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Breaking the conversational norm: Up means good, but left only means left

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ABSTRACT

Research has suggested that respondents expect survey questions to follow conversational norms. One such suggested norm is that positive response options are expected to be presented first in vertical lists (at the top) and first in horizontal lists (as the left-most option for languages written from left to right). These norms are called *up means good* and *left means good*. One experiment for verticical response options and one for horizontal response options were conducted. The respondents were randomized to answer questions that either followed or broke the suggested norms. Respondents took significantly longer to answer questions breaking the up means good norm, but did not take longer when questions broke the left means good norm. Respondents also preferred answering questions following up means good, but showed no preference for left means good. Furthermore, there were no differences in data quality, as measured by concurrent validity. These results suggest that while the up means good norm appears to have a preferential influence, it does not significantly impact how respondents answer survey questions.

INTRODUCTION

Survey respondents sometimes must draw on incidental features of the questions to help them interpret the question or the response options. A general assumption in survey methodology research is that respondents follow a set of simple heuristics when interpreting the meaning of questions and that respondents expect questionnaires to follow conversational norms. Studies on the cognitive process of question responses in surveys suggests that the visual presentation of survey items has a significant influence on response behavior (Toepoel and Dillman, 2011; Tourengeau et al. 2004; 2007; 2013).

Tourangeau et al. (2004) argued that respondents follow simple heuristics or rules in interpreting the visual features of questions: (a) Middle means typical: respondents will interpret the middle option as the most typical; (b) Left and top means first: the leftmost or top option will be interpret as the "first" in conceptual sense, due to the reading order of English and many other western languages; (c) Near means related: options that are physically near each other are expected to be more related than options further apart; (d) Up means good: the top option will be seen as the most desirable alternative; and (e) Like means close: visually similar options will be seen as closer conceptually.

In a vertically oriented list of response options, the up means good heuristic implies that the top option will be regarded as the most "good" or desirable, whereas the bottom option will be regarded as "bad" or the least desirable (Tourangeau et al. 2004; 2013) (see Appendix 1 Figure 11 for an example). According to this theory, respondents expect "good" things—those they view positively—to be higher up on the screen than "bad" things. In different

experiments Tourangeau et al. (2013) found that item ratings are significantly more positive when the item appear higher up on the screen than when it appears farther down.

In previous research, the up means good heuristics has mostly been assessed with respect to order of survey questions. Toureangeau et al. (2013) randomized the order and screen position of response options, placing them either higher or lower on the screen and starting with either the most positive or negative response option. Empirical work on evaluation of political candidates suggests that candidates higher up on the list received more votes than candidates listed farther down (e.g. Blom-Hansen et al., 2016; Däubler and Rudolph, 2020). However, to our knowledge, the respondents preference of response option order, which could indicate conversational norms, has yet to be investigated. Furthermore, if a similar norm to up means good exists for horizontal response options, a so called "left means good", has also not yet been investigated. Therefore, this study will explore the possible norms of both up means good and left means good, and the impact of following or breaking them.

METHOD AND MATERIALS

SAMPLE

A subsample of 4,000 self recruited panelist from the Swedish Citizen Panel were invited to complete a study between February 28 and March 27. Reminders were sent the 7th and 14th of March to the respondents who had not yet completed the questionnaire. Of the 2,275 who started the questionnaire, 2,250 answered more than 80 % of the questions (participation rate: 56 %). The sample was prestratified by sex (male, female), age (18–34, 35–49, 50–85 years), and education (low/middle education: less than 3 years of post-secondary education, high education: 3 or more years of post-secondary education).

PROCEDURE

Respondents were randomly assigned to answer questions in one of four formats. Two groups tested the norm left means good, where one group answered questions with most positive response option to the left, and one group answered questions with the most positive response option to the right. The other two groups tested the norm of up means good, where one group answered questions with the most positive response option at the top, and the other answered questions with the most positive response option at the bottom.

First, all respondents answered five multiple choice questions concerning political proposals. The proposals used five fully verbally labeled response options, ranging from "Very good proposal" to "Very bad proposal" (see Appendix 1). Then, respondents answered questions investigating on different spatial norms. These questions were designed specifically to elicit the conversational norm of up or left means good, since the response options used words related to the physical space. The spatial norm questions differed depending if the respondent where in the horizontal or vertical groups. The horizontal groups answered questions where the spatial norm of left/right and east/west was tested. With the alternative "left" or "west" being placed on the left-hand for respondents assigned to see the most positive response option to the left, and on the right-hand side for respondents assigned to the most positive response option to the right. For example, the respondents evaluated how far to the east or west Stockholm was located in Sweden (see Appendix 2). The groups assigned to have the response options presented vertically, answered questions where the spatial norm of north/south, rise/sink and raise/lower was tested. For example, they evaluated how far to the south respectively north the city of

Malmö was located in Sweden (see Appendix 2). All questions testing spatial norms used five fully verbally labeled response options.

