Be Wary of Those Who Ask

A Randomized Experiment on the Size and Determinants of the Enumerator Effect

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Abstract

During survey data collection, respondents' answers may be influenced by the behavior and characteristics of the enumerator, the so-called enumerator effect. Using a large-scale experiment in Uganda randomly pairing enumerators and respondents, the study explores for which types of questions the enumerator effect may exist. It is found that the enumerator effect is minimal in many questions, but is large for political preference questions, for which it can

account for over 30 percent of the variation in responses. The study then explores which enumerator characteristics, and which of their combination with respondent characteristics, could account for this effect. Finally, the conclusion provides some practical suggestions on how to minimize enumerator effects, and potential bias, in various types of data collections.

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Data quality is a core concern of applied research. The ability of researchers to rigorously measure anything is determined by the reliability of the data collected. This is an increasingly important issue given the impressive growth in the number of researchers involved in data collection and conducting empirical work using large micro-level datasets. Recently, the rising awareness of the significant implications of data quality for proper inference has led researchers to start looking at different issues that may affect it (McKenzie and Rosenzweig, 2012; Lupu and Michelitch, 2018)

However, best practices for collecting individual-level data must often be learned in the field (painfully and with great expense) or from colleagues. In particular, there has been relatively little systematic analytical work testing the presence and possible consequences for measurement and empirical analysis of the enumerator effect; that is, the likelihood that the respondent's answers may be influenced by the behavior and characteristics of the enumerator¹.

The authors have conducted a large-scale experiment in Uganda covering 1064 villages and 8403 respondents to test whether the characteristics of enumerators affects how people respond to survey questions. The survey included a large set of questions covering various aspects related to individual consumption, wealth, education, and political preferences.

The authors begin by testing for the possible presence and size of an enumerator effect. They find that there is likely no or little enumerator effect for the majority of the questions

¹ The process of data collection, through the filling of a questionnaire, is a social interaction between an interviewer and a respondent. It is thus possible that any element that affects social interaction could also impact the quality of the data collected during the interview. For instance, the respondent may be influenced passively by her perception of the interviewer – by the interviewer's observable characteristics – and actively by the interviewer's behaviour – such as the interviewer's attitude and personality (West and Blom, 2017).

asked. However, they find large enumerator effects in answers to questions concerning the respondent's opinion about opposition political parties, a very sensitive question in Uganda. The authors then test for the determinants of the enumerator effect on political support. They find that whether the enumerator comes from an urban versus rural area is positively associated with openness to vote for the opposition parties, though not for the ruling party. This result is consistent with the political situation in Uganda: support of the opposition parties comes from mostly urban areas, while rural communities vote overwhelmingly for the ruling party. Moreover, the study's results indicate that respondent's answers are influenced by the gender of the enumerator and by the enumerator's experience as a surveyor. In addition, the study provides some evidence that the enumerator effect is also influenced by the *distance* between the characteristics of the enumerator and the respondent.

These results have practical implications for conducting surveys on sensitive issues. In the context of randomized controlled trials, to reduce the likelihood that the enumerator effect will cause bias researchers should balance enumerator characteristics between treated and control groups when assigning enumerators to subjects. When this is not possible, enumerators themselves should be balanced between treated and control groups. In the cases of non-randomized studies using previously collected survey data, the results of this study indicate the importance that data documentation should provide, at a minimum, a clear description of how enumerators and teams were assigned. This would allow researchers to check for the presence of the enumeration effect and estimate its size before conducting any analysis.

This paper presents three contributions to the literature. First, this the first study to document the enumerator effect on a range of outcomes - including stated political opinions - using an experimental design in a developing country. Second, the study collects detailed information on enumerators demographics, work history, and a range of psychological measures. This makes it possible to explore in greater detail than in previous studies the extent to which political opinion responses vary depending on the enumerator's characteristics and on the distance between the characteristics of the enumerator and the respondent. Third, the randomization is based on an unusually large sample for this type of experiment, reinforcing confidence in the robustness of the results.

The remainder of this paper is structured as follows. Section 1 briefly discusses the previous literature on the enumerator effect. Section 2 presents the experimental design conducted on the enumeration team. Section 3 describes the data, while the results are presented in Section 4. Section 5 discusses the implications of our results for survey data collection. Section 6 concludes.

1. Literature

The literature studying the enumerator effect draws from different disciplines, including economics, political science, statistical methods, anthropology, and psychology (for recent surveys, see Schaeffer et al., 2010; West and Blom, 2017)². The enumerator effect can

² A related set of studies looks at survey design as a possible determinant of data quality. Researchers investigated different aspects, such as the method of data collection (Blattman et al., 2016), the treatment of hard-to-measure concepts (Laajaj and Macours, 2017), the wording of the questions (Anker et al., 1987; Beaman and Dillon, 2012; Serneels et al., 2016;), questions placing within the survey questionnaire (Karlan and Zinman, 2012), and the length and level of detail of the questionnaire (Kalton and Schuman, 1982; de Mel, et al. 2009; Beegle et al. 2012; Blair et al. 2012). Other studies look at how data quality is affected when household members report for others in the household (Bardasi et al., 2011), when the answers are to be reported publicly (Carlson, 2016), or when the repetition of surveys can be exhausting (Zwane et al., 2011).

materialize because of enumerator behavior affecting non-response (Couper and Grove, 1992; West and Olson, 2010; Randall et al., 2013) or due to enumerator characteristics affecting the answers of the respondent (Brunton-Smith et al., 2017).

Previous research has shown that survey responses are associated with enumerator characteristics such as gender (Huddy et al., 1997; Flores Macias and Lawson, 2008), religion (Blaydes and Gillum, 2013; Benstead, 2014), ethnicity (Adida et al., 2016), experience and personality traits (Jäckle et al., 2013), differences in social status with the respondent (Kane and Macaulay, 1993), or even physical attractiveness (Jæger, 2016). There is also evidence that the enumerator effect varies with the type of question, being more salient for questions concerning gender-related issues, religion, ethnicity, and politics (Schaeffer, 1980; Davis and Silver, 2003; Himelein, 2016; Laajaj and Macour, 2017).

One of the main challenges for this literature is to avoid confounding enumerator interviewer and respondent characteristics. The only way to exclude this possibility is to randomly assign interviewers to respondents. However, practical factors often make design unfeasible. Thus, much of the literature on the enumerator effect consists of either telephone surveys with small numbers of random interviewers or face-to-face surveys with non-random assignment of interviewers (West and Blom, 2017). Only a few studies have rigorously documented the causal impact of the enumerator on survey responses and all these studies have been conducted in the United States. A first group of studies looked at how the gender of the interviewer affected the response to gender and sex-related questions (Johnson and Delamater, 1976; Catania et al. 1996; Huddy et al., 1997). Another important set of studies has documented the presence of the enumerator effect in surveys on political opinions, showing that it depends on enumerator characteristics such as race, behavior, and

political views (see Williams, 1964; Schuman and Converse, 1971; Hatchett and Schuman, 1975; Reese et al. 1986; Davis, 1997; Davis and Silver, 2003).

Studies of the enumerator effect in developing countries are few and all present a quasi-experimental design due to problems with randomization in the field (Bischoping and Schuman, 1992; Flores-Macias and Lawson, 2008)³. The number of studies looking at enumerator effects in shaping answers to political questions in developing countries is extremely limited. Bischoping and Schuman (1992) document the impact of perceived enumerator political opinions on voting intentions in Nicaragua in 1990 while Adida et al. (2016) show that co-ethnicity between respondent and enumerator influences answers to voting behavior questions in the Afrobarometer survey. To the best of the authors' knowledge, this is the first paper which provides evidence of the enumerator effect affecting the stated political preferences in a developing country using an experimental design.

2. Experimental design

The enumerator experiment described in this paper was conducted during the data collection of a separate research project, described in detail in Fiala and Premand (2018). That project was an experimental evaluation of a large-scale local accountability program conducted in 2016 that included 1064 villages and 8403 respondents. The authors of the present paper utilize the sample of participants in that study for the experiment that is described here.

³ The only two exceptions are Himelin (2016) and Blayedes and Gyldum (2013). The former explores the presence of an enumerator effect in responses to a survey on corruption, women rights, and community values in Timor Lest. The second looks at the effect of having an interviewer who wears a *hijab* on responses to questions related to religiosity and Islamic cultural norms in a survey experiment in Cairo (Egypt).

The research on the local accountability project included several economic and political outcomes, and so the questionnaire asked a range of different questions, including ones concerning demographics, asset ownership, consumption of alcohol and tobacco, and political party preferences.

The survey was conducted by 90 enumerators, divided into 4 teams, one for each language group of Uganda. Given the length of the survey and the fact that 8 individuals were to be interviewed each day, two enumerators were needed per village. During the data collection the authors randomized, within the teams, which village an enumerator would visit to conduct interviews. Thus, the pairing of enumerators visiting each village was random. Yet, it was not possible to randomize which specific individual within a village an enumerator interviewed. This could bias the analysis if enumerators could systematically choose individuals to interview of a specific type. However, in the analysis to follow, it is shown that this is unlikely to be the case.

