

Research Note

How Election Polls Shape Voting Behaviour

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This article investigates how election information such as opinion polls can influence voting intention. The bandwagon effect claims that voters ‘float along’: a party experiencing increased support receives more support, and vice versa. Through a large national survey experiment, evidence is found of a bandwagon effect among Danish voters. When voters are exposed to a news story describing either an upwards or downwards movement for either a small or large party, they tend to move their voting intentions in the according direction. The effect is strongest in the positive direction – that is, when a party experiences increased support, more follows. Consistent effects are found across two different parties for a diverse national sample in a political context very different from earlier research on the bandwagon effects. Considering previous research and the fact that evidence is not found that suggests that the effect of polls vary across sociodemographic groups, the results imply that bandwagon behaviour is based not on social or political contingencies, such as media or political institution, but on fundamentals of political cognition.

Introduction

Election polls are a ubiquitous part of modern political life, both in terms of the sheer number of polls and the extent to which these polls prove useful in political reporting in the news media. This is potentially important for understanding how voters decide which candidates and parties’ to vote for in elections. We know that people tend to favour and conform to strong groups (e.g., Leibenstein 1950), and one of the best metrics for deciding which political groups are gaining in strength are election polls. Accordingly, election polls might not just be tracking movements in the electorate; to some extent, they might lead the electorate towards the

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candidates who are already gaining electoral momentum by conveying a sophisticated map of this momentum. This is conventionally called the ‘bandwagon effect’ (Gallup & Rae 1940; Lazarsfeld et al. 1944; Bernays 1945; Field et al. 1945; Simon 1954; Marsh 1985).

How polls and their public dissemination might influence the voters and, in turn, the election result has fueled academic debate about the excessive use of polls (cf. Aalberg & Van Aelst 2014; Donsbach 2001; Petersen 2012). There has also been a long vigorous public debate on these issues (e.g., Jakobsen et al. 2005; Ditlevsen 2009). Recently, this debate has been fueled in the Nordic countries by an exit poll published by the leading Danish Broadcast Service (DR) before the polling stations had been closed on election day in November 2013 that substantially underestimated the Social Democrats’ share of the vote. Following this, politicians have suggested that the media should stay away from publishing opinion or exit polls shortly before an election (Albrechtsen 2013; Skjoldan 2015). In Sweden, the Centre Party have, on multiple occasions, proposed that the parliament (*Riksdagen*) should legislate to prohibit the publication of opinion polls in the days leading up to elections (Hernadi 2010). Similarly, polls seem to steer political discourse. For instance, in the 2013 election in Norway, the Socialist Left Party’s bad polling results leading up to the election caused the party leader to encourage voters to rally around the party (Sandvik et al. 2013).

In spite of these concerns, much of the existing empirical literature investigating whether and how election polls affect voting behaviour is limited: it is often dated and/or conducted with quite small convenience samples, and almost all of it is conducted in countries with a few large parties and that use the first-past-the-post system (e.g., the United States, the United Kingdom and Canada) (Hardmeier 2008). More recent studies have explored the importance of how polls influence vote choice with causal designs and in new contexts. These studies all confirm bandwagon effects in the Netherlands, France, Austria and Germany (Meffert et al. 2011; Morton et al. 2015; Stolwijk et al. 2016; Van der Meer et al. 2016). Using a strong causal design in a new context, we situate our research alongside these recent contributions to further expand the scope of the bandwagon effect and replicate it in yet another context with its own distinct political culture.

We conducted a large-scale survey experiment on a national representative sample in Denmark (i.e., a multiparty context with proportional representation) to see if Danish voters also join the bandwagon. Specifically, we tested if the content of a poll and its reporting affects voting intentions. Our design has three distinct advantages over earlier studies. First, the large number of respondents and low number of treatments allows us to detect smaller effects. This is a feature that is necessary because

previous literature has struggled to find consistent results, arguably because of the large sampling variability of effect sizes that come with small samples (Hardmeier 2008). Second, the Danish context of a consensus-oriented, multiparty system with proportional representation allows us to look for the bandwagon mechanism in a political system quite different from most of the existing research. In a two-party context, if one party seems to be moving ahead, joining the party could mean joining the winner. In a multiparty context, a party might independently experience an electoral boost while its coalition partners experience a setback.¹ Third, and related to the merits of our multiparty context, we test whether the effect of opinion polls is consistent across different types of parties using both a large executive party and a small opposition party, and across different types of citizens by analysing whether factors such as gender and age moderate the bandwagon effect (Dahlgaard et al. 2015; 2016).

