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# Order Matters: Eliciting Maternal Beliefs on Educational Choices

Pablo Brañas-Garza <sup>\*†</sup>    Riccardo Ciacci <sup>\*‡</sup>    Ericka Rascón Ramírez <sup>\*§</sup>

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## Abstract

Subjective expectation data on education has been increasingly used by social scientists to better understand current investments in human capital. Despite its recognised value by scholars, there is little evidence about how the elicitation of such data might be sensitive to questionnaire design. Using a 2x2 between-subjects experimental design, we analyse how sensitive the elicitation of subjective expectation data on educational outcome is to *question order*. Our design allows us to explore whether collecting data on parental education before the elicitation of parental beliefs on their children’s educational outcomes anchors the elicitation of the latter; and whether parental expectations on their older offsprings anchors their expectations on their younger children. We find that mothers (main respondents) who have been exposed to the *non-anchored* treatment results in more optimistic parental expectations. When splitting our sample into households with low and high educated mothers, we observe that low educated mothers are more susceptible to anchoring effects. Using a conservative projection of observed years of schooling of young adults on young cohorts, we find that the *double-anchored beliefs* better predicts this projection than the rest of the treatments. Our findings inform to what extent the collection of subjective expectations data is subject to anchoring and which type of populations might be more sensitive to such phenomenon.

**Keywords:** expectations on education, survey design, order effects, anchoring.  
**JEL codes:** C9, D8, I29.

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# 1 Introduction

Subjective expectation data on educational choices have been increasingly used in experimental (Wiswall and Zafar 2014; Bleemer and Zafar 2018) and observational studies (Attanasio and Kaufmann 2014; Goyette 2008; Reynolds and Pemberton 2001; Wilson et al. 2005; Zafar 2011, 2013; Cunha et al. 2013) to improve our understanding on how parents make choices about human capital investments and to predict educational outcomes. The relevance of these data, as outcome of interest and explanatory variable, is unquestionable. However, little is known about how sensitive these data are to questionnaire design.

*How do people make predictions?* One strategy for predicting or making an assessment about the most likely outcomes is to use information one does know and then adjust until an acceptable value or event is reached, also known as anchoring-and-adjustment by Tversky and Kahneman (1974). According to Epley and Gilovich (2001, 2004), people adjust from values they generate themselves as starting points known to be incorrect but close to the target value. Experimental evidence has shown that anchors can affect sentencing decisions (Enough and Mussweiler 2001), willingness-to-pay on a range of products (Ariely et al. 2003), forecasting of sales (Critcher and Gilovich 2008), negotiations about the amount of bonus assigned to employees (Galinsky and Mussweiler 2001), among many other areas (see Furnham and Boo (2011) for a comprehensive review).

In here, we assess whether the elicitation of subjective expectations about educational choices vary according to the initial exposure to different sources of and levels of anchoring. To do so, we designed a survey experiment where our participants are subject to variations of exposure to self-generated anchors. These anchors are induced by the experimenter by randomly allocating different question order of parental education and educational expectations questions.

Our experiment constitutes a 2x2 between-subjects design where the variations in order creates four treatments. The *purest* treatment (the one exposed to no anchoring at all) corresponds to the elicitation of educational expectations for the youngest child where the main respondent (the mother) is not anchored with any prior schooling-related information. Thus, the treatment with the *highest exposure to anchoring* is the one where respondents are firstly asked about their own level of education and their spouse, followed by their educational expectations on their older children and ended with the elicitation of their youngest child.

Previous research suggests that the effect of question order on survey responses might be twofold (McFarland 1981; Sigelman 1981). On the one hand, it might affect the willingness of respondents to provide an evaluation, and therefore have an impact on the *uncertainty* reported by the respondent. On the other hand, it might affect the *optimism* (i.e. the balance between positive and negative evaluations) and therefore affects the direction of the response. Benton and Daly (1991) did not find order effects on the propensity of giving an opinion, but they found effects on the direction of the responses when people were asked about municipal services and their evaluations of such services. Similarly, Ho and Imai (2008) showed that ballot order significantly impacted minor party candidates, but no effects were found on major party candidates. Schwarz and Hippler (1995) analysed how survey modes may make respondents to be more sensitive to order effects. They found that responses to donation questions can be influenced by order, primarily when

these are collected using telephone mode.

Finding question order effects on the elicitation of subjective expectations, may primarily reflect how sensitive respondents are to the *activation of prior* knowledge or information that may anchor the elicitation of such expectations. Order effects on belief elicitation has primarily focused on having people encoding evidence as positive or negative relative to a hypothesis. Hogarth and Einhorn (1992) has found order effects when positive vs. negative information was offered to the respondent acknowledging variations in the response mode and the process behind beliefs elicitation. Using the belief-adjustment model of Hogarth and Einhorn (1992), Tubbs et al. (1993) found that order effects in belief elicitation happens, no matter if the activation of prior knowledge is consistent or not with the content of the elicitation. The authors highlight that the subjective value that the individual gives to the prior information is the main factor influencing order effects. To the best of our knowledge, our study is the first one analysing order effects on belief elicitation in the field. We contribute to the literature on how people make judgements under uncertainty when they are self-anchored and more broadly, to the literature on order effects on belief elicitation.

The few survey questionnaires collecting both parental education and parental beliefs about their children's educational choices follow a standard procedure. The majority of survey instruments collecting beliefs about educational choices position the collection of parental education *prior* to the elicitation of parental beliefs on future educational outcomes (e.g., Mexico: Jovenes con Oportunidades – previously known as *Progresá*, Mexican Life Survey (*MxFLS*); US: National Longitudinal Survey of Youth (*NLSY*), Parent and Family Involvement in Education (*PFI*), among others). Exceptions are the UK Longitudinal Survey for Young People in England (*LSYPE*) and the US National Education Longitudinal Study (*NELS*) where parental education is collected *after* the set of parental expectations on their teenagers' educational choices.