During the morning of the day of data collection, the field manager or team leader assigned a village which was randomly determined using pre-developed randomization lists to each enumerator with the list of households to be interviewed.⁴ Randomization was stratified by distance to ensure that if an enumerator went to a distant village the day before, he or she would go to a closer one the current day, and vice versa. That is, the field manager or team leader, before randomizing, split them into two groups: near and distant. An enumerator who went to a distant village the day before was given a randomly selected village from the near group. This process was done for each enumerator, making sure the

⁴ Each village was visited the day before by a mobilizer, who confirmed that pre-selected individuals will be available for interviews the next day.

distance between surveyed villages was well balanced for each person. This ensured that no enumerators felt they were traveling significantly more than their colleagues.⁵

As is common in data collections, there were times when some enumerators could not complete all of the surveys, and so a team leader had to conduct the survey. In other cases, the enumerator decided to leave the survey team. As the team leader was not randomly selected and enumerators who left the teams usually completed only a small number of surveys, surveys were dropped done if they were done by enumerators who conducted fewer than 70 interviews⁶. This reduced the sample from 8403 interviews to 6895 and the enumerators from 90 to 47.

Information was collected on the enumerators who participated in the survey operations. This information included demographics (age, gender, whether their home is in an urban or rural area), education level, previous work experience as enumerator, and behavioral and psychological traits. The enumerator survey was administered after enumerators were selected to be part of the survey team, was voluntary, and was covered under the Institutional Review Board (IRB) for the main project.

Since enumerators were randomly assigned to villages within teams, enumerator data was used to validate the randomization by conducting a *within-team* balance test on the pairing of respondent and enumerator demographics. In practice, the project regressed a set of the respondent's characteristics (age, gender, marital status, if she can read, if she can write, and education level) on enumerators' characteristics (gender, age, education

⁵ Note that nearness and farness are not about the location of the village, but the location of the survey team. That is, how far a village is from where the surveyors were staying the previous night. The teams did not always stay in one location or in the main town within a region, but moved continuously.

⁶ Seventy interviews is the 10th percentile of the distribution of the number of interviews by enumerator. The study also shows later that the results are not sensitive to this selection.

level) controlling for team fixed effects. Results reported in Table 1 are reassuring for the randomization as they show that respondent and enumerator characteristics are not – individually or jointly – significantly correlated.

Finally, the possibility was considered that the enumerator effect could be related to the length of tenure in the survey operation. The mean number of work days is 20 and the standard deviation is 11. The distribution of work days is reported in Supplementary Appendix S1, table S1.1.⁷ Based on these data, a long-term enumerator is defined as one who worked at least 25 days (which is the 75th percentile of the total number of work days distribution for the population of enumerators).⁸ The results reported in Table 2 indicate that the observable demographics of an enumerator do not predict whether an enumerator is long or short term (column 1) nor – more generally - the length of tenure in the survey operation (column 2).

3. Data summary

The data collected for this study are presented in Table 3 and include data on the respondents and the enumerators.⁹ The enumeration team was 35 percent male¹⁰, with 92 percent reporting having attended at least some university. There was low variation in age, with the average enumerator being 28 years old. 61percent of the enumerators self-identified as being from an urban area. Respondents are on average 44 years old, with 49 percent being men. Only 19 percent were single, with 5.8 years of education on average.

⁷ Distribution of work days is very dispersed. For instance, 6 enumerators worked less than 5 days while 4 enumerators worked more than 40 days.

⁸ In our sample, we have 16 long-period enumerators and 50 short-period enumerators (76% of the sample).

⁹ The Enumerator Questionnaire is reported in the Supplementary Appendix S2.

¹⁰ As is common in data collection, the enumeration teams were drawn from local networks and individuals were hired based on their quality as enumerators, determined during training. Only high quality individuals were hired. This led to a larger group of women in our enumerator teams.

Households had on average 8.2 members, with 2.3 heads of cattle. 41 percent of the sample reported having consumed alcohol or tobacco in the last week. They report total weekly spending on alcohol and tobacco, conditional on consuming any, of 3,800 Ugandan Shilling (approximately \$1.20).

The focus of the analysis is on questions related to the respondents' support to political parties (the last four rows in Table 3).¹¹ For each of four political parties, respondents were asked the following question:

People have different feelings about different political parties. I am going to read you a list of different political parties in Uganda. For each one, I am interested in your openness to vote for a strong candidate from this party if there were to be one. Again, everything you tell me is confidential and cannot be shared with anyone outside our team. Also, please feel free to tell me if there is a question that you do not want to answer and we can move on to the next question. You will have to answer with a number between 1 to 4. 1 means not open at all to voting for a strong MP candidate from a party, and 4 means very open.

1) Not open at all

2) Somewhat not open

3) Somewhat open

4) Very open

The enumerators were instructed to read the entire question and ensure that no one else was listening to the conversation.¹² About 91 percent of the people interviewed responded

¹¹ Note that in the context of Uganda it is very difficult to observe political preferences without asking.

¹² All but 9 interviews (0.1% of total) were conducted with the respondent being alone with the enumerator.

to this question. This is a very high rate compared to similar questions in the literature.¹³ In Uganda, people do not hesitate to state in public their support for the ruling party, the National Resistance Movement (NRM), as this is highly encouraged by the government. However, people are generally much more reluctant to report support for opposition parties, which include the Democratic Party (DP), Forum for Democratic Change (FDC) and Uganda People's Congress (UPC). This is in part due to perceived and actual government action against supporters of these parties, including harassment, arrests and torture, although torture is much less common. Nevertheless, it is reported in some international press and is believed by many opposition supporters.¹⁴

The distribution for the answers to the political opinion questions are reported in Table 4. Average openness to vote for opposition parties is approximately 1.9 (on a 1-4 scale). This is half of the average value for the ruling party. Voting preferences are highly correlated within communities: stated preference for opposition parties has an intra-class correlation between 0.30 and 0.33.

4. Empirical methods and results

¹³ Non-response to political questions is very common (see for instance, Blair et al. 2012). The political question was developed carefully through field piloting to minimize the refusal rate. Note that from the answer to this question it is not possible to know which party the respondent has voted for. This helps to explain why the response rate is much higher than in the usual surveys on political opinions. Yet, this comes at the cost of asking a less precise question. However, this formulation of the question - because the respondent is invited to express a separate and not comparative judgment on each political party - reduces the possibility of an enumerator effect because the respondent's political view is not uniquely identified. In this sense, the estimates should be interpreted as a lower bound of the true effect.

¹⁴ Uganda can best be characterized as a semi-authoritarian regime. There is significantly greater political competition at the local than at the national level, though the ruling party, which initially came to power in a coup in 1987, holds 2/3 of parliament seats and the majority of local elected positions. Tripp (2010) provides a detailed discussion of Ugandan democracy.

The paper next presents the results on the effect of enumerator characteristics on respondent outcomes. The study first looks at how much variation in responses is accounted for by an enumerator fixed effects model. Next, the focus is on the political questions, which are found to have high enumerator effects, to explore which specific enumerator characteristics may matter for the observed effects.

4.1 Measuring the enumerator effect

The main method used to identify the presence of an enumerator effect and its magnitude is to look at how much enumerators themselves contribute to any variation in observed responses. The authors begin by testing for the predictive power of enumerators on respondent answers by examining the R^2 in an enumerator fixed effects regression, similar to Himelein (2016) and Laajaj and Macour (2017). A high R^2 is interpreted as the enumerator effect picking up a large amount of the variation in responses, while a low R^2 indicates that there is no or very low enumerator effect.¹⁵

Figure 1 reports for each question the R^2 (the red dots) with the corresponding (bootstrapped) 95% confidence interval for each of the four teams. These values are obtained from regressing – separately for each team – each outcome of interest (such as respondent’s gender, age, household assets, political opinion, etc.) on a constant and the enumerator dummies, with no other controls (detailed results are reported in Table S1.2).

¹⁵ The R^2 value gives the proportion of the variation estimates explained by individual enumerators. The higher the value, the more likely the enumerator effect explains the variability in the data, resulting in higher concerns about data quality. This does not mean that we know the “true” answer to a question, only that an enumerator effects is likely present, and may be of a certain size. That is, whether there is a large amount of noise is introduced by the enumerators. This could be due to many reasons, such as enumerator characteristics, the quality of explanations they provide to the respondent, or other unintended nudges.

Looking at the average R^2 across all the teams, very low values are found for most of the questions, including whether the respondent is single (0.005), respondent gender (0.011), age (0.014), education level (0.012), the number of cattle a household owns (0.024), asset index (0.027), household size (0.029), and even whether the individual consumes and how much they spend on alcohol (0.011 to 0.038). These low values suggest two conclusions. First, individual enumerators do not systematically impact the way respondents report these answers. Second, it confirms that the enumerator randomization strategy worked well. In line with the results of the tests discussed in Section 2, the low values associated with respondent characteristics indicate that enumerators are not systematically choosing respondents within villages based on age, gender, education level, etc. The R^2 's for political party support questions, however, are substantially different from those for the other questions. A low value is found for NRM support (0.34), but the R^2 for opposition parties is high (between 0.234 and 0.267). These values are very high and are not suggestive of random noise or unsystematic reporting of support.

