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How Anxiety and Enthusiasm Help Explain the Bandwagon Effect

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Abstract

This study investigates the role of emotions in the (bandwagon) effect of opinion polls on vote choice. It combines a media content analysis of poll reporting ($N = 2,772$) on an individual basis with a two wave panel survey ($N = 1,064$) during the 2013 German Bundestag election campaign. Results show that anxiety and enthusiasm mediate the effect of poll exposure on vote choice. Furthermore, the effect of polls on vote choice is found to be a consequence of how these polls are presented in the media. Polls are more than neutral interim campaign statistics, as they influence vote choice, and do so partly because of the emotions they evoke.

How Anxiety and Enthusiasm Help Explain the Bandwagon Effect

Since their introduction in the 1930s, opinion polls play an influential role in the media coverage of election campaigns (Strömbäck, 2012a). Ever since, there has been a continuous research interest in their alleged effect on election outcomes. Different studies report different effects. In addition to an “underdog” effect where voters support a losing candidate, the main findings refer to a “bandwagon” effect according to which voters increase their support for a winner in the polls (Moy & Rinke, 2012). Some see the phenomenon as an indication of a healthy democratic process, and they argue that polls provide information to voters about the inferred quality of a party (e.g., Lau & Redlawsk, 2001). Others see it as an indication of the failure of the democratic process, in which voters are manipulated and persuaded by sub-conscious,

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emotional processes (e.g., Marsh, 1985; Robinson, 1937; Rothschild & Malhotra, 2014). In the latter perspective, voters mindlessly follow the bandwagon in a desire to join the winning crowd, rather than expressing their actual personal preference. This article investigates the role of emotions in the bandwagon effect.

The idea that polls trigger emotions goes far back. Robinson (1937, p. 47) describes the possible relation between emotions and the bandwagon effect: “straw polls frequently tend to develop a bandwagon rush on the part of the electorate, thus increasing the influence of mob action and decreasing the influence of individual reason in determining the outcome.” Today, emotions are still among the most prominent of the various proposed explanations of the bandwagon effect. Emotional excitement, enthusiasm of the crowds, and defection to avoid disappointment are among the first causes for the effect to be listed by Hardmeier (2008, p. 509) in her review of the literature. Still, most empirical research into the mechanism behind the bandwagon effect investigates cognitive rather than emotional factors.

There is a growing literature on the role of emotions in the effect that media have on their audience (e.g., Iyer, Webster, Hornsey, & Vanman, 2014; Kühne, Schemer, Matthes, & Wirth, 2011; Lecheler, Schuck, & De Vreese, 2013). Media messages may evoke emotions, which mediate the effects these messages have on attitudes. Opinion polls are communicated to voters via media, and so the reports about them and their consequences could be regarded as media effects. Journalists often accompany polls with their own interpretations. Perhaps these reports evoke emotions with readers/viewers. Such emotions might influence their attitude toward a party and even their vote choice.

Although many studies about the bandwagon effect mention emotions, they only peripherally touch on the theory behind their effect (e.g., Faas, Mackenrodt, & Schmitt-Beck, 2008; Kenney & Rice, 1994). Several theories exist to account for the influence of emotions on attitudes and behavior.¹ One of them, Affective Intelligence Theory (AIT), was specifically designed around the context of election campaigns (Marcus, Neuman, & MacKuen, 2000). It posits two basic cognitive systems, both driven by emotions. Enthusiasm fuels the dispositional system, which is inclined to habitual behavior and reinforces current attitudes. Anxiety, in contrast, triggers the surveillance system, which monitors novel threats and reconsiders current behavioral intentions and attitudes. This article examines the relevance of AIT in the context of poll reports by evaluating whether enthusiasm and anxiety differently mediate the effect of poll reports on vote choice.

¹Among which are various discrete emotion theories such as cognitive appraisal theory (e.g., Frijda, Kuipers, & Ter Schure, 1989), which stipulate a more varied set of causes and effects for a range of emotions.

To do so, this study traces the poll reports about each party that each voter was exposed to and relates them to this voter's emotions and vote choice. It reports the results of a media content analysis of poll reporting in major German newspapers, newspaper Web sites, and TV-news broadcasts during the German 2013 general (Bundestag) election campaign, integrated within a two-wave panel study at the start and end of that campaign. In both waves, respondents rate their emotions about each party. This will allow this study to explore whether a bandwagon effect is present in real world election campaigns and whether emotions are partly responsible for it.