Regarding birth order, most of the surveys do not explicitly specify whether parental expectations were firstly elicited for the oldest or youngest child. In the *LSYPE*, the age of the siblings aged 16 or over who *completed continuous full-time education* was collected *prior* to parental expectations on the younger siblings, however, no explicit question was asked about older siblings' education.

Understanding how sensitive these data are to questionnaire order allows us to: a) assess comparability of parental schooling and expectations data when collected by different sources following variations in question order, b) assess comparability over time for the same survey, and c) assess which type of elicitation of expectation is more likely to report more realistic outcomes and therefore, more likely to be better predictors of future behaviour.

In the next section, we present our experimental design followed by a description of our data. We then discuss our main findings and conclude with some recommendations to researchers and practitioners interested in the elicitation of parental expectations in the field.

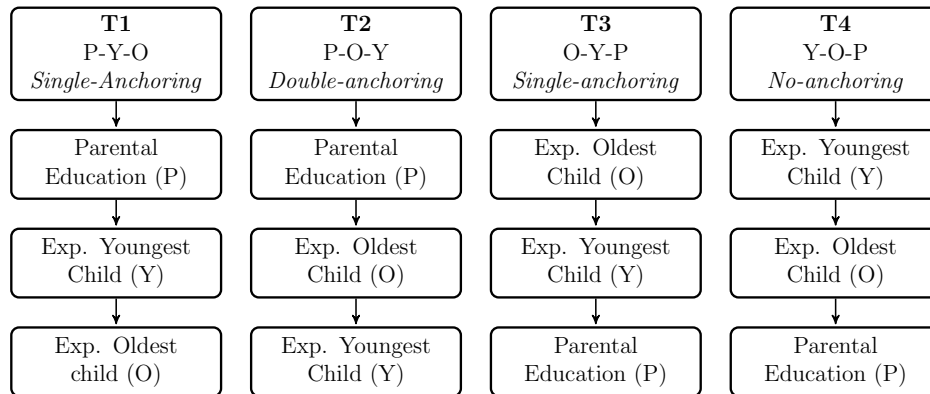
## 2 Experimental Design and Data

### Treatments

Our survey design allows us to evaluate whether self-anchoring affects data collection on **subjective expectations on educational choices**. In our experiment, self-anchoring is induced by randomly allocating different question order of parental education and educational expectations.

The respondents were randomly assigned to four treatments which varied on two main features: (i) whether parental education was collected before the expectations on educational outcomes and (ii) whether expectations about young children were collected before the expectations about their older siblings. These two variations generate four treatments shown in Figure 1:

Figure 1: Treatments based on Question Order



After asking about standard sociodemographic characteristics,  $T4$  asks the respondent about the expected education for the youngest child first, followed by the second oldest, and continues until reaching the oldest child. After eliciting educational expectations for the oldest child,  $T4$  finalises this section with the collection of parental education.

Conversely,  $T2$  collects data on parental education first, followed by the oldest child educational expectations, then the second oldest, and so on.  $T2$  finalises this section with the highest level of education expected for the youngest child.

The rest of treatments,  $T1$  and  $T3$ , elicit expectations about the youngest child either after parental education ( $T1$ ) or after the educational expectation about older siblings ( $T3$ ).

Observe that  $T2$ :  $P-O-Y$  corresponds to the treatment with the highest exposure to self-anchoring when eliciting expectations about the youngest child. Under  $T2$ :  $P-O-Y$ , mothers are subject to self-anchoring when reporting their own and spouse's education, as well as when reporting their expectations about their oldest child. For this reason, we have identified this treatment as the one exposed to *double-anchoring*.

Conversely,  $T4$ :  $Y-O-P$  is the opposite case where the elicitation of expectations about the youngest child is not subject to any prior self-anchoring. Educational expectations

about the youngest child are collected *prior* to parental education and expectations about the oldest child. In the results section, we use *T4: Y-O-P* as a comparison group to understand how sensitive the elicitation of parental expectations is when mothers are exposed to different types and levels of self-anchoring.

Because all four treatments were exposed to the same sociodemographic questions prior to the collection of parental education and educational expectations, any difference across treatments is uniquely explained by the self-anchoring induced by the treatments.

## Summary Statistics

Our data was collected the first quarter of 2016 as part of an impact evaluation on mobile-banking in rural Piura, Peru. The survey was administered to a random sample of women living in 5 rural localities (also known as *centros poblados*) who were beneficiaries of the social programme *JUNTOS*. The survey consisted of a questionnaire on dwelling characteristics, inter-temporal preferences, sociodemographic characteristics, mobile usage, financial literacy and crime. All our treatments follow the same questionnaire order with exception of parental education and educational expectations that were randomly allocated into four different orders, as explained above. In total, we interviewed 1,996 individuals and collected parental expectations on 4,040 children. Out of the total, 195 are *only* children. For our analysis we use the whole universe of observations.

Appendix Table A presents the main descriptive statistics of our sample. The average and median age of children in our sample is 8 years old, their sex ratio is balanced (50%), 99% of them live at home and 85% are students. About 75% of the households in our sample live in a dwelling with soil floor and 95% with a roof made of calamine. In addition, 79% of such households own a TV but only 2% owns a landline.

The respondent's average and median age is 36 years old. Parental education is heavily concentrated on below vocational studies/training (hereafter, *VT*). Only 4% of mothers and 7% of fathers achieved an education level above *VT*. However, the vast majority of parents expect their offsprings to get a college degree (around 69% of them).