In the last part of the questionnaire, respondents reported their preference between the different ways of ordering verbally labeled response options. All the respondents answered two questions, one regarding their preference on horizontal response options and one on vertical response options. The order of these two questions were randomly assigned for each respondent (see Appendix 3). Further, it was randomly assigned if the first preferred order of response option meant following or breaking the conversational norm for the respondents.

ANALYSIS PLAN

If the conversational norms exist, the time it takes respondents to answer questions should be longer when the response options break the norm. This was tested with OLS regressions to see if the order of response options significantly increased response times of questions. The respondents own preference was assessed by analyzing avarages of preferences.

Further, if the norms exist, avarages may be higher in the groups following the norm due to it is excepted to have the most desirable value at the top or to the left (Toreangeau, 2004). Also, following the norm would lead to less measurement error, making constructs that should correlate do so more strongly when following the norm than when breaking it. Testing data quality by using known correlations between variables to assess if they increase or decrease when changing how the question is asked is referred to as concurrent validity (Shaeffer et al., 2005). A more valid question format will yield less measurement error and thus lead to stronger association between the questions being evaluated.

The five political proposals (the target questions in the concurrent validity analyses) used in this study were selected for having a known correlation with another known construct (the criterion variables). The criterions questions were: 1. Living in an urban or rural setting, 2. Income, 3. Gender, 4. Education. Previous studies has shown that living more urban correlates with supporting carbon taxes (Umit & Schaffer, 2020), while living more rural correlates with supporting increased government funding in rural areas of Sweden. Having a lower income correlates with being in favor of higher taxation of the rich (Franko et al., 2013). Being in favor of investing more in a multicultural society correlates positively with being female (Schalk-Soekar & Van de Vijver, 2008). Finally, there is a correlation of having a lower level of education and wanting harsher prison punishments (Sprott, 1999).

RESULTS

SPATIAL NORMS AND TIME

The results showed that respondents took statistically significantly longer answering questions about spatial norms when the response options were breaking either of the conversational norms. As can be seen in Figure 1, respondents who answered questions with the most positive response option presented to the right ($M = 17.52$, $SD = 6.43$) took statistically significantly longer to answer the questions than respondents answering questions with the most positive response option to the left ($M = 15.78$, $SD = 5.46$) ($t(1084) = -4.78$, $p < .01$). Similarly, Figure 2 illustrates that respondents who answered questions with the most positive response option presented at the bottom ($M = 15.24$, $SD = 5.53$) took statistically significantly longer time to answer the questions than respondents answering questions with the most positive response option at the top ($M = 14.07$, $SD = 5.24$) ($t(1128) = -3.65$, $p < .01$). The increase in time to answer the questions could be due

to an increase of cognital effort needed for the respondents to interpret and choose their

answer when response options were ordered in a way respondents did not expect.