Polls and Voting Behaviour: The Bandwagon Effect

Since the first scientific polls, there has been an ongoing debate on whether and how polls influence voters (Gallup & Rae 1940; Simon 1954). One of the most common hypotheses has been that polls have a so-called ‘bandwagon effect’, such that when a person identifies with a social group and observes that it is moving in a certain direction, he or she will want to move in the same direction (Simon 1954; Marsh 1985). In terms of polls, this means that voters will be inclined to follow the tendencies outlined in these polls if there is any clear pattern of movement, and polls can in this way become self-fulfilling prophecies (Rothschild & Malhotra 2014). Specifically, voters will be more likely to support a party if it is clearly on the rise in the polls, and they will be less likely to support a party if it is clearly declining in the polls. The logic resembles that of the ‘herding effect’ in economics, which some think underlies the boom and bust cycle of the economy. Since our short research note does not allow for a comprehensive review of the literature, we refer readers to the recent review in Van der Meer et al. (2016) or Hardmeier (2008).

There are several plausible social psychological mechanisms that could imply a bandwagon effect. First, belonging to a strong group may be associated with a sense of happiness, confidence and satisfaction for the voter, and accordingly he or she might try to be part of such groups (Mondak 2010; Brady & McNulty 2011; Erikson & Stoker 2011; Gerber et al. 2011). Second, voters may believe it wise to follow ‘the wisdom of the crowds’, believing that the electorate as a whole is more able than an individual voter to understand the complexities of choosing the best and most competent candidate or party (Lau & Redlawsk 2001; Hardmeier 2008). Third, people might change their attitudes in response to information from

election polls so that when the election result is actualised, they can easier resolve cognitive dissonance induced by experiencing an election result where their most preferred party has lost – a phenomena also known as ‘sweet lemons’ (Mutz 1997; Kay et al. 2002: 1302).

Empirically, a number of studies have tried to link trends in polls to political behaviour (see Hardmeier (2008) for a meta-study and a review). However, while these studies in general point towards a bandwagon effect, and as such have broken ground on this important topic, they have several limitations. For instance, few of them have looked at national and diverse samples (cf Rotschild & Malhotra 2014); instead, they have relied on convenience samples (e.g., Ceci & Kain 1982). Furthermore, the few studies that have used national samples often do not rely on an experimental design, making causal inference unlikely (Kleinnijenhuis et al. 2007; Hardmeier 2008). Finally, a number of these studies investigate opinions rather than voting intentions, leaving the key issue of this research note unresolved (e.g., Ansolabehere & Iyengar 1994) – namely whether polls actually affect voting intentions for political parties. Our study tries to exceed these limitations by providing an experimental test of the bandwagon hypothesis with a large and diverse national sample using intended voting behaviour as the primary dependent variable while also providing evidence for how sympathy and support for the parties are moved.

The context of the existing studies provides additional reason for the timeliness and relevance of the experiment presented here. Most importantly, almost all previous studies of the bandwagon effect have centred on majoritarian electoral systems with few effective parties (the United States, the United Kingdom and Canada). Our study is conducted in Denmark within the context of a proportional electoral system with eight parties represented in the parliament (*Folketinget*) at the time of the study. The analysis thereby provides a test of whether the bandwagon effect is present in yet another context, which would bolster those who might claim that the bandwagon effect does not depend on context, but is perhaps a universal feature of individuals’ political cognition. Furthermore, because of the large sample size, we are able to examine whether the bandwagon effect varies across different types of individuals through analyses that can further inform the question of whether the bandwagon effect is universal or contingent.

Experimental Design

In order to examine the bandwagon effect we conducted a survey experiment whereby respondents were randomly split into five different groups, with four of these groups being presented with varying information about the current support for two different parties: the Social Democratic Party and the Conservative Party. After presenting this information, we asked

the respondents a series of questions about their political beliefs and voting intentions. We will now provide details of the data, the different treatments and the dependent variable of the survey experiment.