Figures 4 and 5 of Appendix show balance tests for treatments *T1*, *T2*, *T3* and *T4* where we compare each of them with the rest of treatments, respectively. These figures show that, due to randomisation, we have comparability for most of the sociodemographic characteristics collected prior to parental education and educational expectations. Few differences are observed for age of respondent, number of children and grandchildren for *T3* and *T4*, and quite wide confidence intervals for these variables for *T1* and *T2*. We consider these controls and the rest of sociodemographic characteristics in a regression analysis to account for this imbalance. For completeness, we have also included in our balancing tables parental education variables despite of being subject to our experimental change of order. We do not find significant differences across treatments.

### 3 Results

#### Educational Expectations: Treatment effects

To assess how sensitive the elicitation of educational expectations is across treatments, Table 1 presents the percentage of mothers reporting below vocational training (VT), vocational training and college as the highest level of education they expect for their children. We also report the percentage of mothers uncertain about such expectation – reporting *don't know*. The definition of each treatment varies according to whether parental education or educational expectations appeared first in the questionnaire section on education, as explained in Figure 1. Our main results are summarised in here:

*Result 1.* Mothers who are not exposed to self-anchoring report more optimistic educational expectations.

*Result 2.* Mothers exposed to self-anchoring are more uncertain than those who have not been exposed to anchors.

Table 1 shows that  $T1/T2/T3$  treatments report different outcomes than  $T4$ : we find people report more optimistic expectations under  $T4$  than under any other  $T_k$  treatment. This is mirrored by having a higher percentage of mothers reporting *below VT* as the highest level of education when they are single or double-anchored than when they are not under  $T4$  (our reference category). The percentage of women reporting *below VT* as the highest educational level expected for their children is approximately 50% higher for any of the  $T1/T2/T3$  treatments.

Despite of using self-anchoring as a way to facilitate the assessment of the most likely outcome in the future, in our experiment, self-anchoring increases the uncertainty of our respondents, see column of *Don't know*.

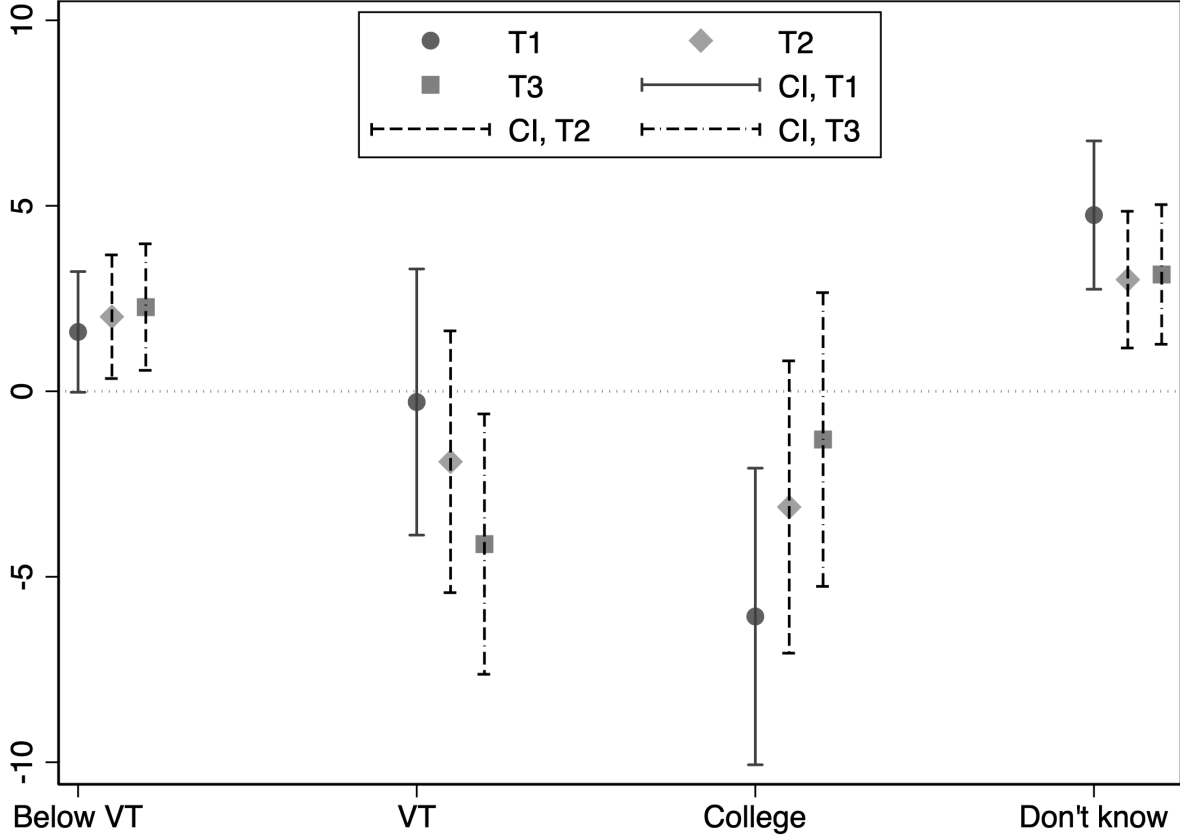
Table 1: Order Effect on Educational Expectations: Percentages by Treatment

<i>Anchoring</i>	Abbreviation	Highest level of education that mothers expect			
		Below VT	VT	College	Don't know
<i>Single</i>	T1: P-Y-O	4.52	21.99	65.36	8.13
	T3: O-Y-P	5.19	18.15	70.12	6.54
<i>Double</i>	T2: P-O-Y	4.92	20.37	68.31	6.40
<i>None</i>	T4: Y-O-P	2.91	22.27	71.43	3.38

Notes: Percentages by row add to 100.

