0,10	0,31	***
Savings: <5000 €	0,03	0,18	0,03	0,17	0,04	0,20	**
Savings: >=5000 €	0,03	0,18	0,03	0,17	0,04	0,20	*
Respondent in education or no education	0,08	0,27	0,08	0,28	0,02	0,13	***
Respondent low education (reference)	0,39	0,49	0,39	0,49	0,38	0,49	
Respondent middle education	0,35	0,48	0,34	0,47	0,37	0,49	
Respondent high education	0,18	0,38	0,17	0,38	0,22	0,42	
Respondent other education	0,01	0,11	0,01	0,11	0,01	0,10	
Welfare receipt <13 months (reference)	0,28	0,45	0,26	0,44	0,49	0,50	***
Welfare receipt 13-24 months	0,26	0,44	0,26	0,44	0,27	0,44	
Welfare receipt >24 months	0,45	0,50	0,48	0,50	0,24	0,43	***

**Note:** \*\*\* p<0.01, \*\* p<0.05, \* p<0.1 in last column describe significance of mean difference between the two underreport-specific subsamples.

Table 2

## Estimation results

	(1)	(2)	(3)
<b>Interview Style</b>			
No help even if trouble understanding	0.054** (0.021)	0.059*** (0.021)	0.060*** (0.021)
Explain question if trouble understanding	-0.009 (0.026)	-0.002 (0.026)	-0.000 (0.025)
Adhere exactly to questionnaire	0.041* (0.023)	0.039* (0.023)	0.042** (0.021)
Abbreviate questions	0.002 (0.027)	0.002 (0.027)	0.003 (0.025)
Speak faster if respondent in a hurry	0.079*** (0.020)	0.076*** (0.020)	0.078*** (0.019)
Speak slower if trouble understanding	-0.224*** (0.069)	-0.207*** (0.075)	-0.190*** (0.071)
CAPI Interview	0.044 (0.028)	0.053** (0.027)	0.054** (0.026)
<b>Characteristics of the Interviewer</b>			
Interviewer immigrant	-0.032 (0.021)	-0.034 (0.021)	-0.014 (0.022)
Interviewer welfare receipt	-0.021 (0.020)	-0.021 (0.019)	-0.020 (0.020)
Interviewer middle education (ref. low education)	0.144*** (0.033)	0.140*** (0.034)	0.132*** (0.034)
Interviewer high education (ref. low education)	0.065*** (0.022)	0.063*** (0.023)	0.048* (0.025)
Experience interviewing (in years)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)
Number interviews in this survey year (log)	0.018 (0.017)	0.017 (0.016)	0.018 (0.016)
Interviewer age (in years/10)	0.004 (0.007)	0.003 (0.007)	0.002 (0.011)
<b>Characteristics of the Interview Situation</b>			
Number of contact attempts until interview (log)	-	0.010 (0.013)	0.014 (0.012)
Interview from refusal conversion	-	0.084 (0.055)	0.075 (0.051)
Interview interrupted	-	0.009 (0.039)	0.010 (0.036)
Third party influencing the interview response	-	-0.059 (0.036)	-0.063* (0.033)
<b>Match of Interviewer-Interviewee Characteristics</b>			
Age difference (interviewer-respondent)	-	-	-0.002 (0.008)
Both immigrants	-	-	-0.081*** (0.030)
Same Education	-	-	-0.066*** (0.018)
Respondent female, interviewer male	-	-	0.043 (0.027)
Respondent male, interviewer female	-	-	-0.007 (0.020)
Respondent female, interviewer female	-	-	0.030 (0.025)

**Note:** All estimations use 1,632 observations. The table presents marginal effects from a probit estimation with standard errors that are clustered at the interviewer level in parentheses. All estimation models additionally control for respondent and household characteristics. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

## Appendix

	(1)	(2)	(3)	(4)
<b>Interview Style</b>				
No help even if trouble understanding	0.037 (0.025)	-	-	-
Explain question if trouble understanding	-0.011 (0.025)	-	-	-
Adhere exactly to questionnaire	0.015 (0.024)	-	-	-
Abbreviate questions	-0.0084 (0.029)	-	-	-
Speak faster if respondent in a hurry	0.080*** (0.020)	-	-	-
Speak slower if trouble understanding	-0.217** (0.093)	-	-	-
CAPI Interview	0.060*** (0.023)	-	-	-
<b>Characteristics of the Interviewer</b>				
Interviewer immigrant	-	-0.036* (0.021)	-	-
Interviewer welfare receipt	-	-0.014 (0.022)	-	-
Interviewer middle education (ref. low education)	-	0.141*** (0.031)	-	-
Interviewer high education (ref. low education)	-	0.068*** (0.017)	-	-
Experience interviewing (in years)	-	0.0007 (0.002)	-	-
Number interviews in this survey year (log)	-	0.0097 (0.013)	-	-
Interviewer age (in years/10)	-	0.0044 (0.008)	-	-
<b>Characteristics of the Interview Situation</b>				
Number of attempted contacts (log)	-	-	0.0056 (0.013)	-
From converted interview refuser	-	-	0.050 (0.055)	-
Interview interrupted	-	-	0.028 (0.047)	-
Third party influencing the interview response	-	-	-0.063* (0.034)	-
<b>Match of Interviewer-Interviewee Characteristics</b>				
Age difference (interviewer-respondent)	-	-	-	0.005 (0.006)
Both immigrants	-	-	-	-0.094*** (0.023)
Same Education	-	-	-	-0.065*** (0.023)
Respondent female, interviewer male	-	-	-	0.038 (0.028)
Respondent male, interviewer female	-	-	-	0.0058 (0.024)
Respondent female, interviewer female	-	-	-	0.051* (0.028)
Observations	1,632	1,632	1,632	1,632

Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1