Theory

The Bandwagon Effect

A bandwagon is about shifting vote intentions during a campaign owing to poll exposure. One could conceptualize this as people voting more often for a party leading in the polls as compared with voting for other parties (Moy & Rinke, 2012). However, in multi-party systems such as Germany, none of the parties is likely to attain an absolute majority and therefore multiple winners are possible. Meffert, Huber, Gschwend, and Pappi (2011) show how under such conditions voters also use polls to anticipate possible coalitions or parties failing to meet the electoral threshold. A party can be a winner or loser in each of these respects. As the present study is within the context of a multiparty system, the bandwagon concept will be broadened to include *all* such winning parties: those that exceed expectations, those that get the largest number of seats, those that manage to overcome the electoral threshold, etc. What matters is that they are portrayed as a winner.

Taking an even closer look, a bandwagon effect seems to embody three distinct but complementary effects. Voters previously intending to vote for a losing party should be more likely to change their intention and vote for a winning party, while at the same time, voters already predisposed to vote for such a winning party should be less likely to change their intention. In addition to vote switchers, a bandwagon might be formed by previously undecided voters whose opinion crystallizes during the campaign (Dilliplane, 2014; Lazarsfeld, Berelson, & Gaudet, 1965). Therefore, the bandwagon effect will be defined here as a voter's increased likelihood to vote for a party after exposure to more positive poll coverage about that party. The alternative to the bandwagon effect is the underdog effect in which voters come to the aid of a losing party, yielding the opposite hypothesis: an increased likelihood to vote for a party after exposure to more negative poll coverage about that party. This study will evaluate whether a bandwagon (H1a) or an underdog (H1b) effect, if any, best explains voting in the German 2013 election.

In election campaigns, people are selective in their exposure to different media outlets, and media may present poll results differently. Journalists may choose a reference point with which to compare the current poll results. They can refer to last week's polls or compare them with the current number of seats of a party in parliament. For example, consider a party that is down one seat with respect to last week, but up 10 seats with respect to its current number of seats in parliament. Journalists can further support their proposed interpretation by giving a certain "spin" to their ensuing discussion of the poll results (Strömbäck, 2012b). To capture the influence of journalists in describing the poll results "positive (negative) polls" will refer to poll reports, which are explicitly described positively (negatively) with regard to the party in question.² That journalist interpretation might be important in the bandwagon effect is illustrated by the recent large-scale survey experiment of Van der Meer, Hakhverdian, and Aldering (2015). They found that voters presented with realistic poll figures during an actual campaign did not adjust their vote preference in response to the numbers, but instead in response to the journalistic descriptions of those polls.

In addition to the degree to which polls are evaluated as either positive or negative, the *amount* of polls to which an individual is exposed is also likely to be important. The more polls are reported in a media outlet and the more frequent an individual uses this outlet the higher the chances are for this individual to observe these polls. Faas et al. (2008) analyzed the influence of polls on vote choice in the 2005 German election campaign and found stronger effects of polls for those who reported to have observed them more frequently. To capture each of these aspects, this study will go beyond previous studies to evaluate the influence of amount and tone of journalist's descriptions of polls, instead of just polls, on vote choice.

Many explanations have been offered for the mechanism driving the bandwagon effect (Hardmeier, 2008). Although studies usually mention some emotions in describing the effect, they tend to empirically focus on cognitive explanations, like strategic voting (Faas et al., 2008; Meffert et al., 2011). In practice, no clear-cut distinction can be made between emotional and cognitive mechanisms, as emotions and cognitions are highly intertwined (Marcus, MacKuen, & Neuman, 2011). Emotions might very well be a contributing factor prompting strategic voting, but this is beyond the scope of the current article. Instead, the focus will be on emotions first to examine what their possible contribution can be in explaining the bandwagon effect. The model in this article will include a possible direct effect of polls on voting and an indirect effect via party ratings, both of which need not be mediated by emotions. This will help to determine whether emotions help explain the

²See Zerback, Reinemann, und Nienierza (2013) for a recent study of the influence of the media (polls) on electoral expectations of voters in the run up to the 2013 German elections.

bandwagon effect beyond purely cognitive factors (though the effect of emotions might still correlate with cognitive mechanisms).

Emotions and the Bandwagon Effect

That emotions could be a reasonable candidate to help explain the effect of poll reporting on voting is illustrated by an experiment by Valentino, Hutchings, Banks, and Davis (2008). They successfully used a manipulated poll report as a stimulus to induce emotions. In the context of voting, the most popular theory explaining the influence of emotions is Marcus et al.'s (2000) AIT. AIT holds that individuals are inclined to habitual behavior and hold on to previous attitudes (the dispositional system), except when feelings of anxiety signal the presence of a novel, potential threat deserving careful attention and more detailed information processing (the surveillance system). In AIT, anxiety triggers the surveillance system, which reevaluates the situation and consequently might, or might not, lead to adjusting behavior and attitudes. Enthusiasm, on the other hand, is usually associated with the dispositional system and reinforces one's present inclinations (Marcus et al., 2000).