We report in Fig 2 differences between all self-anchored treatments  $T_k$  and  $T4$  where  $k=1, 2$  or  $3$ . It reports confidence intervals and point estimates for each treatment. Each one is represented by a different symbol and pattern of line. T1, T2 and T3 's point estimates are respectively represented by a circle, a diamond and a square; likewise, their confidence intervals are respectively a solid line, a dashed line and a dashed-dotted line. Fig 2 shows that most of the differences appear for the educational levels *below VT* and *don't know*.

Figure 2: Differences between *Anchored* ( $T_k$ ) and *No-Anchored*  $T_4$  Expectations



Notes: This figure reports differences in percentages between  $T_k$  and  $T_4$  where  $k = 1, 2, 3$ .

To consider the few imbalances (in the sample) shown in Figures 4 and 5 of Appendix, Table B of Appendix presents the results of linear probability models (LPM) using the specification  $y_{ih} = \mathbf{X}_{ih}\alpha + \beta_1 d_{1ih} + \beta_2 d_{2ih} + \beta_3 d_{3ih} + \varepsilon_{ih}$  where  $y_{ih}$  denotes a certain level of expected education for child  $i$  living in household  $h$ .  $\mathbf{X}_{ih}$  represents control variables and a constant, and  $d_{ih}$  denotes our treatments. We define as reference category  $T_4$ . Our dependent variables  $y_{ih}$  are represented by dummy variables equal to 1 for each expected educational level: *below VT*, *VT*, *college* or *don't know*; 0 otherwise. To consider the four treatments explained in the previous section,  $d_{1ih}$ ,  $d_{2ih}$  and  $d_{3ih}$  are equal to 1 if the household has been allocated to  $T_1$ ,  $T_2$  or  $T_3$ , and 0 otherwise. Our regression table confirms our main findings: (i) Mothers report more optimistic educational expectations when they are not subject to anchors and (ii) Self-anchoring increases the level of uncertainty of respondents.<sup>1</sup>

Splitting our analysis by gender, Table C of Appendix presents  $p$ -values of T-tests comparing both sons and daughters coefficients within treatments (e.g., sons and daughters in  $T_1$ ). Despite most differences are not statistically different from zero, when looking

<sup>1</sup>These results are also in line with the literature on question order effects exposed in Section 1.



at Tables D and E of Appendix, we identify that parents tend to report lower levels of education for daughters than for sons in  $T1/T2/T3$  when comparing with  $T4$ . However, parents are more likely to report *Don't know* in  $T1/T2/T3$  than in  $T4$  when asked about their sons.

## Anchoring Level and Elicitation of Educational Expectations

Asking about parental education prior to the elicitation of educational expectations may induce a downward or upward adjustment of elicited expectations, depending on the level of the anchor. To explore how the level of the anchor affects the elicitation, we split our sample based on the education of the main respondent (mothers). We define households with low educated mothers ( $\leq prim$ ) if their maximum education is below or equivalent to “primary school” and households with high educated mothers ( $> prim$ ) if they have more than primary education. Approximately 44 percent of our respondents belong to the low educated group and 56 percent to the high educated one.

Here we summarise the main findings of this section:

*Result 3.* High educated mothers report more optimistic educational expectations than low educated mothers.

*Result 4.* Low educated mothers are more susceptible to anchoring-effects than high educated mothers.

*Result 5.* High and low educated mothers are equally uncertain, reporting *don't know*, when being asked about educational expectations for their children.

Table 2 shows the percentage of respondents reporting *below VT*, *VT*, *college* or *don't know* across treatments for households with low and high educated mothers, respectively.

Table 2: Order Effect on Parental Expectations: By Maternal Education

<i>Anchoring</i>	Highest level of education that mothers expect							
	<i>Below VT</i>		<i>VT</i>		<i>College</i>		<i>Don't know</i>	
	$\leq prim$	$> prim$	$\leq prim$	$> prim$	$\leq prim$	$> prim$	$\leq prim$	$> prim$
T1: P-Y-O	6.79	2.70	23.98	20.36	63.12	67.03	6.11	9.73
T2: P-O-Y	8.23	2.03	21.52	19.34	63.08	72.74	6.96	5.89
T3: O-Y-P	7.21	3.56	26.28	11.61	60.47	77.90	6.05	6.93
T4: Y-O-P	3.56	2.42	24.05	20.84	67.93	73.51	3.56	3.23

Looking into the two extremes of education, *below VT* and *college*, we observe high educated mothers have more optimistic educational expectations for their children than the low educated ones. The percentages are much higher for *below VT* in the group of low educated mothers, and much higher for *college* in the group of high educated mothers.