Figure 1. *Average time spent on spatial norm questions - horizontal*

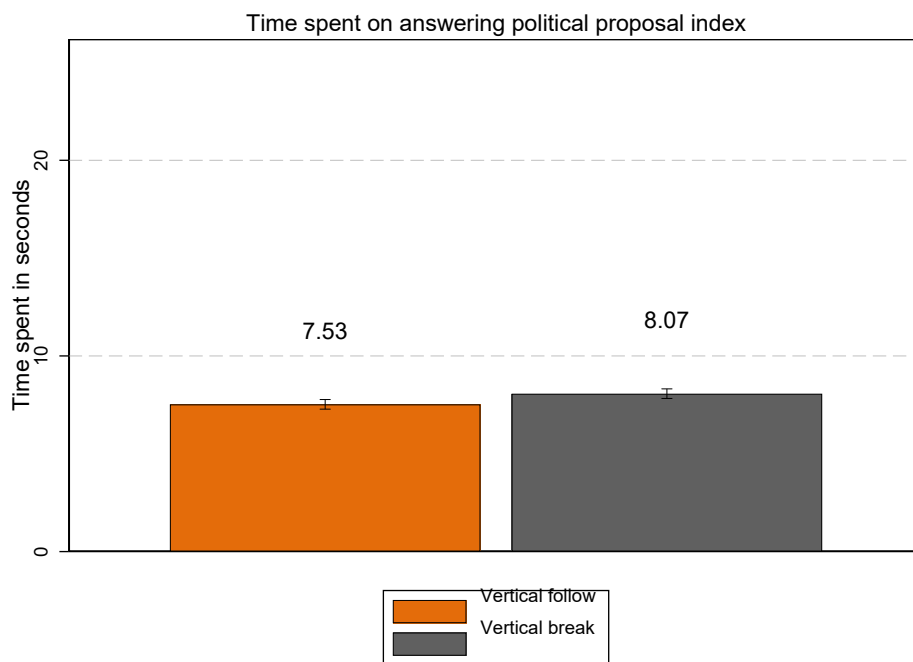Avarage time spent on answering spatial norm questions - horizontal
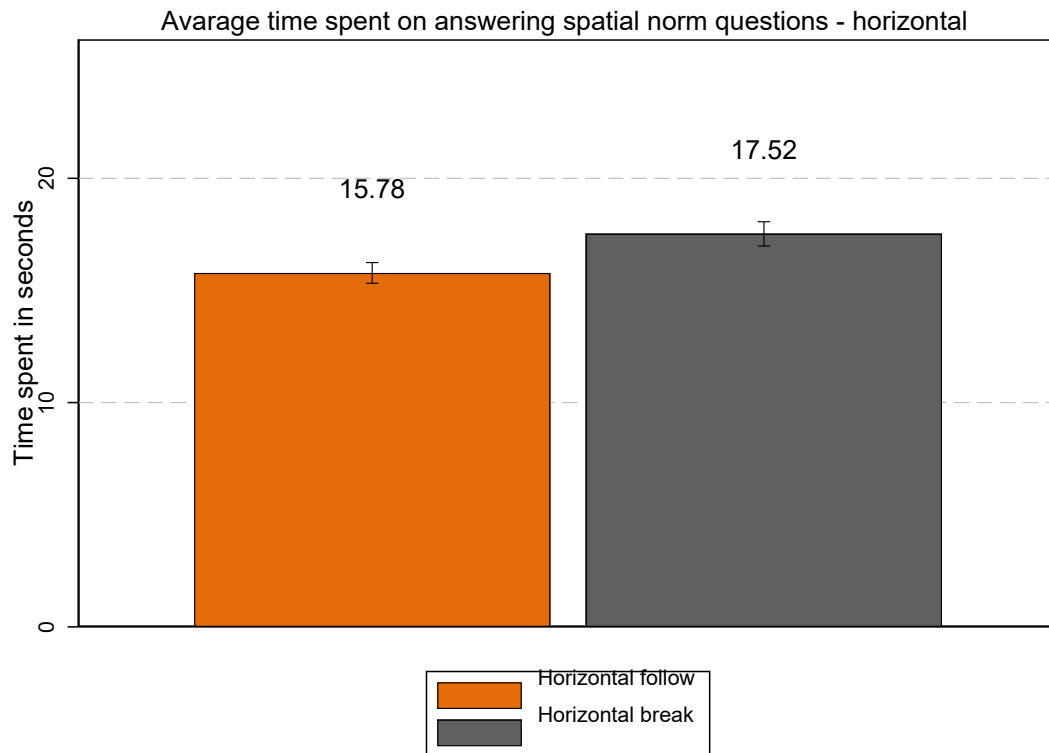
Note. n = 1085. Outliers have been removed which are more than 1.5 times slower than the slowest quartile or 1.5 times faster than the fastest quartile.