Within the context of reaching a voting decision, this means that anxiety leads to a greater reliance on current party attributes, like a party's proposed policies and the specific qualities of current party leaders, while enthusiasm leads to greater reliance on habit in the form of party identification. Enthusiasm and anxiety have an indirect effect on vote choice, only through their role in altering how that decision is made. Enthusiasm reinforces existing attitudes and beliefs, which therefore should lead to voting for this (already favored) party more often. Anxiety prompts reconsideration of previously held beliefs, possibly increasing doubts about this party, which makes casting a vote for this party less likely, even if this party was favored initially. Anxiety does not directly lead to vote switching in AIT, as it only heightens careful attention to the issue at hand. The new information considered might just as well lead one to maintain one's previous vote intention. Still, on average, more vote switching should be expected for anxious voters than for less anxious voters. This is especially so if the new information that gives rise to the anxiety is about this party. In that case, the new information shows that there is something to worry about in the current attributes of this party, which is then processed more carefully owing to the anxiety it triggers.

Ladd and Lenz (2008) questioned whether anxiety and enthusiasm indeed have an indirect moderating effect on vote intention or whether perhaps a direct effect or even reverse causation would be more probable. They reason that if anxiety and enthusiasm have a moderating effect it should not matter what triggers these emotions, it only matters that they are felt when an evaluation is made. Marcus et al. (2011, p. 333) disagree, "It is anxiety about *our*

habits that initiates the active consideration of political life.”³ It matters whether anxiety arises with respect to one’s favorite party or its rival. In this view, AIT requires emotions to be tied to the disposition they reinforce or challenge. A recent paper by Johnston, Lavine, and Woodston (2015) expands on this point and uses Expectancy Violation Theory to argue that vote choice is altered as a consequence of *unexpected* enthusiasm and anxiety. Enthusiasm about one’s preferred party is expected, but about a rival party is not. Likewise, anxiety about a rival party is expected, while anxiety about one’s preferred party is not. In the current article, AIT will be extended further and poll reports will be considered as a potential source of enthusiasm and anxiety about a party. It will model emotions about parties as mediators to reflect that they are tied to that specific party and that current attributes of this party (i.e., poll reports) give rise to them. This article will consider the effect of emotions about all parties, expecting that more enthusiasm felt about a party increases the likelihood of voting for it, while more anxiety decreases that likelihood.

In addition to enthusiasm and anxiety, there is a growing literature on the separate influence of aversion (anger). Mostly experimental studies find different effects of aversion compared with anxiety with regard to risk perception, risk taking, information seeking, and political participation (Druckman & McDermott, 2008; Lerner & Keltner, 2001; MacKuen, Wolak, Keele, & Marcus, 2010; Valentino et al., 2008). However, these studies specifically induced either aversion or anxiety, while in large-scale field studies the origins of emotions might be more varied and diffuse. This makes it more difficult to pick up the differences between these two kinds of negative emotions, as Lee and Kwak (2014) found in their study of the effects of political satire. Although their study too was an experiment, they used an un-manipulated political satire clip and found that such more complex real world stimuli can elicit multiple emotions and that anger and anxiety showed high levels of multicollinearity.⁴ Marcus, MacKuen, Wolak, and Keele (2006, p. 40) explain that aversion is “a dynamic phenomenon, drawn out by some stimuli but not others.” They find no difference between anger and anxiety with respect to presidential candidate Bob Dole, while they do for President Bill Clinton. To avoid missing out on this possible distinction, indicators of both anxiety and aversion are included in this study.

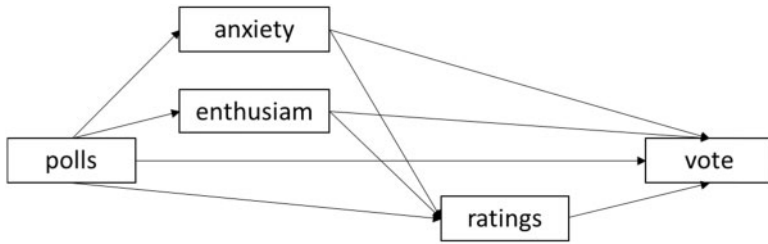
In sum, it is expected that differences in exposure to poll reports about various parties elicits changes in the degree of enthusiasm and anxiety felt toward the respective parties as well as in the voter’s ratings of these parties, both of which affect the likelihood of this voter to vote for this party. For a

³Emphasis in original.

⁴Brader (2006) likewise found in his content analysis of political ads that they tended to use multiple emotions.