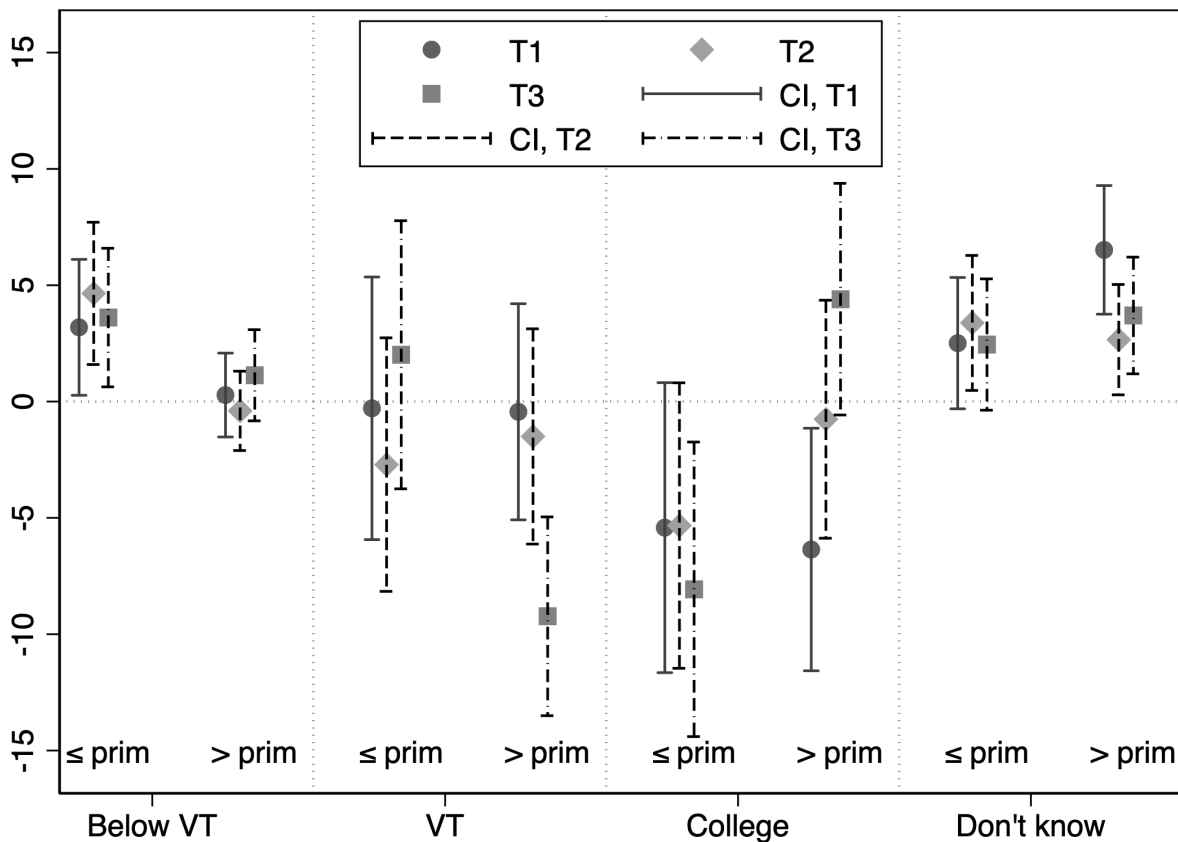
Anchoring-effects are larger for low educated mothers than for high educated ones. The percentage of mothers reporting *below VT* in  $T2$  is twice as high as in  $T4$ , whereas

for high educated mothers the percentages are pretty similar under  $T_2$  and  $T_4$ . This means that low educated mothers are more sensitive to *double-anchoring* than their educated counterparts. One possible explanation is the limited information that low educated mothers might have available for assessing the most likely educational outcome for their children when asked by the enumerator. Hence, given the limited information they are likely to have, they are more prone to using cues to make a judgement under uncertainty.

Figure 3 summarises the differences between  $T_k$  and  $T_4$  where  $k = 1, 2$  and 3. For most of our expected educational levels, there are no significant differences between the educational expectations elicited under anchored and the no-anchored treatments for low and high educated mothers.

However, the percentage of low educated mothers reporting *below VT* as the highest level of education they expect for their children is higher for all *self-anchored* expectations under  $T_1, T_2$  and  $T_3$  than under the *no-anchored* expectations under  $T_4$ .

Figure 3: Differences between *Anchored* ( $T_k$ ) and *No-Anchored*  $T_4$  Expectations by Maternal Education



Notes: This figure reports differences in percentages between  $T_k$  and  $T_4$  where  $k = 1, 2, 3$ .

For low and high educated mothers, we observe that the percentage of mothers reporting *College* as the highest level of education they expect for their children is, in the majority of cases, higher under the *no-anchoring* treatment ( $T_4$ ) than under any other *self-anchored*

treatment ( $T1$ ,  $T2$ , and  $T3$ ) – 5 out of 6 comparisons are below zero. In comparison to *below VT* where the difference between  $T2$  and  $T4$  was at least twice as large in the sample of low educated mothers, for *college* the difference is just about 8 percent.

Our results show that households with low educated mothers are more sensitive to *self-anchoring* than their educated counterparts. This finding is in line with the evidence provided by Wilson et al. (1996) about knowledgeable people being less susceptible to anchoring effects. Highly educated mothers might be less susceptible to anchoring effects because of their knowledge and/or level of certainty about the most likely educational outcome for their children. In our context, high educated mothers may know better how to achieve certain levels of education and/or might have better information about the characteristics of people that reach such levels. Thus, these mothers might be more likely to report lower levels of uncertainty (or *don't know*) than their low educated counterparts. When looking at the percentage of mothers reporting *don't know* in Table 2, we observe that low and high educated mothers concentrate similar percentages when comparing within treatments. Thus, our results point out that the most likely mechanism that explains the difference in anchoring effects between low and high educated mothers is their knowledge and not their level of certainty.<sup>2</sup> Further, in our experiment, *self-anchoring per se* may induce a higher report of *don't know*.

## 4 Discussion and Conclusions

We study anchoring effects when eliciting the highest level of education that parents expect their children will achieve in the future. To do so, we use a 2x2 between-subjects survey experiment where we randomly allocate survey respondents to one of four possible treatments. Treatments vary according to whether parental education was asked before parental expectations, and whether parental expectations about the oldest child was elicited before the youngest. Our study supports five relevant results:

*i)* We find that *self-anchoring*, inducing the respondent to think first about her own education and/or her oldest child expected education, makes the respondent to downwardly adjust their expectations. Conversely, when respondents are not anchored, mothers report more optimistic expectations. In short, expectations are sensitive to experimental design.