4.2. Determinants of the enumerator effect

The next step in the analysis is to look at what specific enumerator characteristic may be affecting individual responses. To this end, the study focuses on the questions in which the enumerator effect seems to matter most, namely those related to the respondent's political opinions. Specifically, for each party, the following OLS regression model is estimated:

$$Y_{ic} = \alpha + \beta X_j + \gamma P_{jc} + \delta R_{ic} + c + \varepsilon_i \quad (1)$$

where Y_{ic} is the openness (on a 1 to 4 scale) of individual i living in community c to vote for the party. X_j is a matrix of basic enumerator j characteristics (gender, age, education

level and whether the place of residence is urban). P_j is a matrix of enumerator j ability and psychological traits. Finally, c is the set of community fixed effects and ε_{ic} is the error term. All standard errors are clustered at the enumerator level. As a robustness check, the authors also include a set of characteristics for respondent i living in community c captured in vector R_{ic} (age, gender, education level, and marital status).

Table 5, columns 1-4, presents the regression results on stated support for different political parties for the baseline specification, that is only including basic enumerator characteristics. Some interesting results emerge. The coefficient for the enumerator being a man is always significant and negative, even though the magnitude of the coefficient is significantly smaller for the ruling party. This indicates that respondents are more likely to express a positive opinion on all parties if the enumerator is female. The indicator for the enumerator being from an urban area is remarkably significant for all opposition parties. Respondents report significantly higher support for opposition candidates to urban enumerators. There is no effect from urban status on stated support for the ruling party.

Columns 5 to 8 report the results when the authors include as additional controls a set of enumerator abilities (including previous work experience as enumerator) and psychological traits. While there is no clear pattern in the way enumerator psychological traits affect respondent's answers, it should be noted that the enumerator previous work experience as a surveyor has a positive effect on the respondent's expressing openness to vote for each of the opposition parties, but it has no effect on expressing openness to vote for the ruling one.

4.3 Robustness checks

The results are robust to various checks. First, the results are robust to the inclusion of respondent's characteristics such as age, gender, education level, and marital status (see Table S1.3). Second, all of the results are robust to the sample of enumerators. In particular, the main analysis was re-run considering enumerators who conducted at least 24 interviews (the bottom 1% of the enumerator's number of completed questionnaires), rather than less than 70 (as in the main analysis). Results - reported in table S1.4 - do not change with respect to those obtained using the main sample. Third, the authors explore how the results may be affected by how many days the individual worked as an enumerator. To this end, the main regression was estimated separately for short-term and long-term enumerators. The results reported in Table S1.5 indicate that the main results do not depend on this enumerator characteristic. Fourth, the results are unchanged when a different econometric model is used, namely an ordinal probit model estimate (see Table S1.6). Fifth, results reported in Table S1.7 and S1.8 show that the main results are robust to including controls for the day and the time of the interview (that is, morning vs afternoon).¹⁶ Sixth, the results are not affected by enumerator fatigue (as proxied by the length of the survey) (see Table S1.9). This is not surprising considering that the survey was only about 40 minutes long and that all political questions are asked around the same time during the survey.

Finally, a placebo is run test to show that enumerator characteristics do not affect all respondent answers. To this end, model (1) is re-run using as alternative outcomes two

¹⁶ Enumerators worked all days of the week. The number of interviews conducted by day of the week is largely similar from one day to the next except for Sundays, when the number of interviews was 10% of the number conducted on other days.

non-political questions. These are: (1) the age of the respondent; and (2) if the respondent consumes alcohol or tobacco. Results reported in Table 6 show that enumerator characteristics do not explain answers regarding age, which is clearly a non-sensitive question. On the contrary, it is found that respondents are more likely to report alcohol consumption to enumerators who are older. These results suggest that enumerator characteristics do matter more for sensitive questions but that - a priori - it is not obvious which characteristics matter for each question.

5. Discussion and additional results

The results suggest that individual enumerator characteristics may have important implications for respondents answering political questions. The first characteristic of interest is whether the enumerator comes from an urban area rather than from a rural one. The results show that respondents are more open to express their support to opposition parties when in the presence of an enumerator from an urban area. It is possible that this effect captures the fact that most opposition to the ruling party comes from urban centers.¹⁷ This suggests the presence of a social desirability bias at work. Social desirability bias generally refers to the tendency of a respondent to provide responses that she believes will be viewed favorably by others: in this case, the respondent would be anticipating the views of the enumerator and thus answers as to please him or her. This implies that answers to the political questions may be the result of a desirability bias in respondents and do not

¹⁷ See <http://www.theeastafrican.co.ke/OpEd/comment/Museveni-NRM-party-still-has-huge-support-in-rural-Uganda/-/434750/3036604/-/syo070/-/index.html> for a discussion of the results from the 2016 election that occurred 3 months before this data collection and the role of rural voters in the NRM win.

reflect their true preferences.¹⁸ These tendencies may be exacerbated on sensitive issues where fear and the desire to avoid embarrassment and criticism are stronger (Blaydes and Gillum, 2013).

Second, the authors find a strong and robust effect of the gender of the enumerator on stated voting preferences of the respondent. This result is in line with several studies that explored the role of gender in the context of survey data collection (see West and Blom, 2017). The results show that respondents are less likely to declare support for any party if the enumerator is male, that is they report a worse opinion for each party. This is in accordance with Axinn (1989), who suggests that female enumerators may be perceived as less frightening. Interestingly, this effect is smaller for the ruling party.

The third enumerator characteristic that turns out to be significant is the number of months previously worked as enumerator, which can be interpreted as a proxy for the enumerator's ability. The positive effect of enumerator's experience on openness to vote for the opposition parties is in line with the evidence presented in Randal et al. (2013) and Jäckle et al. (2013), showing a positive effect of experience on co-operation rates. Yet, this result must be interpreted with caution as the design does not allow us to identify whether experience produces less or more biased answers.

Next, the authors explore the possibility that what may explain the enumerator effect are not only enumerator characteristics, but also their interaction with respondent characteristics or the distances between the two. To test for this, a specification is run that includes all the significant enumerator characteristics as they emerge from table 5, (namely

¹⁸ According to social deference theory, this result may also be explained by a desire to minimize social distance by providing responses that complement the interviewer's perceived social group. Differential social status and power is also believed to may impact responses (Lenski and Leggett, 1960; Davis 1997).

gender, urban, and number of months of experience as enumerator) interacted with respondent characteristics such as gender, age, education level, and household wealth.¹⁹ Results reported in Table S1.10 indicate that the main results are unchanged while there is no significant difference in the effect of enumerator characteristics for any of the respondent characteristics.²⁰ Then, the possibility is explored that what matters instead is the distance in the respondent-enumerator characteristics. To this end, the study estimates the main model (1) including indicator variables for all the possible combinations of the enumerator-respondent characteristics such as gender, age, and education level. Results are reported in Table 7. An interesting finding is that the enumerator effect associated with the enumerator being highly educated is mitigated by the education level of the respondent.

The education level of the enumerator positively correlates with the respondent's openness to vote for an opposition party and negatively for the ruling party. Yet, the interaction term between the enumerator and the respondent education level indicates that this effect decreases with the latter. This suggests that the enumerator effect is smaller when the education distance is smaller, that is when the social desirability bias is likely to be less important for the respondent. Looking at the gender difference, it is found that if the enumerator and the respondent are both male, the negative effect of the enumerator being male on reporting to be open to vote for an opposition party is smaller. This suggests that, while a female enumerator is likely to elicit more positive attitude towards any party, also being of the same gender helps to create trusts between the respondent and the enumerator.

¹⁹ These are respondent's answers which - based on Figure 1 - are not influenced by the enumerator effect.

²⁰ The only exception is for the gender of the respondent in just two cases. When the respondent is male, the declared openness to vote for the ruling party is differentially larger if the enumerator is male and it is differentially smaller if the enumerator is from an urban area but both effects are significant only at 10%.

These results add to the mixed results from the literature regarding interaction effects (see for instance Catania et al., 1996; Huddy et al. 1997; Himelein, 2016) and provide suggestive evidence that responses may be biased not only by enumerator characteristics but also on how they interact with enumerator characteristics. But caution should be made when interpreting these results. The authors did not pre-specify this analysis, and so this should be considered to be very exploratory. Further research on the differences between enumerators and respondents would help to clarify this potential effect.

6. Concluding remarks

Using a large-scale experiment in Uganda, this study has documented that the enumerator effect matters for questions about voting preferences. While it is likely impossible to eliminate enumeration effects entirely, there are ways to minimize them. This section now discusses what the results mean for improving data collection on potentially sensitive topics, such as political opinions, depending on the identifying method used.

In the case of randomized controlled trials, the enumerator effect (that is, enumerator characteristics are correlated with the outcome) is a concern if enumerator characteristics are also correlated with treatment status. In this case, the impact of the treatment on the outcome could be biased.²¹ It is important to note that, if enumerator assignment is affected by treatment, simply controlling for enumerator fixed effects would not solve the

²¹ Note that if enumerator characteristics are correlated with the outcome but not with the treatment status the presence of an enumerator effect does not per se imply that the effect of the treatment will be biased.

problem.²² To minimize the bias, researchers should check the balance in the distribution of enumerator characteristics with respect to the treatment status when assigning enumerators to subjects.²³ Yet, balancing enumerator characteristics can be difficult to implement in the field. When this is not possible, at least researchers should balance enumerators themselves between treated and control groups.

In the case of surveys collecting sensitive information and for which there is not a clear identification strategy (for example Afrobarometer, World Bank Living Standard Measurement Survey (LSMS), etc.), the results suggest that these data need to be interpreted cautiously. Also in this case, simply including enumerator fixed effects in analysis is not enough. Data documentation for these surveys should provide, at a minimum, a clear description of how enumerators and teams were assigned. This would allow researchers to check for the presence and the size of the enumeration effect before conducting any analysis.