Figure 2. *Average time spent on spatial norm questions - vertical*

Avarage time spent on answering spatial norm questions - vertical
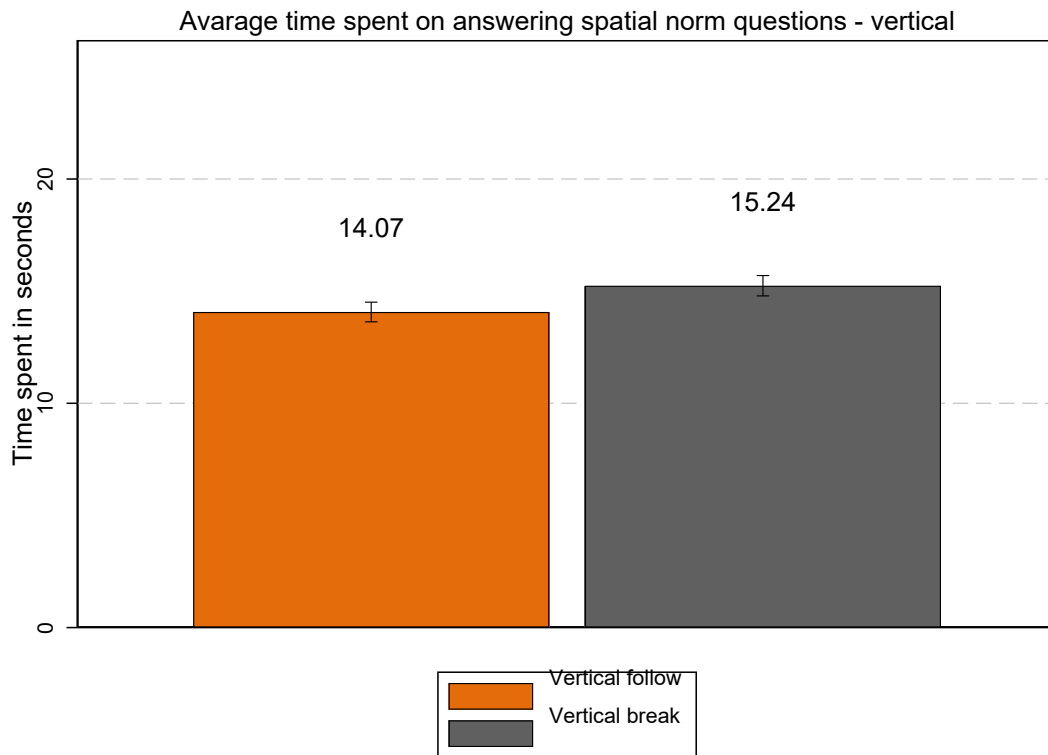
Note. n = 1130. Outliers have been removed which are more than 1.5 times slower than the slowest quartile or 1.5 times faster than the fastest quartile.

POLITICAL PROPOSALS AND TIME

In contrast to the spatial norm questions, where respondents took longer to answer questions where response options broke both the horizontal and vertical conversational norm, there was only a significantly slower response time in the vertical answers to political proposals for the respondents having the most positive response option at the bottom (M = 8.07, SD = 3.02) compared to at the top (M = 7.53, SD = 2.98) (t(1145) = -3.08, p < .01). It took on average half of a second faster to answer political proposals that used the up means good format in comparison to questions that did not (Figure 3). However, as seen in Figure 4, having the most positive alternative to the left in political proposals (M = 7.36, SD = 2.68) was not answered significantly faster than having it the most positive alternative

to the right (M = 7.45, SD = 2.60) (t(1099) = 0.55, p = .58). Meaning there was not a significant decrease in how long it took to answer the politicial proposals on average when the the horizontal response options broke the conversational norms.

Figure 3. *Average time spent on answering political proposal - vertical*

Time spent on answering political proposal index

Note. n = 1147. Outliers have been removed which are more than 1.5 times slower than the slowest quartile or 1.5 times faster than the fastest quartile.

Figure 4. *Average time spent on answering political proposal - horizontal*

Time spent on answering political proposal index
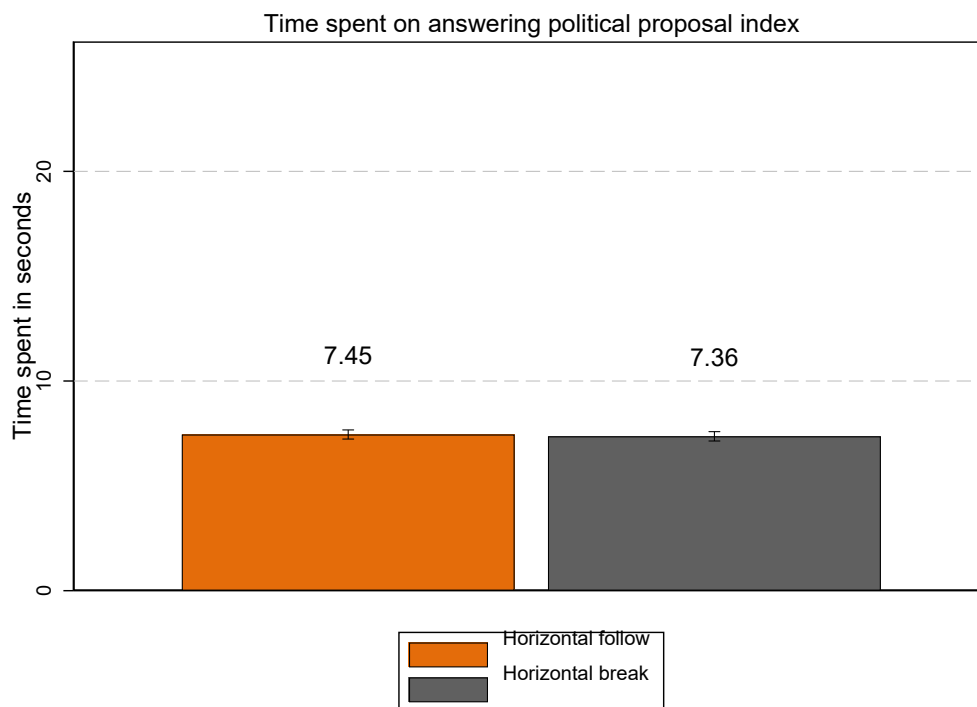
Note. n = 1100. Outliers have been removed which are more than 1.5 times slower than the slowest quartile or 1.5 times faster than the fastest quartile.