Data

The data stems from a web survey carried out by YouGov in their Internet panel of Danish voters in the period 10–28 January 2014. Within the panel, 6,941 people were invited to participate in the survey via e-mail. In total, 3,011 respondents (43.4 percent) completed the entire survey, which is satisfactory for this type of study. The complete questionnaire can be found in Dahlgard et al. (2015; 2016). These respondents are representative of Danish voters in terms of demographic characteristics and make up a diverse sample of Danish voters. The analysis only includes the answers of those who completed the entire questionnaire.²

Treatment

We randomly split respondents into five groups. Four of the groups read only one of four fictive articles from a newspaper, including a poll (henceforth ‘the treatment groups’). The last group did not read any articles (henceforth ‘the control group’). A randomisation check showed that gender, age, education and party choice in the last election was unrelated to treatment allocation, indicating that the randomisation was successful.³ The layout of the articles was like a real newspaper, and four political journalists from different newspapers read and commented on the article and approved of the realistic nature of the articles (for the articles, see Online Appendix A). To make sure that the respondents read the article, they had to stay on the screen displaying the article for at least 30 seconds.

Each article included a graphical representation of a fictive poll result for a party, the standing for this party in the latest poll and its standing at the latest election. The standing in the latest poll was arrived at by looking at an average of polls at the time of the survey; this presented a highly realistic baseline with which the fictive poll could be compared.⁴ This graph was put into context by a short article describing the poll and an interview with a pundit (a professor in political science) who commented on the consequences of the poll in vague and general terms.

Each treatment condition included a bundle of manipulations: the poll result, its graphical display, the differences in reference points, and the journalistic coverage. Consequently, we cannot directly ascribe an effect to either the result of the poll or the article. However, separating these effects seems less meaningful than identifying the effect of a realistic dissemination. A poll is usually combined with a short article describing the result and consequences of the poll, and a comparison with past election

or polling results. Pundits, including political science professors, routinely weigh in on perceived trends. For this study, we prioritised real-world authenticity over untangling the effects of each subtle manipulation. Including several manipulations in the treatment thus raises the ecological validity of the treatment, as it is likely to reflect how voters experience polls outside the experiment.⁵ (See Online Appendix A for the original treatments experienced by the respondents.)

Party (the Social Democrats and the Conservatives) and poll results (gaining and loosing) organised the four treatments. The two parties were the large executive party the Social Democrats, and the small opposition party the Conservatives. At the time, the Social Democrats polled around 21 percent in aggregated polls, while the Conservatives polled around 4 percent. In the Social Democrats treatments the party gained or lost five percentage points; in the Conservatives treatment the party gained or lost two percentage points. Accordingly, the smaller Conservative Party moved less in the fictive polls.

We chose these particular movements because we wanted the poll results to be both credible and meaningful. Adding or subtracting five percentage points to a currently small party would seem unrealistic, while changing support for the Social Democrats with two percentage points might fail to incite a feeling of real movement for the party. One drawback of the manipulations is that the sizes of the movements are not directly comparable in either an absolute or relative scale. Also, the graphs are not the same across treatment conditions, and the second axis varied and was even cut off above zero for the large party – something we would usually consider unacceptable dissemination, but is nonetheless not unusual for graphs in newspapers.

However, even if the movements were comparable on some scale, it is unclear if one would expect the effects to be similar for small and large parties. Furthermore, the differences in manipulations, including varying the layout of the graphs slightly, do seem to reflect realistic representations of how voters meet polls in the media. Importantly, all the variations are between subjects. The respondents were only exposed to one treatment condition and thus could not compare differences in treatments or become confused by them. Consequently, our study will inform us how disseminations of what can be perceived as big changes for a large as well as a small party affect support among voters. Another disadvantage of our articles is that they might have different point of references in the sense that the loss articles refer to previous losses in the polls for the two parties, while the gain articles do not. At the end of the survey, we debriefed respondents and informed them of the parties' actual current support.