Note that, unlike other improvements in measurement, the suggestions from this study do not necessarily involve significant additional survey costs and does not generate trade-offs between accuracy or bias and cost.²⁴ On the contrary, for most studies, limiting the possible bias from the enumerator effect can be done quickly, relatively easily, and inexpensively, and so represents a low-cost improvement in the quality of collected data.

²² In this case, controlling for enumerator dummies, would not prevent the enumerator effect from biasing the program impact. This bias could be even more problematic if combined with self-report data (e.g. see Barrera-Osorio et al. (2011) and Baird and Özler, (2012)).

²³ For example, the study for this experiment – in which enumerators were randomly assigned – has an R^2 for treatment status on observable and personality enumerator characteristics of 0.020 and on fixed effects of only 0.024. This indicates a minimal – if any – bias due to the enumerator effect.

²⁴ Other strategies that could improve the quality of enumerator data collection include using alternative sources of data (i.e. administrative data) (Baird and Özler, 2012) and employing list experiments (see for instance Blair and Kosuke, 2012). Yet, the former it is not always a viable option while the latter does not allow for individual level analysis. Future work on how to incorporate private reporting of information, such as handing an electronic data collection device to a respondent to complete a question, could be fruitful.

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Figure 1: Enumerator effect: R^2 and confidence intervals

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Notes: The graph reports for each question the R^2 and the corresponding (bootstrapped) 95% confidence intervals for each of the four teams.

Table 1: Respondent's demographics and enumerator's demographics

	Respondent characteristics					
	Age (1)	Gender (2)	Marital status (3)	Can read (4)	Can write (5)	Education level (6)
Enumerator age	0.055 (0.079)	0.001 (0.003)	-0.002 (0.002)	0.001 (0.004)	-0.001 (0.004)	-0.012 (0.031)
Enumerator gender (male)	-0.674 (0.522)	0.022 (0.020)	-0.014 (0.014)	-0.034 (0.033)	-0.031 (0.035)	0.290 (0.191)
Enumerator education	1.131 (1.326)	0.035 (0.030)	-0.023 (0.023)	-0.036 (0.040)	-0.018 (0.039)	0.148 (0.268)
Observations	6,693	6,692	6,691	6,691	6,690	6,693
R-squared	0.021	0.007	0.011	0.137	0.133	0.150
F-test	1.40	1.23	1.23	0.57	0.32	0.82

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Notes: Team (language group) fixed effects and a constant are included in all regressions but not shown. Robust standard errors in parenthesis are clustered at the enumerator level.

Table 2: Enumerator's demographics, enumerator's attrition, and length of tenure in survey operation

	Long-term enumerator	Number of days of work
Enumerator gender (male)	-0.019 (0.104)	-2.769 (2.675)
Enumerator age	0.013 (0.012)	-0.421 (0.367)
Enumerator education	-0.034 (0.198)	-2.27 (4.415)
Enumerator from urban locality	0.026 (0.101)	-0.851 (2.791)
Observations	54	54
R-squared	0.335	0.362

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Notes: Team (language group) fixed effects and a constant are included in all regressions but not shown. *Long-term enumerator* is a dummy which takes value 1 if the enumerator worked at least 25 days (which corresponds to the 75th percentile in the distribution of the number of work days during the survey) and 0 otherwise. *Number of days of work* is the total number of days the enumerator worked during the survey period. Robust standard errors in parentheses are clustered at the enumerator level.

Table 3: Summary statistics

Variable	N	Mean	Std. Dev.
<i>Enumerator</i>			
Male	6895	0.353	0.478
High education	6693	0.922	0.269
Birth year	6895	1988	3
Urban	6895	0.610	0.488
<i>Respondent</i>			
Age	6895	44	14
Gender	6894	0.490	0.500
Single	6893	0.193	0.395
Years education	6894	5.814	4.689
Household size	6894	8.167	3.461
Asset index	6774	3.258	2.416
Number of cattle	6889	2.313	5.561
Consumes alcohol or tobacco	6889	0.413	0.492
Spending on alcohol or tobacco	6799	1543	5437
Spending on alcohol or tobacco, conditional	2756	3806	8021
Support for opposition party (DP)	6294	1.868	1.282
Support for opposition party (FDC)	6404	1.966	1.308
Support for national party (NRM)	6753	3.811	0.640
Support for opposition party (UPC)	6389	1.905	1.290

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Notes: Table reports summary statistics for the full sample.

Table 4: Distribution of answers for the political questions

<i>Question: your openness to vote for a strong candidate from this party</i>						
	Not open	Somewhat not open	Somewhat open	Very open	Missing	Total
DP	4163	279	374	1478	601	6895
	60%	4%	6%	21%	9%	100%
FDC	3963	325	487	1629	491	6895
	57%	5%	7%	24%	7%	100
NRM	264	72	342	6075	142	6895
	4%	1%	5%	88%	2%	100
UPC	4104	330	411	1544	506	6895
	60%	5%	6%	22%	7%	100

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Notes: Response distribution for the political opinion questions. Column 1 indicates the four largest Ugandan parties, namely the Democratic Party (DP), the Forum for Democratic Change (FDC), the National Resistance Movement (NRM), and the Uganda People's Congress (UPC).

Table 5: Political questions and enumerator characteristics

	DP (1)	FDC (2)	NRM (3)	UPC (4)	DP (5)	FDC (6)	NRM (7)	UPC (8)
Enumerator gender (male)	-0.563*** (0.150)	-0.403** (0.158)	-0.107*** (0.034)	-0.513*** (0.116)	-0.353** (0.157)	-0.302** (0.144)	-0.051 (0.030)	-0.390*** (0.131)
Enumerator age	-0.021 (0.021)	-0.005 (0.020)	0.002 (0.004)	-0.034** (0.016)	-0.004 (0.024)	0.005 (0.019)	0.006 (0.004)	-0.026 (0.016)
Enumerator education	0.113 (0.110)	0.136 (0.121)	-0.075** (0.035)	0.066 (0.111)	0.162 (0.113)	0.076 (0.107)	-0.000 (0.028)	0.076 (0.124)
Enumerator from urban locality	0.455** (0.184)	0.568*** (0.203)	0.001 (0.039)	0.429*** (0.149)	0.546*** (0.138)	0.721*** (0.122)	-0.057 (0.038)	0.515*** (0.107)
Work experience as enumerator					0.006*** (0.002)	0.006*** (0.002)	0.000 (0.000)	0.004*** (0.001)
Want people to know how good can be at work					-0.069 (0.127)	0.124 (0.116)	-0.084** (0.032)	-0.015 (0.103)
Strongly motivated by the wage can earn					0.004 (0.098)	-0.087 (0.096)	0.071*** (0.017)	-0.053 (0.085)
Enjoy handling new problems					0.122 (0.143)	-0.033 (0.140)	0.008 (0.033)	-0.017 (0.131)
Enjoy trying to solve complex problems					0.129 (0.082)	0.119* (0.065)	0.065*** (0.023)	0.157** (0.070)
Curiosity is a driving force for her actions					0.034 (0.081)	0.106 (0.077)	0.001 (0.011)	0.084 (0.076)
Observations	6,245	6,333	6,553	6,320	6,245	6,333	6,553	6,320
R-squared	0.485	0.458	0.233	0.478	0.496	0.473	0.238	0.487

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Notes: This table presents OLS regression results for equation (1). For each column, the outcome variable is (an increasing) categorical variable (1-4) which measures the openness to vote for a political party, namely, the Democratic Party (DP), the Forum for Democratic Change (FDC), the National Resistance Movement (NRM), and the Uganda People's Congress (UPC). *Work experience as enumerator* is the number of months previously worked as an enumerator. *Enumerator high education* is a dummy that takes value 1 if the enumerator has completed university, teaching institute, or master's program. *Want people to know how good can be at work; Strongly motivated by the wage can earn; Enjoy handling new problems; Enjoy trying to solve complex problems; Curiosity is a driving force for your actions* are categorical variables taking value from 1 to 4 (decreasing). Each regression includes community fixed effects and a constant. Robust standard errors in parenthesis are clustered at the enumerator level. *** p<0.01, ** p<0.05, * p<0.10.

Table 6: Alternative questions and enumerator characteristics for placebo test

	Age	Alcohol and tobacco consumption
Enumerator gender (male)	-0.003 (0.514)	0.011 (0.009)
Enumerator education	-0.048 (0.064)	0.003* (0.002)
Enumerator age	0.556 (0.952)	0.010 (0.016)
Enumerator from urban locality	-0.025 (0.418)	-0.002 (0.013)
Work experience as enumerator	-0.004 (0.005)	0.000 (0.000)
Observations	6,693	6,687
R-squared	0.315	0.454

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Notes: This table presents OLS regression results for equation (1). For each column, the outcome variable is indicated in the first row. *Alcohol and tobacco consumption* is a dummy that takes value 1 if the respondent consumes alcohol or tobacco and 0 otherwise. *Work experience as enumerator* is the number of months previously worked as an enumerator. Each regression includes as additional control variables: *Want people to know how good can be at work*; *Strongly motivated by the wage can earn*; *Enjoy handling new problems*; *Enjoy trying to solve complex problems*; *Curiosity is a driving force for your actions* (for the definitions see Table 5). as in Table 3. Each regression includes community fixed effects and a constant. Each regression includes community fixed effects and a constant. Robust standard errors in parenthesis are clustered at the enumerator level. *** p<0.01, ** p<0.05, * p<0.10.