ORDER PREFERENCE

The respondents chose if they prefer a certain order of response options that either break of follow the conversational norm both vertically and horizontally. For the horizontal preference 49 percent of the respondents preferred to follow the norm of left means good, while 51 percent preferred to break it (figure 5), making it an even split between preference for following or breaking the norm. In contrast, 73 percent prefered to follow the norm of up means good compared to 27 percent who prefered to break it (Figure 6), making it a clear majority who prefers to follow the norm.

Figure 5. *Subjective preference for order of response options - horizontal*

Horizontal preference
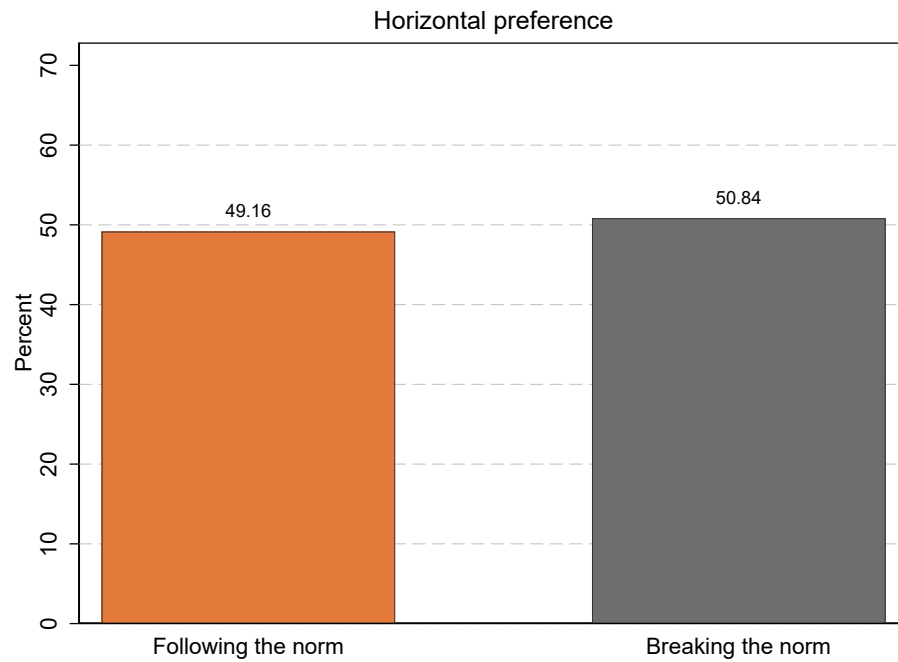
Note. n = 2148. See Appendix 3 for exact formulation of question.

Figure 6. *Subjective preference for order of response options - vertical*

Vertical preference
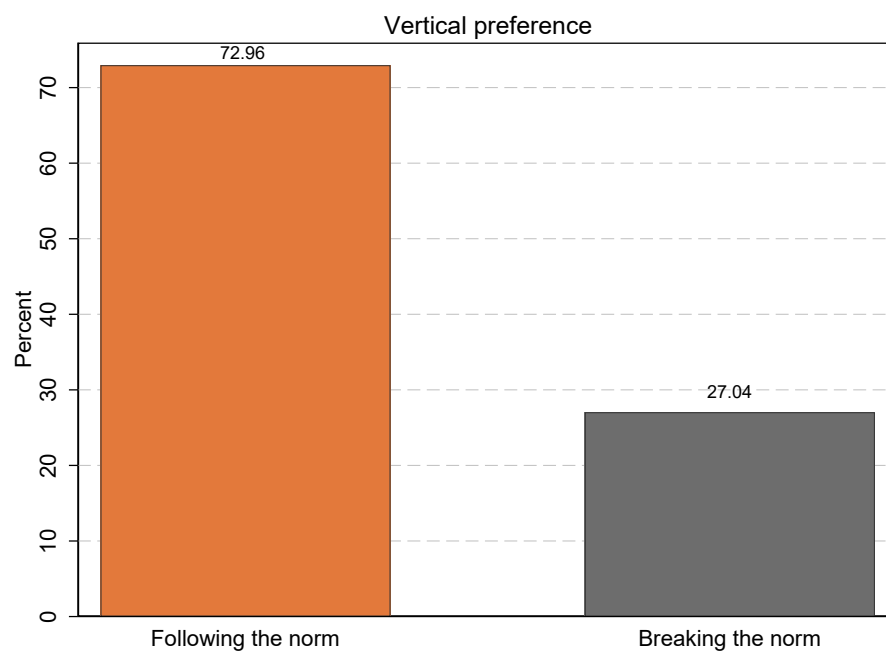
Note. n = 2160. See Appendix 3 for exact formulation of question.