Dependent Variable

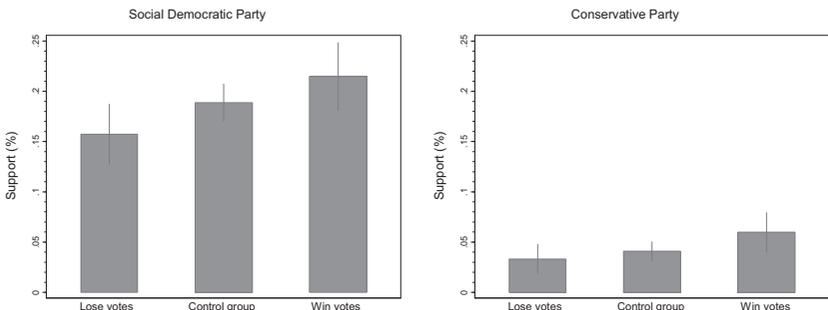
In order to examine whether the popularity of the party as presented in the poll affected respondents' voting intention we simply used the typical question posed by polling companies: 'If a parliamentary election was held tomorrow, who would you vote for?' For the roughly 10 percent of respondents who answered 'Don't know', we prodded them by asking whether they were leaning towards a particular party. This cut the number of 'Don't knows' down to 5 percent. Polling companies routinely do this for Danish voters, and the rates of 'Don't knows' were similar across treatment conditions both before and after prodding the voters.

Aside from this question, we also used two other questions regarding the probability of voting for the two parties and sympathy towards the two parties included in the polls. Both were measured on a scale from zero to ten. In order to reduce experimenter demand effects, we asked these questions for all parties eligible to run for parliamentary elections at the time. However, due to limited space, we refer readers to the supporting information regarding these outcomes in Online Appendix C.

Results

Figure 1 presents the proportion intending to vote for the Social Democrats or the Conservatives across the treatments relevant for these parties (lost votes, control, win votes). Overall, there is some evidence of a bandwagon effect, as those who read a news story with a poll about a party winning votes seem more inclined to vote for the party than those who

Figure 1. Probabilities that a Respondent Reported an Intention to Vote for the Social Democratic Party (Left Panel) and the Conservative Party (Right Panel) Based on the Respondent's Treatment Group.



Notes: Specifically, we looked at whether respondents who got a poll in which the party in question lost votes, gained votes or whether the respondent was in the control group, receiving no poll. The 95 percent confidence intervals of these probabilities derived from the multinomial logit model described in the text.

got a poll indicating that the party was losing votes. These differences seem to be larger for the Social Democrats than for the Conservatives and, when comparing the results to the control group, the differences were larger for the treatments showing the parties gaining electoral support than for the treatments showing the parties losing electoral support.

For statistical inference, we estimated a multinomial logit model of whether respondents voted for the Social Democrats, the Conservatives or some other party using the treatment dummies as independent variables. The confidence intervals of electoral support are also presented in Figure 1. The statistical tests we performed are comparisons of the predicted probabilities from our multinomial logit model across different outcomes (i.e., parties) and different treatments.

We find, for both parties, that receiving a poll in which a party wins votes makes one more inclined to vote for this party than if one receives a poll in which the party lose votes ($p < 0.05$). We also find a statistically significant difference in intention to vote for a party between those who received no poll and those who received a poll showing the party winning votes. However, for each party this is only statistically significant at the 10 percent level in a one-sided test. Finally, we find no statistically discernable difference between receiving no poll and receiving a poll showing the party losing votes, though the point estimates are negative as expected.

In order to maximise the statistical leverage of the experiment we also tested the joint effects of receiving a type of election poll (gain or loss) on the probability of voting for the party that the election poll was about (see Online Appendix B for details of this test). Using this method, we find that the joint difference in probability of voting for a party between the control group and the group receiving a poll, which showed the party gaining electoral momentum, is both positive and statistically significant ($p < 0.05$). The difference between receiving a poll showing the party losing electoral momentum and the control group is negative but not statistically significant ($p < 0.4$). Accordingly, the data indicates that a poll showing an electoral gain for a party increases support for this party more than a poll showing an electoral loss reduces support for this party. However, the differences in size between the positive and negative effects are not significant ($p < 0.5$).⁶

In summary, those who were presented with a news article with a poll showing a party gaining electoral support were statistically significantly more likely to vote for this party than those in the control group and those who received a poll showing the party loosing electoral support. This provides evidence for the bandwagon hypothesis. Parties with electoral fortune in election polls are more attractive to voters – that is, voters are more likely to vote for a party if they have read an article showing the party gaining rather than losing in the polls. In addition, we find

similar results for voter's self-reported probability of voting for the party and their sympathy for the party (see Online Appendix C).