Table 7: Effect of the distance between enumerator and respondent characteristics

	DP	FDC	NRM	UPC
Enumerator and respondent both male	-0.077 (0.096)	-0.006 (0.093)	0.007 (0.033)	-0.079 (0.094)
Enumerator and respondent both female	0.132** (0.055)	0.119** (0.056)	0.056*** (0.017)	0.122** (0.050)
Respondent education level	0.216*** (0.075)	0.278*** (0.059)	-0.050 (0.042)	0.286*** (0.089)
Enumerator high education	0.333** (0.129)	0.239* (0.129)	-0.009 (0.031)	0.313** (0.133)
Enumerator high education*Respondent education level	-0.185** (0.073)	-0.180*** (0.060)	0.006 (0.043)	-0.244*** (0.087)
Enumerator and respondent both young	-0.031 (0.066)	-0.007 (0.062)	-0.025 (0.017)	-0.040 (0.053)
Enumerator and respondent both old	0.067 (0.043)	-0.013 (0.055)	-0.055** (0.022)	-0.029 (0.044)
Respondent marital status (single)	0.054 (0.059)	0.087 (0.058)	-0.034 (0.026)	0.045 (0.060)
Enumerator from urban area	0.500*** (0.131)	0.672*** (0.115)	-0.066 (0.041)	0.490*** (0.095)
Work experience as enumerator	0.007*** (0.001)	0.007*** (0.001)	0.000 (0.000)	0.006*** (0.001)
Observations	6,245	6,332	6,552	6,319
R-squared	0.495	0.474	0.241	0.486

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Notes: This table presents OLS regression results for equation (1). For each column, the outcome variable is (an increasing) categorical variable (1-4) which measures the openness to vote for a political party, namely DP, FDC, NRM, and UPC. *Enumerator high education* is a dummy that takes value 1 if the enumerator has completed university or teaching institute, or has master. *Enumerator young (old)* is a dummy that takes value 1 if the enumerator's age ≤ 27 (> 27) and 0 otherwise. *Respondent young (old)* is a dummy that takes value 1 if the respondent's age ≤ 32 (> 32) and 0 otherwise. *Enumerator high education* is a dummy that takes value 1 if the enumerator has completed university, teaching institute, or master. *Work experience as enumerator* is the number of months previously worked as an enumerator. Each regression includes as additional control variables: *Want people to know good can be at work*; *Strongly motivated by the wage can earn*; *Enjoy handling new problems*; *Enjoy trying to solve complex problems*; *Curiosity is a driving force for your actions* (for the definitions see Table 5). Each regression includes community fixed effects and a constant. Robust standard errors in parenthesis are clustered at the enumerator level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Supplementary Appendix

Supplementary Appendix S1: Additional Tables

Table S1.1: Distribution of the total number of days worked in the survey

Number of days worked	Frequency	Percentage	Cumulated
1	3	4.6	4.6
2	1	1.5	6.1
4	2	3	9.1
5	1	1.5	10.6
6	2	3	13.6
7	1	1.5	15.2
8	4	6.1	21.2
10	1	1.5	22.7
11	3	4.6	27.3
12	2	3	30.3
13	1	1.5	31.8
14	1	1.5	33.3
19	1	1.5	34.9
21	1	1.5	36.4
22	2	3	39.4
23	9	13.6	53
24	7	10.6	63.6
25	8	12.1	75.8
26	3	4.6	80.3
27	3	4.6	84.9
28	1	1.5	86.4
29	2	3	89.4
37	1	1.5	90.9
39	2	3	93.9
40	1	1.5	95.5
41	1	1.5	97
43	2	3	100
Total	66	100	

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Notes: The table shows the number of work days as enumerator during the whole survey period.

Table S1.2: Enumerator effect: R² and confidence intervals

Respondent characteristic		R-squared Coefficient	Bootstrapped Standard Error	z	p-value	Normal-based [95% Conf. Interval]	
(1)		(2)	(3)	(4)	(5)	(6)	
gender (male)							
	team 1	0.007	0.005	1.32	0.187	-0.003	0.018
	team 2	0.010	0.006	1.56	0.120	-0.002	0.022
	team 3	0.017	0.008	2.11	0.035	0.001	0.033
	team 4	0.011	0.008	1.43	0.153	-0.004	0.026
age							
	team 1	0.011	0.006	1.86	0.062	-0.001	0.022
	team 2	0.011	0.007	1.62	0.105	-0.002	0.023
	team 3	0.012	0.007	1.79	0.074	-0.001	0.025
	team 4	0.023	0.010	2.23	0.026	0.003	0.043
marital status (single)							
	team 1	0.008	0.005	1.51	0.132	-0.002	0.018
	team 2	-0.002	0.004	-0.43	0.670	-0.009	0.006
	team 3	0.010	0.008	1.32	0.186	-0.005	0.025
	team 4	0.003	0.007	0.38	0.705	-0.011	0.016
household size							
	team 1	0.009	0.005	1.77	0.076	-0.001	0.020
	team 2	0.019	0.008	2.36	0.018	0.003	0.035
	team 3	0.048	0.010	4.77	0.000	0.028	0.068
	team 4	0.041	0.011	3.65	0.000	0.019	0.063
consume alcohol and tobacco							
	team 1	0.019	0.007	2.76	0.006	0.005	0.032
	team 2	0.002	0.005	0.45	0.650	-0.007	0.012
	team 3	0.012	0.009	1.42	0.156	-0.005	0.029
	team 4	0.014	0.009	1.49	0.136	-0.004	0.031
expenditure on alcohol and tobacco							
	team 1	0.005	0.005	1.05	0.294	-0.004	0.014
	team 2	0.007	0.007	0.94	0.347	-0.007	0.021
	team 3	0.006	0.006	1.10	0.270	-0.005	0.018
	team 4	0.027	0.009	3.10	0.002	0.010	0.045
expenditure on alcohol and tobacco (conditional)							
	team 1	0.067	0.031	2.16	0.031	0.006	0.128
	team 2	0.016	0.020	0.82	0.413	-0.022	0.054
	team 3	0.028	0.033	0.85	0.395	-0.036	0.092
	team 4	0.041	0.013	3.15	0.002	0.015	0.066
assets index							
	team 1	0.040	0.009	4.49	0.000	0.023	0.058
	team 2	0.009	0.007	1.29	0.197	-0.004	0.022
	team 3	0.034	0.009	3.60	0.000	0.015	0.052
	team 4	0.024	0.010	2.29	0.022	0.003	0.044
assets index (cattle)							
	team 1	0.001	0.006	0.09	0.929	-0.011	0.012
	team 2	0.003	0.005	0.54	0.590	-0.007	0.012
	team 3	0.077	0.018	4.29	0.000	0.042	0.112
	team 4	0.014	0.029	0.47	0.636	-0.043	0.070
education level							
	team 1	0.000	0.005	0.06	0.948	-0.009	0.010
	team 2	0.009	0.007	1.35	0.176	-0.004	0.023
	team 3	0.028	0.010	2.70	0.007	0.008	0.048
	team 4	0.012	0.014	0.91	0.361	-0.014	0.039
open to vote for DP							
	team 1	0.402	0.018	21.82	0.000	0.366	0.439
	team 2	0.178	0.018	10.07	0.000	0.143	0.212
	team 3	0.154	0.020	7.66	0.000	0.114	0.193
	team 4	0.334	0.049	6.85	0.000	0.238	0.430
open to vote for FDC							
	team 1	0.338	0.018	18.43	0.000	0.302	0.374
	team 2	0.133	0.017	7.79	0.000	0.100	0.167
	team 3	0.150	0.019	7.97	0.000	0.113	0.187
	team 4	0.223	0.034	6.61	0.000	0.157	0.289
open to vote for NRM							
	team 1	0.050	0.010	5.25	0.000	0.031	0.069
	team 2	0.012	0.007	1.78	0.075	-0.001	0.025

	team 3	0.063	0.016	3.88	0.000	0.031	0.094
	team 4	0.012	0.010	1.17	0.243	-0.008	0.031
<hr/>							
open to vote for UPC							
	team 1	0.368	0.018	20.95	0.000	0.333	0.402
	team 2	0.162	0.018	8.97	0.000	0.127	0.197
	team 3	0.163	0.021	7.70	0.000	0.121	0.204
	team 4	0.282	0.044	6.45	0.000	0.196	0.367

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Note: The table reports for each team (1,2,3, and 4) the R^2 of a regression of each respondent's answer (column 1) on the full set of enumerator fixed effects and a constant. The political preference questions refer to: the Democratic Party (DP), the Forum for Democratic Change (FDC), the National Resistance Movement (NRM), and the Uganda People's Congress (UPC).