*ii)* We also find that, when mothers were self-anchored (i.e.  $T1$ ,  $T2$ , and  $T3$ ), 7.02% of mothers answered *do not know* when asked about the expected highest education for their offsprings. Self-anchoring when eliciting subjective expectations may induce item non-response which translates into information loss and monetary costs.

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<sup>2</sup>We refer to knowledge in this context to the awareness about which steps an individual needs to follow to reach a particular level of education. When educated mothers have already gone through different levels of education, they learn the process of how to achieve such levels. Educated mothers also have more information about the "type" of individuals that reach such level, and therefore, they have more information about the chances that an individual with certain characteristics might reach certain levels of education. According to our analysis, low and high educated mothers have equivalent levels of uncertainty despite of the latter having more information about the "type" of individuals that are more likely to reach certain levels of schooling.

iii) We also find that the level of *self-anchoring* matters. When we split the sample between households with low educated mothers (low anchor) and high educated mothers (high anchor), respondents subject to a low anchor are more likely to report lower levels of expected education than those respondents subject to a high anchor.

iv) We also find that the low educated mothers ( $\leq$  primary) are more susceptible to anchoring-effects than high educated mothers ( $>$  primary) when eliciting educational expectations for their children.

v) Finally, we also find that high and low educated mothers are equally uncertain, reporting *don't know*, when being asked about educational expectations for their children. Both groups present higher levels of uncertainty when their educational expectations have been previously anchored with parental education and/or educational expectations of older siblings.

Despite of not having panel data confirming which expectation measure ( $T1/T2/T3/T4$ ) is more accurate for predicting future outcomes, we observe that the cohort between 21-24 years presents 16 percentage points less concentration in *below VT* than the mothers interviewed in the sample. Considering a linear projection for the cohorts 18-20, 12-17 and 6-11, we expect a decline of 64 percentage points in below VT, maintaining constant other factors, and an increase in higher levels of education for the youngest generation. When we apply this conservative projection to our expectations variable, we identify  $T2$ : *double-anchoring* as the measure of expectations that better matches this projection when using the full sample of our study.

Our findings suggest experimental and observational studies should consider potential anchoring effects when the elicitation of beliefs are priority or correspond to the main outcomes of interest in research or policy projects. Based on the results discussed in here, the authors recommend piloting questionnaire order prior to the scale-up of any survey data collection involving the elicitation of beliefs. We hope our study encourages other researchers to explore how sensitive the elicitation of expectations data might be to survey designs.

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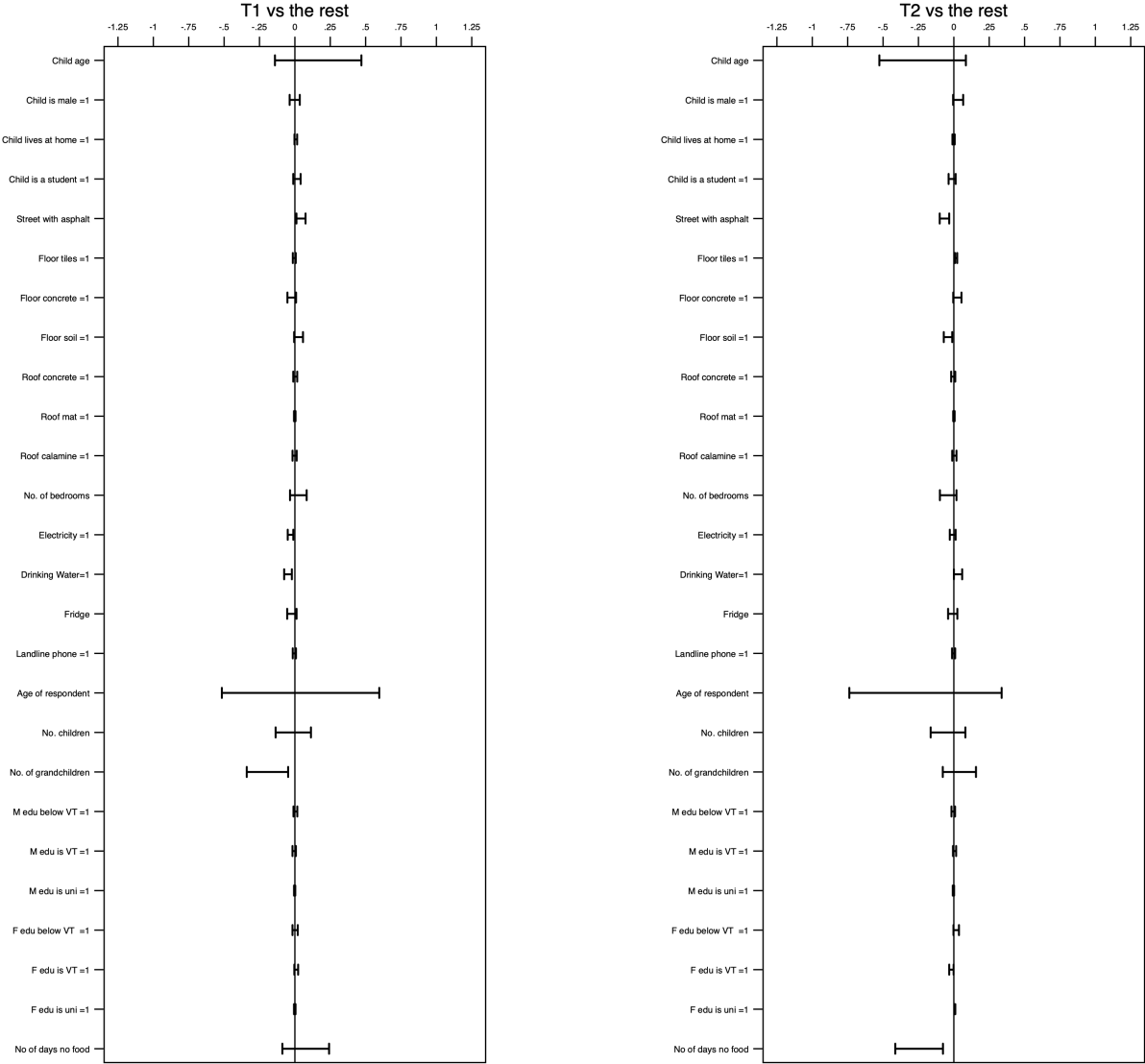
## 5 Appendix