Whether alternative "A" meant a preference for following the norm or breaking the norm (see Appendix 3 for question structure) was randomly assigned for each respondent. Therefore, it could be possible that the effect varied depending on what "A" referred to. Creating a possible up means good effect for answering the specific question itself, since alternative A always was on top of the page, even if it could refer to either breaking or following the norm. If respondents followed an up means good norm it could influence them to favor alternative A due to its position at the top, irrespective of whether if A represented to follow or break the norm. Table 1 illustrates that when "A", the top alternative, follows the norm of up means good or left means good, the respondents are more likely to prefer an order of response options which follows the norm (53% for horizontal, 78% for vertical) than when alternative "A" equals breaking the norm (45% for horizontal, 68 % for vertical). There was a similar increase in both horizontal and vertical preferences of circa 10 percent units if the top alternative represents following the norm. The results of response option preference indicated that there was preference for having the most positive alternative at the top in vertical response options, but no similar preference for starting with the most positive alternative to the left.

**Table 1.** *Subjective preference depending on if means to follow or break the norm (percent)*

Subjective Preference	Randomization = A follows norm	Randomization = A breaks norm
Horizontal follow	53 %	45 %
Horizontal break	47 %	55 %
Vertical follow	78 %	68 %
Vertical break	22 %	32 %

Note. n = 2148 for horizontal response options, *n* = 2160 for vertical response options.

CONCURRENT VALIDITY

Contrary to the assumption of increased data quality in terms of better concurrent validity for the groups that followed the norms, ten OLS regressions showed no significant interaction effects between the criterion and target variable depending on the response option order. The first interaction was between the political proposal of investing more in a multicultural society and gender. There was no significant interaction effect depending on how the response options were ordered for the horizontal group (see Figure 7) ($b = 0.05$, $p = .6$). Similarly, there was no significant interaction effect for the first political proposal in the vertical group depending on how the response options were ordered, as seen in figure 8 below ($b = 0.08$, $p = .4$). This pattern was repeated for all five interactions in both the horizontal and vertical groups. This means that neither following nor breaking the up means goodor left means good conversational norms in the horizontal and vertical groups had an effect on the known correlations between the variables. Thus, using a question format of up means good or left means good did not appear to reduce measurement error significantly and increasing data quality according this measure.

Figure 7. Models of 5 interactions between a criterion variable and a target depending on if the norm is broken - horizontal
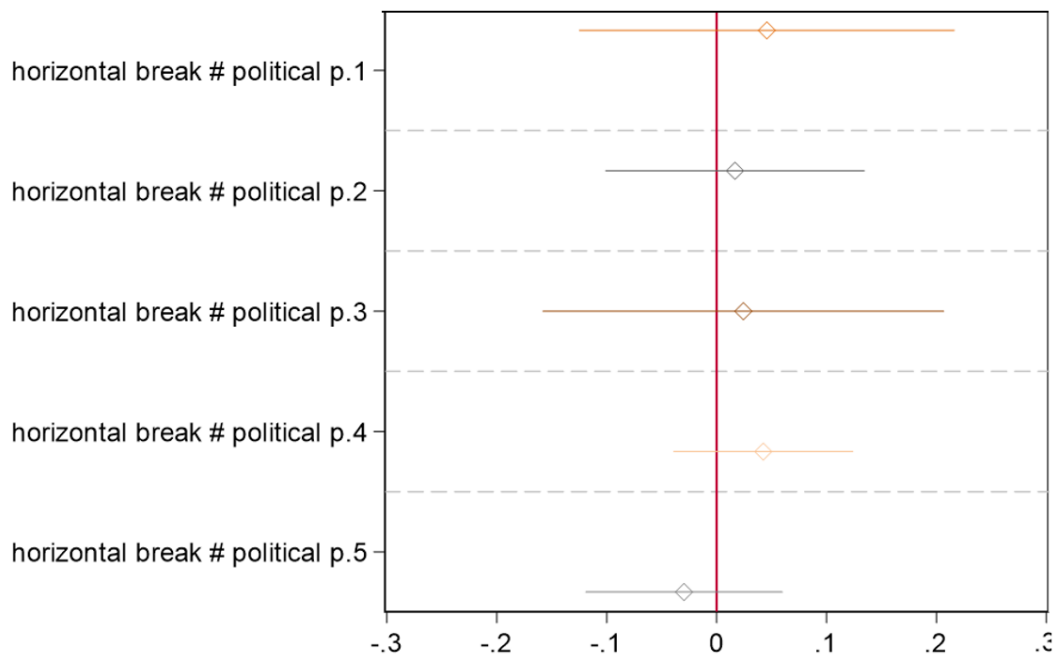
Note. In the first interaction political p.1 is "Invest more in a multicultural society" and the criterion variable is gender (*n*=1099). In the second interaction political.2 is "Increase the CO2 tax on petrol" and the criterion variable is living rural/urban (*n*=1102). In the third interaction political p.3 is "Increase government funding of rural areas in Sweden" and the criterion variable is living rural/urban (*n*=1097). In the fourth interaction political p.4 is "Reintroduce wealth tax" and the criterion variable is income (*n*=1065). In the fifth interaction political p.5 is "Introduce much harsher prison sentences" and the criterion variable is education (*n*=1099).