Figure 1

Conceptual model of the effects of exposure to poll reports about a party via feelings of anxiety and enthusiasm about that party and/or party ratings on voting for that party



bandwagon effect, feeling more enthusiastic about a party in response to polls should increase the likelihood of voting for it, while feeling more anxious about it should decrease that likelihood. The mediating effect of emotions is expected to remain significant controlling for both the direct effect of poll exposure on voting and the indirect effect exclusively via party ratings (H2). Figure 1 shows this conceptual model.

Method

These hypotheses are tested using a two-wave panel survey at the start and end of the 2013 German Bundestag election campaign in combination with a media content analysis of all major German newspapers, their Web sites, and TV news broadcasts during that campaign.⁵ By measuring each respondent both at the start and end of the campaign, this study is able to account for the influence of poll reports during the campaign on top of preexisting feelings and attitudes in arriving at a certain vote choice. By integrating the content analysis with the panel survey, differences in exposure on the individual level are accounted for. In this way, the influence of exposure to poll reports can be better separated from the effects of other campaign events, as the effects of these events themselves should not be expected to vary across individuals according to poll exposure. As media exposure itself could be a confounder, it is controlled for by including the amount of polls exposed to as a control in the model.⁶ To be sure the model does not just describe changing vote intentions, which are described by polls, such changes across the campaign for each party are included as a control variable as well. As the controls for both amount of polls and changes in absolute poll ratings are expected to pick up

⁵AUTHOR B received a VENI grant from the Dutch Science Foundation (NWO), which financed these data collections.

⁶When regressing the poll index and the number of polls exposed to on total media exposure, the regression coefficient of the poll index is not significant ($\beta = -0.001$, $p = .526$, $N = 1,064$).

part of the effect of exposure to poll reports on vote choice, the model can be expected to underestimate the effect. If a positive indirect effect of poll exposure is found via emotions on vote choice, this would confirm a bandwagon effect, while if a negative effect is found, this would confirm an underdog effect.

The majority of previous studies on the bandwagon effect are (field) experiments (e.g., Ansolabehere & Iyengar, 1994; Daschmann, 2000; Mehrabian, 1998; Van der Meer et al., 2015). Studies that do explore real election campaigns often fail to find an across-the-board bandwagon effect (see Faas et al., 2008). Faas et al. (2008) argue that these nonfindings could likely be owing to sub-optimal data. The present study will measure the effect of polls with enhanced precision. In contrast to earlier studies relying on forced or aggregate poll exposure, individual poll exposure scores in this study are calculated based on media use and its content. Being presented as a winner or loser should be especially relevant in the context of the bandwagon effect. On top of this, different media outlets can differ in their coverage of the same polls and individuals can differ in the extent to which they use each media outlet.

Panel Survey

Sample. The panel survey was conducted by Infratest dimap (Berlin), a German electoral and political research company with large experience in opinion polling, using CAWI⁷ with sampling quotas for age, gender, education, and region (*Bundesland*). The first wave was fielded on August 23 and completed on September 1; 7,824 invitations for the study were sent out, 1,844 people (24%) started filling in the questionnaire of which 1,587 met the sampling quota and finished it (20%).⁸ The second wave was fielded the day after the elections (September 22) and completed on September 24, yielding a net sample of 1,064 respondents (31% panel attrition). The final sample is comparable in terms of age and region to national census data, but includes a slightly larger share of men and a lower proportion of citizens with only lower education (see Supplementary Appendix A).

To include emotions felt by each respondent toward each party separately, this data set was then stacked according to party. This resulted in a new data set of 6,384 cases representing all possible combinations of the 1,064 respondents with each of the six major parties: CDU/CSU, SPD, FDP, LINKE, GRÜNE, and Alternative für Deutschland (AfD) (for a similar approach, see Bos, Van den Burg, & De Vreese, 2011; Walgrave, Varone, & Dumont, 2006).

⁷CAWI stands for Computer Assisted Web Interviewing, so these are internet surveys.

⁸This response rate is comparable with other CAWI panel studies (e.g., Schneider, Otto, Alings, & Schmitt, 2014). It is considerably better than the industry standard of 15% as reported by Google (McDonald, Mohebbi, & Slatkin, n.d.).

Using this data set, the model can include separate measures of poll exposure, anxiety, enthusiasm, and party ratings for each party for each respondent, and relate these variables to whether this respondent voted for that party. This design explicitly includes the choice space of each respondent in the model, as it compares whether more positive (negative) poll exposure increases the likelihood of voting for that party *relative* to the poll exposure for other parties. Each respondent can vote at most one time, so voting for one party precludes voting for another party. If a respondent votes for a party doing badly in the polls, this means not voting for a party doing even worse in the polls or for a party doing better in the polls. Whether a relation can be found thus depends on the poll exposure of this individual relative to other parties, but also relative to other respondents. Investigating the relation between poll exposure and voting in this data set thus implicitly ranks the various parties according to their poll coverage in each respondent's media diet and weighs the vote choices according to individual differences in poll exposure.