Table S1.3: Robustness: Including respondent's characteristics as controls

	(1) DP	(2) FDC	(3) NRM	(4) UPC
Enumerator gender (male)	-0.566*** (0.150)	-0.416** (0.158)	-0.101*** (0.034)	-0.517*** (0.115)
Enumerator age	-0.021 (0.021)	-0.006 (0.020)	0.002 (0.004)	-0.033** (0.016)
Enumerator education	0.116 (0.110)	0.134 (0.121)	-0.073* (0.036)	0.066 (0.110)
Enumerator from urban locality	0.459** (0.184)	0.575*** (0.200)	-0.002 (0.039)	0.433*** (0.148)
Respondent gender (male)	-0.000 (0.032)	0.049 (0.039)	-0.021 (0.022)	0.007 (0.036)
Respondent age	-0.001 (0.001)	-0.000 (0.002)	0.000 (0.001)	0.001 (0.001)
Respondent marital status (single)	0.084 (0.059)	0.120** (0.057)	-0.032 (0.029)	0.066 (0.060)
Respondent education level	0.036 (0.031)	0.098*** (0.030)	-0.047*** (0.016)	0.057* (0.029)
Observations	6,245	6,332	6,552	6,319
R-squared	0.486	0.461	0.236	0.479

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Note: This table presents OLS regression results for equation (1). For each column, the outcome variable is (an increasing) categorical variable (1-4) which measures the openness to vote for a political party, namely, the Democratic Party (DP), the Forum for Democratic Change (FDC), the National Resistance Movement (NRM), and the Uganda People's Congress (UPC). Each regression includes community fixed effects and a constant. For all regression, the sample includes enumerators who have completed at least 24 interviews. Robust standard errors in parenthesis are clustered at the enumerator level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table S1.4: Robustness: different enumerator sample

	(1) DP	(2) FDC	(3) NRM	(4) UPC
Enumerator gender (male)	-0.522*** (0.120)	-0.306** (0.136)	-0.086*** (0.027)	-0.451*** (0.099)
Enumerator education	0.150* (0.089)	0.186* (0.101)	-0.119*** (0.040)	0.146 (0.089)
Enumerator age	-0.031* (0.016)	0.003 (0.019)	0.002 (0.003)	-0.039*** (0.012)
Enumerator from urban locality	0.444*** (0.157)	0.577*** (0.177)	-0.030 (0.036)	0.443*** (0.129)
Observations	6,761	6,868	7,175	6,854
R-squared	0.475	0.440	0.227	0.464

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Note: This table presents OLS regression results for equation (1). For each column, the outcome variable is (an increasing) categorical variable (1-4) which measures the openness to vote for a political party, namely, the Democratic Party (DP), the Forum for Democratic Change (FDC), the National Resistance Movement (NRM), and the Uganda People's Congress (UPC). *Work experience as enumerator* is the number of months previously worked as an enumerator. *Want people to know how good can be at work; Strongly motivated by the wage can earn; Enjoy handling new problems; Enjoy trying to solve complex problems; Curiosity is a driving force for your actions* are categorical variables taking value from 1 to 4 (decreasing). Each regression includes community fixed effects and a constant. For all regression, the sample includes enumerators who have completed at least 24 interviews. Robust standard errors in parenthesis are clustered at the enumerator level. *** p<0.01, ** p<0.05, * p<0.10.

Table S1.5: Robustness: Short-term vs long-term enumerators

	<i>Short-term enumerators</i>				<i>Long-term enumerators</i>			
	DP (1)	FDC (2)	NRM (3)	UPC (4)	DP (5)	FDC (6)	NRM (7)	UPC (8)
Enumerator gender (male)	-0.923*** (0.192)	-0.654** (0.245)	-0.127** (0.059)	-0.664*** (0.180)	-0.669*** (0.122)	-0.557*** (0.075)	-0.080 (0.051)	-0.686*** (0.152)
Enumerator age	0.039** (0.016)	0.049*** (0.012)	0.004 (0.006)	0.011 (0.022)	-0.074*** (0.016)	-0.085*** (0.015)	0.001 (0.010)	-0.104*** (0.030)
Enumerator education	-0.093 (0.108)	-0.014 (0.141)	-0.102 (0.070)	-0.102 (0.118)	0.178*** (0.055)	0.124** (0.044)	-0.083* (0.044)	0.040 (0.087)
Enumerator from urban locality	0.569*** (0.180)	0.740*** (0.225)	-0.022 (0.054)	0.551*** (0.166)	0.645*** (0.122)	0.668*** (0.109)	-0.010 (0.044)	0.436*** (0.058)
Observations	4,044	4,114	4,239	4,116	2,201	2,219	2,314	2,204
R-squared	0.452	0.423	0.241	0.438	0.675	0.618	0.353	0.642

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Note: This table presents OLS regression results for equation (1). For each column, the outcome variable is (an increasing) categorical variable (1-4) which measures the openness to vote for a political party, namely, the Democratic Party (DP), the Forum for Democratic Change (FDC), the National Resistance Movement (NRM), and the Uganda People's Congress (UPC). *Long (short)-term enumerator* is defined to be an enumerator who worked at least (less than) 25 days (which is the 75th percentile of the total number of work days during the survey for the population of enumerators). Each regression includes community fixed effects and a constant. Robust standard errors in parenthesis are clustered at the enumerator level. *** p<0.01, ** p<0.05, * p<0.10.

Table S1.6: Robustness - Using an ordinal probit regression model

	DP (1)	FDC (2)	NRM (3)	UPC (4)
Enumerator gender (male)	-1.211*** (0.344)	-0.850*** (0.316)	-0.786*** (0.187)	-0.966*** (0.226)
Enumerator age	0.011 (0.039)	0.025 (0.036)	0.005 (0.050)	-0.043 (0.043)
Enumerator education	0.078 (0.297)	0.328 (0.385)	-0.916* (0.503)	0.022 (0.317)
Enumerator from urban locality	0.985** (0.423)	1.153*** (0.415)	-0.199 (0.256)	0.904*** (0.306)
Observations	6,245	6,333	6,553	6,320

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Note: This table presents regression results for equation (1) obtained using ordinal probit. For each column, the outcome variable is (an increasing) categorical variable (1-4) which measures the openness to vote for a political party, namely, the Democratic Party (DP), the Forum for Democratic Change (FDC), the National Resistance Movement (NRM), and the Uganda People's Congress (UPC). Work experience as enumerator is the number of months previously worked as an enumerator. Each regression includes community fixed effects and a constant. Robust standard errors in parenthesis are clustered at the enumerator level. *** p<0.01, ** p<0.05, * p<0.10.

Table S1.7: Robustness: Days of the week

	DP (1)	FDC (2)	NRM (3)	UPC (4)
Enumerator gender (male)	-0.557*** (0.151)	-0.399** (0.158)	-0.105*** (0.034)	-0.509*** (0.115)
Enumerator age	-0.021 (0.021)	-0.005 (0.020)	0.002 (0.004)	-0.033** (0.016)
Enumerator education	0.107 (0.110)	0.133 (0.122)	-0.073** (0.035)	0.064 (0.111)
Enumerator from urban locality	0.450** (0.186)	0.570*** (0.205)	0.000 (0.040)	0.429*** (0.149)
Monday	0.064 (0.231)	-0.017 (0.224)	0.302** (0.134)	-0.017 (0.197)
Tuesday	-0.133 (0.179)	-0.166 (0.215)	0.165 (0.110)	0.020 (0.143)
Wednesday	0.076 (0.301)	0.086 (0.228)	0.318** (0.144)	0.225 (0.264)
Thursday	0.024 (0.244)	0.105 (0.245)	0.276 (0.176)	0.307 (0.193)
Friday	-0.141 (0.199)	-0.130 (0.225)	0.025 (0.143)	-0.077 (0.202)
Saturday	0.162 (0.151)	-0.087 (0.168)	0.360*** (0.102)	0.172 (0.154)
Observations	6,240	6,328	6,547	6,315
R-squared	0.486	0.459	0.236	0.479

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Note: This table presents OLS regression results for equation (1). For each column, the outcome variable is (an increasing) categorical variable (1-4) which measures the openness to vote for a political party, namely, the Democratic Party (DP), the Forum for Democratic Change (FDC), the National Resistance Movement (NRM), and the Uganda People's Congress (UPC). Each regression includes community fixed effects and a constant. The excluded category is Sunday. Each regression includes community fixed effects and a constant. Robust standard errors in parenthesis are clustered at the enumerator level. *** p<0.01, ** p<0.05, * p<0.10.

Table S1.8: Robustness: Time of the day

	DP	FDC	NRM	UPC
Enumerator gender (male)	-0.560*** (0.150)	-0.400** (0.159)	-0.108*** (0.034)	-0.511*** (0.116)
Enumerator age	-0.021 (0.021)	-0.006 (0.020)	0.002 (0.004)	-0.034** (0.016)
Enumerator education	0.108 (0.109)	0.131 (0.121)	-0.075** (0.035)	0.060 (0.110)
Enumerator from urban locality	0.454** (0.185)	0.567*** (0.204)	0.001 (0.039)	0.427*** (0.149)
Afternoon	-0.005 (0.052)	-0.041 (0.054)	0.035 (0.030)	0.006 (0.052)
Observations	6,240	6,328	6,547	6,315
R-squared	0.485	0.458	0.234	0.478

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Note: This table presents OLS regression results for equation (1). For each column, the outcome variable is (an increasing) categorical variable (1-4) which measures the openness to vote for a political party, namely, the Democratic Party (DP), the Forum for Democratic Change (FDC), the National Resistance Movement (NRM), and the Uganda People's Congress (UPC). Afternoon is a dummy that takes value 1 if the interview was conducted after 1 pm and 0 otherwise. Each regression includes community fixed effects and a constant. Robust standard errors in parenthesis are clustered at the enumerator level. *** p<0.01, ** p<0.05, * p<0.10.