Figure 8. Models of interactions between a criterion variable and a target depending on if the norm is broken - vertical
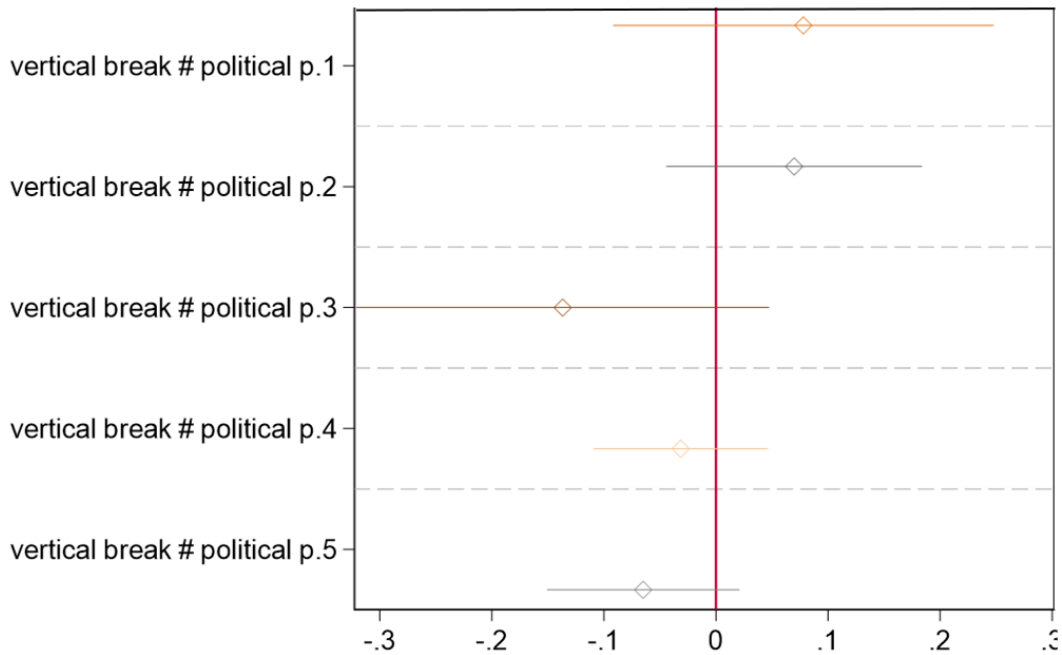
Note. In the first interaction political p.1 is "Invest more in a multicultural society" and the criterion variable is gender (n=1148). In the second interaction political.2 is "Increase the CO2 tax on petrol" and the criterion variable is living rural/urban (n=1146). In the third interaction political p.3 is "Increase government funding of rural areas in Sweden" and the criterion variable is living rural/urban (n=1144). In the fourth interaction political p.4 is "Reintroduce wealth tax" and the criterion variable is income (n=1113). In the fifth interaction political p.5 is "Introduce much harsher prison sentences" and the criterion variable is education (n=1148).

EFFECT OF EDUCATION

There may be differences in how a questions are interpreted and answered depending on characteristics of the respondents. One such characteristic is education (Krosnick, 1991; 1999). To be sure that the not significant results were not an effect of a high level of education within the panel, the concurrent validity tests were estimated again when isolating respondents with high and low education. However, the results were the same as for the total group and did not yield significant difference in correlations between target and criterion variables. Similarly there was no significant difference in subjective preference,

time spent on answering political proposals or spatial norm questions depending on education in comparison to the results presented above.