Measures. Both panel waves included an official-format voting form, exactly resembling the layout as was used in the elections. Respondents could indicate their vote choice on this form. In Germany, each voter has two votes: one for a regional candidate to be elected to the Bundestag (*Erststimme*) and one for a national party list (*Zweitstimme*), the second vote being the one directly affecting the distribution of seats in parliament. As each region (*Land*) has its own list of local and/or regional candidates, the *Zweitstimme* is used as the respondent's indicated vote for this study.

Both panel waves included questions on the experience of eight discrete emotions (i.e., fear, anger, hope, enthusiasm, indignation, pride, worry, disgust) in relation to each of the main contending parties (CDU/SPD/FDP/LINKE/GRÜNE/AfD) on a seven-point scale from "not at all" to "very much." This large ($8 \times 6 =$) 48 item battery enables this study to measure anxiety and enthusiasm more precisely than in previous studies. Each item asked the respondent to think about the party in question and list the degree to which each emotion was felt (see Supplementary Appendix B for question wording). The wording for these items resembles the American National Election Study (ANES) questions regarding emotions felt toward presidential candidates in U.S. elections (see Supplementary Appendix C for descriptives).

A confirmatory factor analysis (CFA) was conducted in AMOS 21 on the stacked data set using maximum likelihood estimation to evaluate whether these emotion items indeed measured enthusiasm and anxiety or whether aversion was a distinct concept.⁹ Fear, anger, indignation, disgust, and

⁹To help AMOS fit the model, it is important that the variances of the variables included are in the same range. To achieve this, party ratings were divided by two. This manipulation does not affect the resulting regression coefficients (Kline, 2011). Variables included in the CFA were the poll exposure index, changes in vote share, amount of polls exposed to, all emotion indicators in both waves, party ratings in both waves, and vote choice in both waves.

worry were predicted by a single latent variable for each wave, respectively, as were hope, pride, and enthusiasm. Standardized factor loadings (ranging between 0.79 and 0.95) were all adequate and above 0.7, indicating good convergent validity (Kline, 2011). Discriminant validity was good as the correlation between anxiety and enthusiasm was only -0.06 in wave 1 and -0.11 in wave 2, far below the 0.90 threshold (Kline, 2011). Party ratings were included as a single indicator per wave. Respondents rated each party on an 11-point scale from *don't like this party at all* (1) to *like this party very much* (11). The question wording was adapted from the ANES and the German Longitudinal Election Study (wave 1: $N = 5,805$, $M = 5.43$, $SD = 3.24$; wave 2: $N = 6,014$, $M = 5.27$, $SD = 3.33$). As Structural Equation Modeling (SEM) does not allow for missing values, regression imputation was used to estimate those cases. Discriminant validity between emotions and party ratings was also good as the various correlations between them did not exceed 0.68, confirming that emotions and attitudes are indeed different concepts. To improve the model fit, unanalyzed covariances were added between the corresponding wave one and two measures of disgust, hope, and pride, as well as between worry and fear in wave 1 and again in wave 2. The latter adjustments points to the remaining small difference found between anxiety and aversion.¹⁰ The resulting model fit was good: $\chi^2(165) = 2,435.33$; CFI = 0.98; TLI = 0.98; RMSEA = 0.046 (CI: 0.045, 0.048).^{11,12}

Media Content Analysis

Sample. The content analysis ($N = 2,772$) includes all campaign-related text articles on the front page of the main German national newspapers (Frankfurter Allgemeine Zeitung; Die Welt; BILD-Zeitung; Süddeutsche Zeitung), on the main and politics tabs of newspaper Web sites (www.bild.de; www.spiegel.de; www.faz.net) and all items of the main TV news broadcasts (Tagesschau, ARD [20.00h]; Heute, ZDF [19.00h]; RTL News, RTL [18.45h]; SAT.1 Nachrichten, SAT.1 [19.55/20.00h]). The sample period covers the same period as the panel survey and starts August 21 and runs up to the date of the election (September 22). Coding was done by five native German-speaking coders in October and November 2013, after having received a 2-week coder training.

Measures. For these outlets, each item was coded for containing a reference to polls about the Bundestag elections (Krippendorff's $\alpha = 0.65$,

¹⁰If instead separate latent variables for wave 1 and wave 2 aversion are added to the model, their correlations with the corresponding anxiety latent variables exceeds the 0.9 threshold, so discriminant validity between anxiety and aversion is too small to use them as separate concepts (Kline, 2011).

¹¹See Table D2 in Appendix D for a full overview of the bivariate correlations between each of the variables used in the final model.