Table S1.9: Robustness: including control for survey length as proxy for fatigue

	DP	FDC	NRM	UPC
Enumerator age	-0.529*** (0.145)	-0.383** (0.154)	-0.118*** (0.040)	-0.497*** (0.113)
Enumerator gender (male)	-0.020 (0.020)	-0.004 (0.019)	0.002 (0.005)	-0.032** (0.015)
Enumerator education	0.110 (0.106)	0.137 (0.119)	-0.075** (0.036)	0.065 (0.108)
Enumerator from urban locality	0.449** (0.177)	0.571*** (0.196)	0.008 (0.045)	0.432*** (0.144)
Survey length	0.002 (0.002)	0.001 (0.001)	-0.001 (0.001)	0.001 (0.001)
Observations	6,038	6,126	6,341	6,111
R-squared	0.491	0.461	0.241	0.485

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Note: This table presents OLS regression results for regression (1). For each column, the outcome variable is (an increasing) categorical variable (1-4) which measures the openness to vote for a political party, namely, the Democratic Party (DP), the Forum for Democratic Change (FDC), the National Resistance Movement (NRM), and the Uganda People's Congress (UPC). *Survey length* is the time length of the interview in minutes. Each regression includes community fixed effects and a constant. Robust standard errors in parenthesis are clustered at the enumerator level. *** p<0.01, ** p<0.05, * p<0.10.

Table S1.10: Heterogeneity - Interaction between enumerator and respondent characteristics

	DP	FDC	NRM	UPC	DP	FDC	NRM	UPC	DP	FDC	NRM	UPC	DP	FDC	NRM	UPC
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Enumerator male	-0.584*** (0.171)	-0.537*** (0.154)	-0.093*** (0.027)	-0.547*** (0.131)	-0.587*** (0.152)	-0.481*** (0.160)	-0.073* (0.041)	-0.501*** (0.123)	-0.562*** (0.160)	-0.537*** (0.147)	-0.030 (0.036)	-0.535*** (0.129)	-0.532*** (0.157)	-0.472*** (0.151)	-0.075** (0.037)	-0.494*** (0.121)
Enumerator age	-0.023 (0.025)	-0.016 (0.019)	0.007* (0.004)	-0.042** (0.016)	-0.022 (0.025)	-0.015 (0.019)	0.007* (0.004)	-0.042** (0.016)	-0.022 (0.025)	-0.014 (0.019)	0.007* (0.004)	-0.041** (0.016)	-0.023 (0.025)	-0.017 (0.020)	0.007* (0.004)	-0.043** (0.016)
Enumerator high education	0.173 (0.141)	0.074 (0.141)	0.006 (0.031)	0.071 (0.157)	0.175 (0.139)	0.079 (0.139)	0.003 (0.030)	0.075 (0.154)	0.175 (0.139)	0.086 (0.139)	0.003 (0.029)	0.076 (0.154)	0.168 (0.138)	0.070 (0.138)	0.003 (0.031)	0.072 (0.153)
Enumerator urban	0.388** (0.168)	0.502*** (0.146)	-0.018 (0.034)	0.353*** (0.126)	0.416** (0.167)	0.565*** (0.163)	-0.046 (0.051)	0.410*** (0.137)	0.399** (0.164)	0.515*** (0.144)	-0.062 (0.054)	0.401*** (0.128)	0.448*** (0.160)	0.566*** (0.145)	-0.043 (0.040)	0.370*** (0.117)
Enumerator experience	0.090 (0.153)	-0.007 (0.144)	0.021 (0.039)	-0.052 (0.144)	0.134 (0.172)	0.080 (0.163)	0.041 (0.040)	0.009 (0.163)	0.064 (0.169)	0.038 (0.168)	0.055 (0.044)	-0.032 (0.166)	0.021 (0.146)	-0.056 (0.142)	0.043 (0.044)	-0.078 (0.141)
Respondent male	-0.063 (0.071)	-0.070 (0.065)	-0.033 (0.031)	-0.070 (0.067)												
male enum*malesp	0.107 (0.098)	0.156 (0.096)	0.070* (0.038)	0.088 (0.095)												
urban enum*malesp	0.037 (0.074)	0.113 (0.079)	-0.069* (0.037)	0.063 (0.078)												
experience*malesp	0.003 (0.080)	0.029 (0.082)	0.039 (0.038)	0.051 (0.084)												
Respondent young					0.036 (0.040)	-0.007 (0.053)	-0.024 (0.033)	-0.052 (0.049)								
male enum*young resp					-0.077 (0.090)	-0.035 (0.100)	-0.017 (0.036)	0.001 (0.081)								
urban enum*young resp					0.013 (0.071)	0.002 (0.087)	0.010 (0.040)	0.031 (0.074)								
experience*young resp					0.054 (0.083)	0.088 (0.087)	0.003 (0.034)	0.043 (0.078)								
Respondent high educated									-0.029 (0.086)	-0.053 (0.104)	0.020 (0.055)	-0.012 (0.080)				
male enum*high educ resp									0.051	0.126	-0.047	0.053				

									(0.077)	(0.086)	(0.042)	(0.076)				
urban enum*high educ resp									0.010	0.080	0.012	-0.020				
									(0.083)	(0.099)	(0.056)	(0.078)				
experience*high educ resp									0.048	-0.033	-0.032	0.019				
									(0.080)	(0.088)	(0.048)	(0.080)				
Respondent poor													-0.047	-0.031	0.002	0.005
													(0.068)	(0.087)	(0.052)	(0.084)
male enum*poor respo													-0.004	-0.030	-0.031	0.019
													(0.074)	(0.080)	(0.057)	(0.063)
urban enum*poor resp													0.085	0.012	0.022	-0.032
													(0.064)	(0.079)	(0.061)	(0.074)
experience*poor resp													-0.116	-0.103	0.012	-0.090
													(0.081)	(0.083)	(0.046)	(0.077)
Observations	6,245	6,333	6,553	6,320	6,245	6,333	6,553	6,320	6,245	6,333	6,553	6,320	6,245	6,333	6,553	6,320
R-squared	0.490	0.469	0.240	0.484	0.490	0.468	0.239	0.484	0.490	0.468	0.239	0.484	0.490	0.468	0.239	0.484

Source: Data for the study comes from a survey of farmers in northern Uganda. The survey was conducted by Innovations for Poverty Action.

Notes: This table presents OLS regression results for equation (1). For each column, the outcome variable is (an increasing) categorical variable (1-4) which measures the openness to vote for a political party, namely, the Democratic Party (DP), the Forum for Democratic Change (FDC), the National Resistance Movement (NRM), and the Uganda People's Congress (UPC). *Enumerator high education* is a dummy that takes value 1 if the enumerator has completed university or teaching institute, or has master. *Respondent young* is a dummy that takes value 1 if the respondent's age ≤ 32 and 0 otherwise. *Enumerator high education* is a dummy that takes value 1 if the enumerator has completed university, teaching institute, or master. *Respondent high educated* is a dummy that takes value 1 if the respondent has completed primary education and 0 otherwise. *Enumerator high education* is a dummy that takes value 1 if the enumerator has completed university, teaching institute, or master. *Work experience as enumerator* is the number of months previously worked as an enumerator. *Respondent poor* is a dummy that takes value 1 if the value of the asset index for the household is lower than the mean value of the asset index for the population and 0 otherwise. Each regression includes as additional control variables: *Want people to know how good can be at work*; *Strongly motivated by the wage can earn*; *Enjoy handling new problems*; *Enjoy trying to solve complex problems*; *Curiosity is a driving force for your actions*. Each regression includes community fixed effects and a constant. Robust standard errors in parenthesis are clustered at the enumerator level. *** p<0.01, ** p<0.05, * p<0.10

Supplementary Online Appendix S2: Enumerator Questionnaire

<u>Enumerator questionnaire</u>		
Q1:	(a) Respondent first name:	(b) Respondent second name:
Q2:	Respondent Gender:	1. M 2. F
Q3:	Location of main residence:	
	(a) District:	(b) County:
	(c) Urban=1, Rural=2:	
Q4:	Have you ever worked as an enumerator before?	
	1=yes 2=no ☐	
Q5:	If yes, for how many months?	
	☐	
Q6:	What year and month were you born?	
	Month ☐	Year ☐ ☐ ☐ ☐
Q7:	What is the highest level of education you have completed?	
	1. None 2. Some primary 3. Completed primary 4. Some secondary 5. Completed secondary (S6) 6. Some university	7. Completed university 8. Completed Teachers College, Vocational Training Institute 9. Master's or PhD
Q8:	What is/ was the highest level of education attained by your biological father?	
	1. None 2. Some primary 3. Completed primary 4. Some secondary/junior (up to S5) 5. Completed secondary (S6) 6. Some university 7. Completed university 8. Don't know	
Q9:	What is/ was the highest level of education attained by your biological mother?	
	1. None 2. Some primary 3. Completed primary 4. Some secondary/junior (up to S5) 5. Completed secondary (S6) 6. Some university 7. Completed university 8. Don't know	
Q10:	Generally speaking, would you say that most people can be trusted OR that most people can't really be trusted?	
	(a) Most people can be trusted (b) Most people can't really be trusted.	