Heterogeneity in the Bandwagon Effect

On average, subjects who were exposed to a news article with a poll indicating that a party was winning votes were more likely to vote for this party, but one might ask whether certain types of subjects were more affected by the polling information than others. This is potentially interesting because it can tell us something about the universality of the bandwagon effect, and it might also tell us something about the mechanisms underlying the bandwagon effect.

We had no prior expectation about what kind of treatment heterogeneity we might see, and accordingly the heterogeneity analysis should be seen as purely explorative and any conclusions, positive or negative, should be considered to be objects for future examination. We used available pretreatment variables and looked at effects for those above and below the median age, gender and education as well as those who voted for the party in the last election and those who did not.

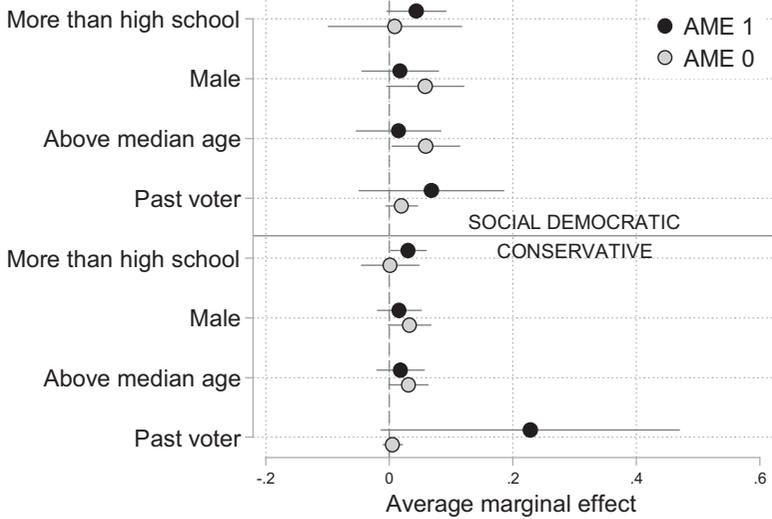
To investigate how sensitive these different groups were to the treatment effect, we estimated the average marginal effect of receiving a 'win poll' rather than a 'loss poll' across different groups and for each of the two parties. The average marginal effects were derived from logistic regressions of intention to vote for one of the two parties using a treatment dummy (i.e., 'win poll' or 'loss poll') and a dummy indicating which gender group the respondent was in (e.g., male or female). The average marginal effects for the different groups are plotted in Figure 2.

Figure 2 shows little heterogeneity in the treatment effect. None of the four different ways of slicing up the subjects leaves us with any statistically significant differences in the average marginal effects for either of the two parties. Consistent with an interpretation of the bandwagon effect being a more general phenomenon, there is no indication that the effect is particular to any demographic group.

Discussion

We conducted a survey experiment where voters were presented with a poll and a short newspaper article describing either increased or decreased electoral support for one of two Danish parties. Across both parties, voters were more likely to intent to vote for the party if the poll showed increased electoral support than if presented with no poll or a poll showing decrease in electoral support for the party. This provides evidence for the bandwagon hypothesis in the survey experiment: voters flock towards parties

Figure 2. Average Marginal Effect (AME) of Receiving a ‘Win Votes’ Poll rather than a ‘Lose Votes’ Poll on the Probability of Voting for the Party across a Number of Groups.



Notes: AME 1 is the effect for those in the group; AME 0 is the effect for everybody else. The different groups and the party in question are listed on the y-axis. Horizontal lines are 95 percent confidence intervals of the average marginal effects. None of the differences are statistically significant ($p > 0.05$ for all groups).

that show electoral strength. Interestingly, the effects tended to be larger for polls showing the party gaining ground, than for polls which showed the party losing ground. To some extent this goes against the conventional wisdom that negative information tends to crowd out positive information (i.e., the negativity bias). However, the patterns identified above were not strong enough for us to make any firm conclusions in this regard.

We cannot be sure whether voters will react in the same way when presented with poll stories in the real world. Actual voters are exposed to several polls. They may be exposed to the same poll several times and interpret it in different ways. Alternatively, some voters might not notice the poll at all. Furthermore, the long-term effect of exposure to a poll is not captured by our study. We examine voting intentions, which is only relevant insofar as it provides a good proxy for actual voting behaviour. An obvious extension of our study would be to examine the effect on actual voting behaviour.