¹²For the CFA regular standard errors are used, as this is needed to calculate the relevant fit indices.

percent agreement = 97%; full sample: $N(\text{CDU}) = 50$, $N(\text{SPD}) = 57$, $N(\text{FDP}) = 29$, $N(\text{GRÜNE}) = 42$, $N(\text{LINKE}) = 8$, $N(\text{AfD}) = 13$). Coders then evaluated whether the poll report was explicitly very positive/positive/negative/very negative (or not) for each party/candidate mentioned, from the viewpoint of that party. The poll report evaluations for each party were summed up per outlet, reaching from very positive (+2), positive (+1), neutral (0) negative (-1) to very negative (-2). Describing only numbers results in a neutral coding (0), describing a party to drop/improve in the polls suffices to be coded as negative/positive, additional comments can lead to a “very” positive/negative rating ($M(\text{CDU}) = 0.71$, $M(\text{SPD}) = -0.09$, $M(\text{FDP}) = -0.55$, $M(\text{GRÜNE}) = -0.68$, $M(\text{LINKE}) = 0.50$, $M(\text{AfD}) = -0.08$).¹³ In the random sample drawn for the intercoder reliability analysis, the reliability could not be calculated for the evaluation of polls owing to lack of variation. Still the larger content analysis project wherein this study is embedded coded a larger number of instances of actor-evaluations of CDU/CSU/Merkel (Krippendorff’s alpha = 0.71; percent agreement = 88%; Standardized Lotus (λ) = 0.85) and SPD/Steinbrück (Krippendorff’s alpha = 0.32; percent agreement = 87%; Standardized Lotus (λ) = 0.84), which use the same identical coding instructions as those for evaluation of polls (for Lotus (λ), see Fretwurst, 2013).¹⁴ The difference in Krippendorff’s alpha between the CDU and SPD measures disappears when considering percent agreement or Lotus (λ), which suggest that the reliability of both measures is sufficient and the very low Krippendorff’s alpha for SPD is an artifact of the skewness of the reliability test sample (see Vogelgesang & Scharnow, 2012).

To arrive at an individual-level per party poll exposure index the outlet sums were multiplied by the number of days this respondent used this specific outlet. In this way the index is sensitive to the higher chance of someone using an outlet every day of the week of observing a specific poll report relative to someone only using it 1 day of the week. The basic index sums these weighted poll report totals per party over all outlets used by this respondent ($N = 6,384$; $M = -0.13$, $SD = 33.01$). The CDU-index combines reports about sister parties CDU and CSU,¹⁵ and those about CDU top-candidate Angela Merkel. Likewise, poll reports for SPD were combined with those for SPD

¹³These mean scores reported here are calculated based on all articles containing polls about that party, in contrast the poll index is based on poll reports aggregated separately for each party in each outlet.

¹⁴As an additional robustness check, the poll index was recoded into negative (-1), neutral (0), positive (+1) for each item in the content analysis and the data for two coders was omitted to achieve a stronger intercoder reliability CDU/CSU/Merkel (Krippendorff’s alpha = 0.78; Standardized Lotus (λ) = 0.93; percent agreement = 96%) and SPD/Steinbrück (Krippendorff’s alpha = 0.70; Standardized Lotus (λ) = 0.70; percent agreement = 93%). Using this poll exposure index for the model in this article yields equivalent results.

¹⁵CSU and CDU combine their party list at the national (federal) level. CSU competes in Bavaria, while CDU does not. CDU competes in all other regions (Länder), while CSU does not.

top-candidate Peer Steinbrück. If a certain item included polls about, for example, both CDU and CSU, the average evaluation was used. To correct for skewness, a logistical transformation¹⁶ was applied to arrive at the final index. The resulting scores range from -5.30 to $+5.52$ ($N = 6,384$, $M = -0.25$, $SD = 2.48$). Negative scores ($N = 2,847$) indicate that this respondent was exposed to more negative (in amount and valence) than positive poll reports about this party. A score of zero on the index ($N = 1,310$) indicates a lack of exposure or an exact balance in exposure to positive and negative poll reports. A positive score ($N = 2,227$) a positive balance in poll exposure.

The poll exposure index thus measures both the valence (positive/negative) of poll reports and the amount. Still, there are obviously many other events within the campaign, besides poll reports, which make people feel differently about a party and which also drive changes in polls. Any effect of the poll index might be owing to such spurious causes driving both vote intentions and polls. This study deals with this by separating the effects of the amount of exposure from the effects of poll trends alone. A variable was constructed to reflect the overall tone of poll reporting about each party. This variable “poll valence” indicates whether the exposure to poll reports about the party was net negative (1), balanced or zero (2), or positive (3) ($N = 6,384$; $M = 1.90$, $SD = 0.89$). Controlling for this variable allows the separation of the effects of the amount of (positive/negative) exposure from the effects of the (positive/negative) kind of exposure. Similarly the (weighted) amount of polls ($N = 6,384$; $M = 38.44$; $SD = 44.57$) to which a respondent is exposed might be partly owing to other causes than journalistic choices, like the amount of media one consumes. To arrive at a proper distribution for this control variable, these count scores are logistically transformed ($N = 6,384$; $M = 2.88$; $SD = 1.48$). Other control variables usually related to vote choice and media effects included here are age ($N = 6,384$, $M = 49.39$, $SD = 15.66$), gender ($N = 6,384$, $n(\text{men}) = 3,342$, $n(\text{women}) = 3,042$, $SD = 0.50$), and education ($N = 6,384$, range [1; -8], $M = 3.87$, $SD = 2.06$).¹⁷