Table A: Descriptive stats

	Mean	Stand. dev	Median	Min	Max
Child age	8.13	4.26	8.00	0.40	15.00
Child is male =1	0.50	0.50	1.00	0.00	1.00
Child lives at home =1	0.99	0.12	1.00	0.00	1.00
Child is a student =1	0.85	0.36	1.00	0.00	1.00
Floor made of tiles =1	0.02	0.14	0.00	0.00	1.00
Floor made of concrete =1	0.23	0.42	0.00	0.00	1.00
Floor made of ground =1	0.75	0.43	1.00	0.00	1.00
Roof made of concrete =1	0.04	0.20	0.00	0.00	1.00
Roof made of mat =1	0.01	0.07	0.00	0.00	1.00
Roof made of calamine =1	0.95	0.21	1.00	0.00	1.00
# of bedrooms	1.91	0.82	2.00	1.00	5.00
Dwelling has electricity =1	0.90	0.30	1.00	0.00	1.00
Dwelling has drinking water =1	0.80	0.40	1.00	0.00	1.00
Dwelling has a radio =1	0.52	0.50	1.00	0.00	1.00
Dwelling has a TV =1	0.79	0.40	1.00	0.00	1.00
Dwelling has landline phone =1	0.02	0.15	0.00	0.00	1.00
Age of respondent	35.97	7.70	36.00	19.00	97.00
Number of children	3.66	1.70	3.00	0.00	12.00
Number of grandchildren	0.57	1.75	0.00	0.00	22.00
Number of children who live with respondent	3.24	1.38	3.00	0.00	10.00
Number of grandchildren who live with respondent	0.15	0.60	0.00	0.00	9.00
Mother's education below VT =1	0.96	0.18	1.00	0.00	1.00
Mother's education is VT =1	0.03	0.16	0.00	0.00	1.00
Mother's education is university =1	0.00	0.05	0.00	0.00	1.00
Father's education below VT =1	0.93	0.26	1.00	0.00	1.00
Father's education is VT =1	0.04	0.20	0.00	0.00	1.00
Father's education is university =1	0.01	0.07	0.00	0.00	1.00
# of days couldn't buy food	3.02	2.21	3.00	0.00	10.00
Expect. educ. below VT	0.04	0.20	0.00	0.00	1.00
Expect. educ. is VT	0.21	0.41	0.00	0.00	1.00
Expect. educ. is college	0.69	0.46	1.00	0.00	1.00
Expect. educ. is unknown	0.06	0.24	0.00	0.00	1.00

Note: There are no mothers reporting their education as unknown.