CONCLUSION

In this study, the existence of the conversational norms of up means good and left means good were assessed. The results of this study did not support that the left means good norm permeated respondents way of answering questions. A difference in time taken to answer questions was only visible when evaluating spatial norms horizontally. In those questions, the respondents answered questions slower when options like "left" or "west" was presented as the right-most option compared to as the left-most options. However, the questions of political proposals were not answered slower when breaking the norm, and data quality in form of increased or decreased correlations remained unaffected of response option order.

For response options presented vertically, the up means good conversational norm was more clearly supported, Respondents answered questions faster and a majority preferring answering vertical response options which follow the norm than breaking it. Still, in terms of data quality there was not a difference in breaking or following the norm in the horizontal or vertical groups. Horizontal response options could be a preferable choice when choosing between horizontal or vertical response options, as they appear less affected by item response order, but the differences are small. Further, to lessen the time needed to answer questionnaires and the cognitive burden of the respondents it is recommended to follow spatial norms when designing survey questions.

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APPENDICES

APPENDIX 1. EXAMPLES OF A POLITICAL PROPOSAL QUESTION FOR EACH GROUP

Figure 9. *Example of a political proposal question for group Horizontal follow (translated into English)*

What is your opinion on the following proposal?

Increase the CO2 tax on petrol

| Very good proposal | Rather good proposal | Neither good nor bad proposal | Rather bad proposal | Very bad proposal |

Figure 10. *Example of a political proposal question for group Horizontal break (translated into English)*

What is your opinion on the following proposal?

Increase the CO2 tax on petrol

| Very bad proposal | Rather bad proposal | Neither bad nor good proposal | Rather good proposal | Very good proposal |

Figure 11. *Example of a political proposal question for group Vertical follow (translated into English)*

What is your opinion on the following proposal?

Increase the CO2 tax on petrol

Very good proposal

Rather good proposal

Neither good nor bad proposal

Rather bad proposal

Very bad proposal

Figure 12. *Example of a political proposal question for group Vertical break (translated into English)*

What is your opinion on the following proposal?

Increase the CO_2 tax on petrol

Very bad proposal

Rather bad proposal

Neither bad nor good proposal

Rather good proposal

Very good proposal

APPENDIX 2. EXAMPLES OF A SPATIAL NORM QUESTION FOR EACH GROUP

Figure 13. *Example of a spatial norm question for group Horizontal follow (translated into English)*

Some cities are located far west in Sweden while others are located far east. On a scale from far west to far east, where would you place Stockholm?

| Far west | Somewhat west | Equally west as east | Somewhat east | Far east |

Figure 14. *Example of a spatial norm question for group Horizontal break (translated into English)*

Some cities are located far east in Sweden while others are located far west. On a scale from far east to far west, where would you place Stockholm?

| Far east | Somewhat east | Equally east as west | Somewhat west | Far west |

Figure 15. *Example of a spatial norm question for group Vertical follow (translated into English)*

Some cities are located far north in Sweden while others are located far south. On a scale from far north to far south, where would you place Malmö?

Far north

Somewhat north

Equally north as south

Somewhat south

Far south

Figure 16. *Example of a spatial norm question for group Vertical break (translated into English)*

Some cities are located far south in Sweden while others are located far north. On a scale from far south to far north, where would you place Malmö?

Far south

Somewhat south

Equally south as north

Somewhat north

Far north

APPENDIX 3. QUESTION OF SUBJECTIVE PREFERENCE FOR RESPONSE OPTION ORDER

Figure 17. *Question format of subjective preference of response option order - vertical*

Below you will see an image displaying two ways of arranging response choices for a question. Out of these two ways of arranging the response choices, do you prefer choice A or choice B when answering survey questions?

A	B
○ Completely agree	○ Do not agree at all
○ Partially agree	○ Hardly agree
○ Hardly agree	○ Partially agree
○ Do not agree at all	○ Completely agree

Prefer alternative A
Prefer alternative B

Figure 18. *Question format of subjective preference of response option order - horizontal*

Below you will see an image displaying two ways of arranging response choices for a question. Out of these two ways of arranging the response choices, do you prefer choice A or choice B when answering survey questions?

A

○ Completely agree   ○ Partially agree   ○ Hardly agree   ○ Do not agree at all

B

○ Do not agree at all   ○ Hardly agree   ○ Partially agree   ○ Completely agree

Prefer alternative A
Prefer alternative B

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