In addition, our treatments for the two parties are not fully comparable and the strongest push for parties in the manipulation leads to the strongest effects. Perhaps it is a coincidence, but future research could explore if there is a relationship between a party’s change in support and the size of the effect, and perhaps even characterise the shape of such a relationship,

should it exist. Another thing that we do not consider is strategic considerations such as voting for a party with the intention of keeping another party out of power, affecting the balance of power in coalition governments, and taking a threshold into account (Jenssen 2016). These may intersect with the bandwagon effect.⁷ Finally, we would also like to point out that the gain and loss articles had different reference points in the sense that the latter were continuations of current trends in the polls, while the former broke with that trend. It would be interesting if future studies explored whether breaking a trend also provides the basis for a stronger effect.

Our findings add to a growing literature on bandwagon effects in European democracies (Morton et al. 2015; Stolwijk et al. 2016; Van der Meer et al. 2016). Ongoing debates about dissemination of polls are perhaps even more relevant than ever considering some recent polling and prediction failures by political journalists and pundits (cf Aalberg & van Aelst 2014; Donsbach 2001; Petersen 2012). We find consistent effects across different parties, and different types of voters, for a diverse national sample, in a political context very different from those of earlier research on the bandwagon effects. Accordingly, our findings are in line with an account of bandwagon behavior that is based not on social or political contingencies such as media or political institution, but on fundamentals of human political cognition. We presented voters with a bundle of manipulations in each treatment and are unable to identify how each element contributes to the total effect. It would be interesting for future research to explore exactly what parts of the polling information and political cognition lead voters towards political parties with electoral strength.

ACKNOWLEDGEMENTS

This research note extends finding published in Dahlggaard et al. (2016). The contribution of the research note is to relate the findings to recent related publications and present heterogeneity analyses that have not been published previously. We would like to thank the editors and reviewers of the journal for their constructive comments.

NOTES

1. As an example, one of the parties of the study (the Social Democratic Party) experienced increased electoral support in the 2015 national election but lost executive power due to their coalition partners' loss of mandates.
2. We also performed the analysis including those respondents who only completed part of the questionnaire. This does not substantially change the effect sizes or statistical significance. There were no differences in attrition rates across the different experimental groups.
3. Tested using multinomial logit regression ($p > 0.5$).
4. In weighted averages of polls, the Conservatives did not experience much variation in support around the time of the data collection compared to the previous election. The real poll average was 4.5 percent for the Conservative at the time of the data collection. The Social Democratic Party experienced a surge of approximately four percentage points three months before the data collection, but lost three percentage points by the time of study. In the months after the election, both the Conservatives and the Social

Democrats gained quite stable support in the polls. Finally, it should be noted that single polls often deliver larger changes in support than what is tracked in the weighted average. Current support for the two parties was mentioned in the debriefing of the survey respondents.

5. At the end of the survey, respondents were asked about the content of the article they read at the beginning of the survey as a manipulation check. Out of the 2,407 respondents who saw one of the articles (control group excluded) 89 percent were correct and 11 percent were wrong or replied 'do not know' on the question on what the article referred to – that is, the vast majority had read the article intensively enough to be able to repeat the heading, and we can conclude that they were exposed to the increase or decline in party support.
6. We also estimated the multinomial logit model while controlling for a lagged version of the dependent variable – that is, an indicator variable for whether the respondent said they voted for the Social Democratic Party, the Conservative Party or some other party in the last election. This did not change the results.
7. We thank an anonymous reviewer for bringing this to our attention.

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Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's web-site:

Appendix A.1: The four treatment articles translated into English.

Appendix A.2: The four treatment articles as seen by the respondent (in Danish).

Appendix B: Analysis of joint effects.

Figure B1: Simulated effect of positive (top) and negative (bottom) treatments. Marginal effects (left) and logit coefficients (right).

Figure B2: Simulated differences between positive and negative marginal effects and logit coefficients.

Appendix C: Additional results for two related dependent variables.

Figure C1: Mean responses across treatment groups with 90 pct. CI. N is roughly 1,500 for each graph.

Appendix D: Descriptive statistics.

Table D1: Descriptive statistics.