Figure 4: Balance Test for T1 and T2 vs the rest, 95% confidence intervals



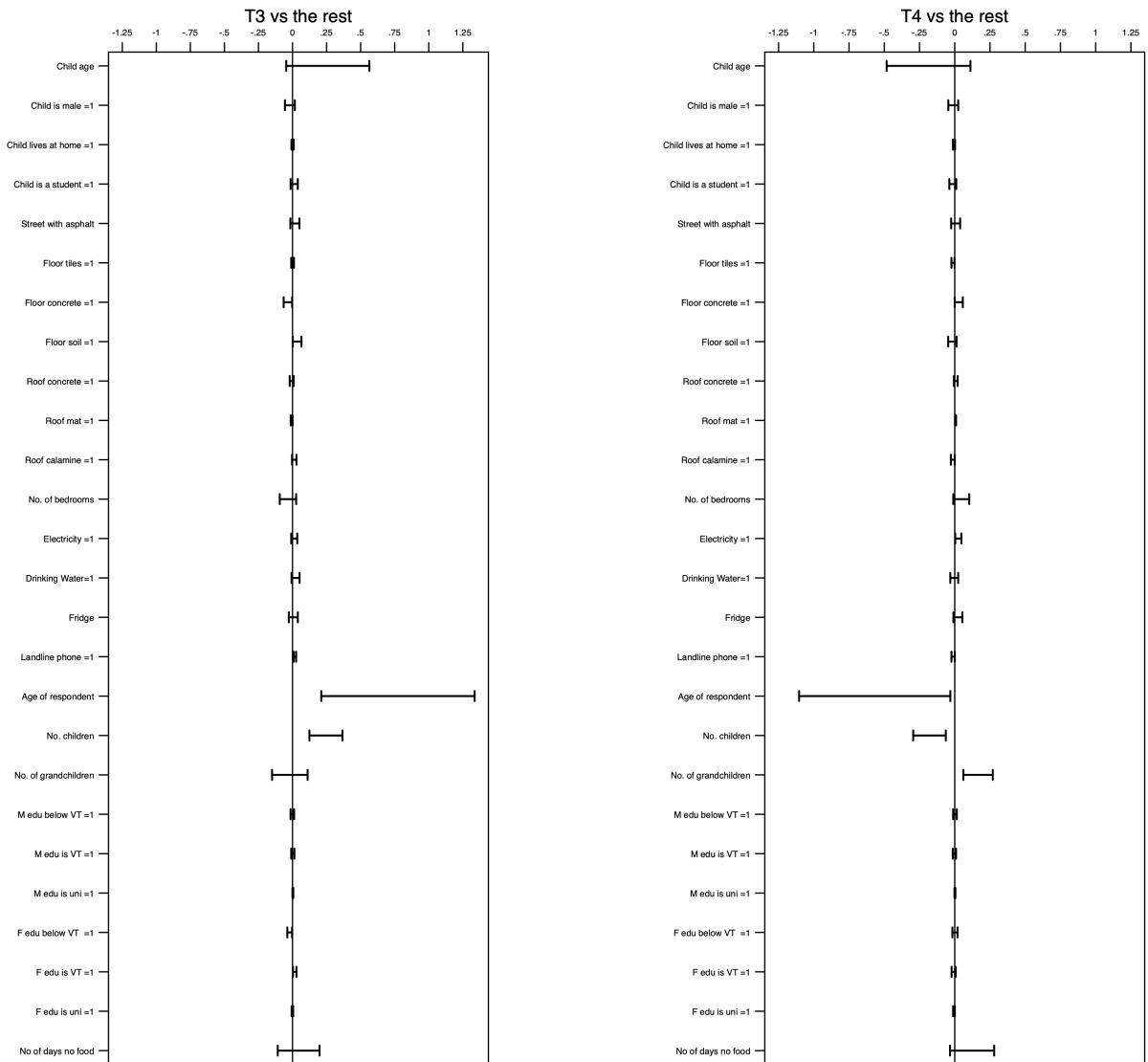
(a) T1 vs the rest

(b) T2 vs the rest

Notes: Balancing test. Confidence intervals that lie to the left imply that treatment group has a higher mean of the corresponding variable. *M edu* stands for mother’s education and *F edu* for father’s education.



Figure 5: Balance Test for T3 and T4 vs the rest, 95% confidence intervals



(a) T3 vs the rest

(b) T4 vs the rest

Notes: Balancing test. Confidence intervals that lie to the left imply that treatment group has a higher mean of the corresponding variable. *M edu* stands for mother's education and *F edu* for father's education.

Table B: Order Effect on Parental Expectations (2x2), LPM

VARIABLES	(1) Below VT	(2) VT	(3) College	(4) Don't know
T1: P-Y-O	0.0194** (0.00854)	0.00529 (0.0182)	-0.0703*** (0.0203)	0.0455*** (0.0104)
T2: P-O-Y	0.0200** (0.00867)	-0.0129 (0.0177)	-0.0357* (0.0198)	0.0287*** (0.00942)
T3: O-Y-P	0.0276*** (0.00908)	-0.0293* (0.0176)	-0.0295 (0.0199)	0.0312*** (0.00967)
Observations	4,040	4,040	4,040	4,040
Overall sample (%)	4.36	20.74	68.84	6.06
Reference category T4: Y-P (%)	2.91	22.27	71.43	3.38

Notes: VT stands for vocational training. Reference category corresponds to T4, Y-O-P. Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table C: Order Effect on Parental Expectations (2x2), Sons vs Daughters *p-values* of T-Tests

	Below VT	VT	College	Don't know
T1: P-Y	0.71	0.94	0.84	0.39
T2: P-O	0.64	0.42	0.59	0.39
T3: O-P	0.03	0.40	0.16	0.47
T1/T2	0.88	0.67	0.76	0.57
T1/T2/T3	0.16	0.74	0.40	0.74

Notes: VT stands for vocational training. Reference category corresponds to T4, Y-P. Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table D: Order Effect on Parental Expectations for Sons (2X2), LPM

VARIABLES	(1) Below VT	(2) VT	(3) College	(4) Don't know
T1	0.0156 (0.0120)	0.00348 (0.0266)	-0.0739** (0.0289)	0.0548*** (0.0145)
T2	0.0141 (0.0120)	-0.0268 (0.0257)	-0.0241 (0.0285)	0.0367*** (0.0133)
T3	0.00828 (0.0116)	-0.0433* (0.0249)	-0.00261 (0.0278)	0.0376*** (0.0132)
Observations	2,031	2,031	2,031	2,031
Freq. in %	4.360	20.74	68.84	6.060
Baseline freq. in %	2.940	24.08	69.85	3.130

Notes: VT stands for vocational training. Treatment variables are: T1, P-Y; T2, P-O; and T3, O-P. Reference category corresponds to T4, Y-P. Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table E: Order Effect on Parental Expectations for Daughters (2X2), LPM

VARIABLES	(1) Below VT	(2) VT	(3) College	(4) Don't know
T1	0.0220* (0.0124)	0.00630 (0.0251)	-0.0655** (0.0287)	0.0372** (0.0147)
T2	0.0223* (0.0126)	0.00209 (0.0246)	-0.0451 (0.0277)	0.0208 (0.0133)
T3	0.0481*** (0.0141)	-0.0137 (0.0253)	-0.0582** (0.0287)	0.0238* (0.0140)
Observations	2,009	2,009	2,009	2,009
Freq. in %	4.360	20.74	68.84	6.060
Baseline freq. in %	2.880	20.38	73.08	3.650

Notes: VT stands for vocational training. Treatment variables are: T1, P-Y; T2, P-O; and T3, O-P. Reference category corresponds to T4, Y-P. Robust standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$