It is important to note that exposure to polls is not the same as observing polls, not everyone reads every article in a newspaper or pays attention to each item in the news. The polls included in our sample are only a part of the total number of polls to which a person is exposed as polls might be reported by other outlets as well. Still, the more polls an individual is exposed to the larger the probability of this person observing them and our sample of media outlets is varied.

¹⁶The analyses in this article have been repeated using the untransformed poll index, yielding substantially equivalent results.

¹⁷All descriptives are reported for the stacked data set, so each participant is included six times. Education is measured ordinal ranging from no degree (1) to college degree (8).

Poll ratings. To control for shifts in vote intention described by polls rather than caused by them, the model includes a variable measuring such shifts in vote intention. Various polling firms collect and publish polling data in Germany. For this study, poll ratings from five polling firms (Allensbach, Emnid, Forsa, Forschungsgruppe Wahlen, INSA) were collected from www.wahlrecht.de. These five firms were selected as they published poll ratings closest to the field dates of the first and second survey wave. For each party, the difference in predicted share of the vote was calculated by subtracting the poll rating published between August 29th and September 4th from the poll rating published between September 19th and September 20th. The measure for changes in vote share in the model equals the party average of the change scores obtained from each polling firm expressed in percentages ($N = 6,384$, range $[-2.9; 2.28]$, $M = 0.08$, $SD = 1.58$).¹⁸

Results

To see whether a bandwagon effect of exposure to poll reports about a party is present, logistic regression analysis was performed predicting vote choice. Table 1 shows the results controlling for amount of poll exposure, poll valence, precampaign vote intention, party rating, anxiety, and enthusiasm, as well as for gender, education, and age.¹⁹ For this analysis the untransformed versions of the poll exposure index and amount of polls are used to facilitate interpretation. The table shows how the poll exposure index significantly predicts voting for a party, together with precampaign vote intention and changes in predicted vote share of a party across the campaign.²⁰ Effect sizes of a logistic regression are different at different values of each predictor. When all predictors are at their mean value (poll index = -0.13), the probability of voting for that party is 4.19%. When an individual is exposed to one additional positive (+1) poll report about a party in each of the outlets, using these outlets for the average amount of days, the poll index of this individual for this party rises to 15.72 and the probability of voting for this party to 5.12%. When the same individual is instead exposed to one additional negative (-1) poll report about a party and all other predictors remain at their mean value, the probability of voting for that party decreases to 3.43%. For this range of poll exposure the effect is pretty modest, but note that the

¹⁸Owing to the stacked nature of the data set into respondent-party combinations, the six parties included in the analysis result in 6,384 cases of changes in vote share, which are constant per party across respondents, but differ across parties for each individual.

¹⁹The imputed values of the CFA were used for the anxiety and enthusiasm variables. Additional analysis showed that other possible control variables as political knowledge, interest in polls, and interest in politics likewise did not substantially change the effects reported.

²⁰Similar results are obtained if this model is estimated as a cross-classified multilevel model for party and respondent, as well as when using cluster bootstrapped standard errors for party (see Cameron, Gelbach, & Millar, 2008)

Table 1

The Results of a Logistic Regression Predicting Vote Choice by Poll Exposure

Predictor for vote choice	Coefficient (SE)	Odds ratio
Poll exposure index	0.01*** (0.00)	1.01
Vote choice (wave 1)	2.36*** (0.14)	10.64
Poll valence	0.00 (0.08)	1.00
Amount of polls	0.00 (0.00)	1.00
Change in vote share	0.23*** (0.04)	1.26
Party rating (wave 1)	0.30*** (0.03)	1.35
Anxiety (wave 1)	-0.26*** (0.05)	0.77
Enthusiasm (wave 1)	0.24*** (0.04)	1.27
Age	0.00 (0.00)	1.00
Gender (women)	-0.01 (0.08)	0.99
Education	0.00 (0.02)	1.00
Constant	-4.95*** (0.35)	0.01

Note. $N = 6,384$, $SE =$ cluster robust standard errors (respondent), Pseudo R square = 0.47.

difference between the lowest score on the index (-200.7) and the highest (248.5) amounts to a predicted probability of voting for that party of 0.31% compared with 53.58%. So although the marginal poll exposure effect is modest, their potential total effect can be sizeable.