Q11: If you were doing a business deal with another person, do you think that most people would try to be fair, OR that they would try to take advantage of you if they got a chance?	(a) They would try to be fair (b) They would take advantage of you				
Q12: Would you say that most of the time, people try to be helpful, OR that they are mostly just looking out for themselves?	(a) They try to be helpful (b) They just look out for themselves				
Now I would like to ask you some questions about your behaviors and preferences. In each case, please tell me whether you strongly agree, agree, disagree, or strongly disagree.					
	Strongly Agree	Agree	Disagree	Strongly Disagree	
Q13: You enjoy handling problems that are completely new to you	1 99	2	3	4	-
Q14: You enjoy trying to solve complex problems	1	2	3	4	-99
Q15: The more difficult the problem, the more you enjoy trying to solve it	1 99	2	3	4	-
Q16: It is important for you to have a way to express myself	1 99	2	3	4	-
Q17: Curiosity is the driving force behind much of what you do	1 99	2	3	4	-
Q18: You are very aware of the income goals you have for yourself	1 99	2	3	4	-
Q19: You are strongly motivated by the money you can earn	1 99	2	3	4	-
Q20: You are very aware of your goals for promotion in your career	1 99	2	3	4	-
Q21: You want other people to find out how good you really can be at my work	1 99	2	3	4	-
Q22: You are strongly motivated by the recognition you can earn from other people	1 99	2	3	4	-
Q23: The feeling of unity in your community is very strong.	1 99	2	3	4	-
Q24: The service provided by your institution is accessible to the poor.	1 99	2	3	4	-
Q25: There are clearly defined mechanisms in the institution which serve to take the reactions and needs of the users into consideration.	1 99	2	3	4	-
Q26: For me, serving the needs of the poorest citizens in the community is a top priority.	1 99	2	3	4	-
Q27: You are good at resisting temptation.	1 99	2	3	4	-
Q28: You are sometimes not able to stop yourself from doing something you think is wrong.	1 99	2	3	4	-
Q29: Most activities that you plan to do, you tend to keep postponing until later ("I will do it tomorrow").	1 99	2	3	4	-
Q30: If you get money, you spend it too quickly.	1 99	2	3	4	-
Q31: You would spend an afternoon waiting just to get a free medical examination.	1 99	2	3	4	-

Q32: You sometimes act quickly instead of thinking too much about the results of your actions.	1 99	2	3	4	-
Q33: You regret many choices you have made in the past.	1 99	2	3	4	-
Q34: When you are warned about potential negative outcomes of your actions, you think it is important to take such warnings seriously even if the negative outcome will not occur for many years.	1 99	2	3	4	-
Q35: In your life, when you work hard to achieve something, you think it is likely that something bad will happen and you will lose your hard work.	1 99	2	3	4	-
Q36: You think that most of the unhappy things in people's lives are due to mistakes they made.	1 99	2	3	4	-
Q37: When you become ill, you think it's a matter of fate.	1 99	2	3	4	-
Q38: You think that making money is primarily a matter of knowing the right people.	1 99	2	3	4	-
Q39: When you make a good amount of money, like UGX 50,000, you spend plenty of it out celebrating with friends	1 99	2	3	4	-
Q40: When you make a good amount of money, like UGX 50,000, do you keep some for your problems?	1 99	2	3	4	-
<i>The next section asks you about how you would respond to different options that you are given. There is no right or wrong answer, we are just interested in your opinion.</i>					
Q41: Imagine that you have a chance to earn money. You are presented with two options that you can choose from: Option 1: Receive 120,000 UGX for sure. Or Option 2: Using a coin that has two sides – (tail on one side and head on the other), flip a coin and receive 0 if it's tail or 240,000 UGX if it's head. Which option would you take? Would you take the for sure money of 120,000 UGX now, or would you take the chance at getting 360,000 UGX?	1. Option 1 (take the sure money) 2. Option 2 (flip the coin) → Skip to Q71				
Q42: Now imagine that you have a chance to earn money again. This time, the options have changed: Option 1 – Receive 120,000 UGX for sure. Or Option 2 – Using a coin that has two sides – (tail on one side and head on the other), flip a coin and receive 0 if it's tail or 480,000 UGX if it's head. Flip a coin and receive 0 if it's tail or 360,000 UGX if it's head. Which option would you take?	1. Option 1 (take the sure money) 2. Option 2 (flip the coin)				
Q43: Now imagine you have a choice between the following two options: Option 1 – Receive 120,000 UGX for sure. Or Option 2 – Using a coin that has two sides – (tail on one side and head on the other), flip a coin and receive 0 if it's tail or 480,000 UGX if it's head. Which option would you take?	1. Option 1 – (take the sure money) 2. Option 2 (flip the coin)				

Q44: Now I am going to propose to you another opportunity to earn money, this time based on time instead of chance. Imagine that you have a choice between the following two options. Option 1 – Receive 1,200,000 today. Or Option 2 – Receive 1,800,000 for sure one month from now. Which option would you take?	1. Option 1 (Take the money today) 2. Option 2 (Money in 1 month)→ Skip to Q76, next section
Q45: Now imagine that you have a choice between the following two options: Option 1 : Receive 1,200,000 UGX today. OR Option 2: Receive 2,400,000 UGX for sure one month from now. Which options would you take?	1. Option 1 (take money today) 2. Option 2 (money in 1 month)→ Skip to Q76, next section
Q46: What amount would you accept to receive in one month's time instead of receiving 1,200,000 UGX today?	_____ USX. Write amount.
<p>NEXT. When you get to this part stop the survey and place the sheet facing down.</p> <p>We will complete the next section in pairs.</p> <p>The next set of questions are different from the previous kind, in that they ask you some questions about counting and also to review some diagrams. The questions may seem strange, but actually they are questions that have been developed internationally in order to compare people from all over the world to each other. We will very much appreciate your participation. It's OK if you don't know the answer; please just say "don't know."</p>	
Q47: I am going to read off a list of numbers, please try to remember them and read them back to me: <i>Enumerator: Read numbers slowly and ensure the respondent is paying attention. Do not repeat the phrase.</i>	
a) 3 – 8 – 6	Correct? Yes → B No → Q179
b) 6 – 1 – 2	Correct? Yes → C No → Q179
c) 3 – 4 – 1 – 7	Correct? Yes → D No → Q179
d) 6 – 1 – 5 – 8	Correct? Yes → E No → Q179
e) 8 – 4 – 2 – 3 – 9	Correct? Yes → F No → Q179
f) 5 – 2 – 1 – 8 – 6	Correct? Yes → G No → Q179
g) 3 – 8 – 9 – 1 – 7 – 4	Correct? Yes → H No → Q179
h) 7 – 9 – 6 – 4 – 8 – 3	Correct? Yes → I No → Q179
i) 5 – 1 – 7 – 4 – 2 – 3 – 8	Correct? Yes → J No → Q179

j) $9 - 8 - 5 - 2 - 1 - 6 - 3$	Correct? Yes → Q179 No → Q179
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For the next section we will be doing an exercise that is done in many different countries around the world. I will show you a box with a picture in it, and with a piece cut out of the picture. The picture follows a pattern from left to right and top to bottom. Look at the picture in the box, and think what the missing piece must be like to complete the pattern correctly both across (left to right) and down (top to bottom). Find the right piece out of the eight pieces shown below the picture. These pieces are numbered 1-10. Only one of these pieces is correct. Identify the piece that is the one missing, and point at it. Now I will hand you the set of ten questions, and you will have five minutes to complete as many as you can. Don't worry, if you do not complete all of them. Just answer as many as you can within the five minutes and that is enough. Please record your answers on this extra sheet of paper and do not write on the questions.

Enumerator: Please time this section so that it does not exceed five minutes. Try to give them a one minute warning that their time is expiring.

Q48: ENUMERATION (do not read) How did the respondent do on the test?	1. Completed 2. Did not complete all answers 3. Refused
Q49: Test 1: (a) Response Option Select 1, 2, 3, 4, 5, 6, 7, 8 (b) Didn't respond Q50: Test 2: (a) Response Option Select 1, 2, 3, 4, 5, 6, 7, 8 (b) Didn't respond Q51: Test 3: (a) Response Option Select 1, 2, 3, 4, 5, 6, 7, 8 (b) Didn't respond Q52: Test 4: (a) Response Option Select 1, 2, 3, 4, 5, 6, 7, 8 (b) Didn't respond Q53: Test 5: (a) Response Option Select 1, 2, 3, 4, 5, 6, 7, 8 (b) Didn't respond Q54: Test 6: (a) Response Option Select 1, 2, 3, 4, 5, 6, 7, 8 (b) Didn't respond Q55: Test 7: (a) Response Option Select 1, 2, 3, 4, 5, 6, 7, 8 (b) Didn't respond Q56: Test 8: (a) Response Option Select 1, 2, 3, 4, 5, 6, 7, 8 (b) Didn't respond Q57: Test 9: (a) Response Option Select 1, 2, 3, 4, 5, 6, 7, 8 (b) Didn't respond Q58: Test 10: (a) Response Option Select 1, 2, 3, 4, 5, 6, 7, 8 (b) Didn't respond	
Q59: Time taken to complete the Raven? _____ minutes	