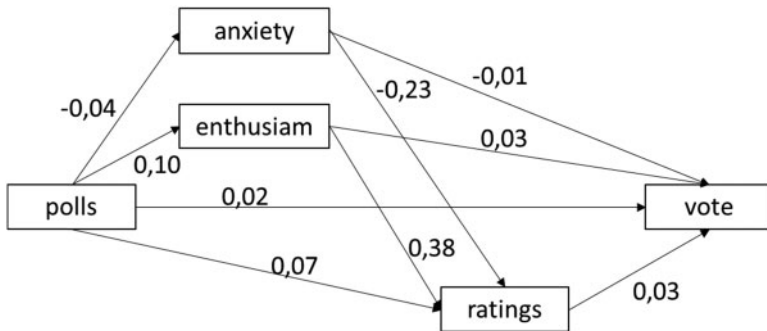
Possible mediation effects of emotions and party ratings were calculated using SEM. This technique is especially suited to model the effects of multiple possible mediation paths at once. The model is based on the results of the CFA discussed above, but now with the hypothesized causal structure of Figure 1. In addition to the main variables under study (the poll index, anxiety, enthusiasm, party ratings, and vote choice), it includes control variables for corresponding wave 1 measures, changes in vote share across the campaign for each party, poll valence, amount of polls exposed to, age, gender, and education (see Supplementary Appendix D, Figure D1 for the full SEM model). To get an acceptable fit, additional cross lagged effects were added between anxiety and enthusiasm in both waves and effects between party ratings in wave 1 and both anxiety and enthusiasm in wave 2, respectively. The resulting fit is good: $\chi^2(245) = 4,995.78$; CFI = 0.96; TLI = 0.95; RMSEA = 0.055 (CI: 0.054, 0.056).

Figure 2 shows the regression coefficients for the main effects under study based on 95% bias-corrected 5,000 bootstraps interval.²¹ The effect of poll exposure on vote choice is positive and significant, as well as the effect of poll exposure on enthusiasm and party ratings and the effect of enthusiasm and party ratings in turn on vote choice. The effect of poll exposure on anxiety is

²¹See appendix table D1 for a full list of SEM regression coefficients.

Figure 2

SEM results of the effects of exposure to poll reports about a party via feelings of anxiety and enthusiasm about that party and/or party ratings on voting for that party. All effects reported are significant at $p < .01$ level



negative and significant, while the effect of anxiety on both party ratings and vote choice is negative as well. These are all indication of a bandwagon effect of poll exposure on vote choice, an underdog effect should yield these relations but with the reverse sign (i.e. the negative effects should be positive and the positive effects should be negative). Apparently, voters ended up voting for parties doing better in the polls more often than those doing worse in the polls, proportionally to their amount of exposure to those polls (which is expressed in the poll index). The direct and indirect paths from poll exposure to vote choice unmediated by emotions are both significant, indicating that each path has some explanatory value of its own and emotions do not explain the bandwagon effect in full.

To compare the relative influence of the various paths, Table 2 shows the various indirect effects of the log transformed poll index on vote choice. The paths through party ratings are stronger than those exclusively through emotions, indicating that party ratings and emotions co-evolve. The path exclusively through party ratings is the strongest indirect effect, indicating that emotions explain only one part of the bandwagon effect. Still, the paths through both anxiety and enthusiasm are (marginally) significant, even controlling for paths through party ratings, which demonstrates that emotions add an independent part to the explanation of the bandwagon effect.

Discussion

This study shows how exposure to poll evaluations in the media influences vote choice during an election campaign, and the key role of emotions in this bandwagon mechanism. Both anxiety and enthusiasm make an independent contribution as mediators of the relation between poll exposure and vote

Table 2

Indirect Effects for Each Path From Poll Exposure to Vote Choice

Indirect effect path	Vote choice
Log transformed poll index via	
Anxiety	.0002 ($p = .057$)
Anxiety and party ratings	.0003 ($p = .011$)
Enthusiasm	.0033 ($p < .001$)
Enthusiasm and party ratings	.0022 ($p < .001$)
Party ratings	.0042 ($p < .001$)

Note. $N = 6,384$, $SE =$ cluster robust standard errors (respondent), estimated using each path in Figure 1 with STATA 13.

choice. The effects of these emotions are more than just the effects of attitudes expressed in emotional language: each makes its own independent contribution. Enthusiasm/anxiety and party ratings (i.e., attitudes) are found to evolve together and operate as serial mediators.

Studying poll effects necessitates dealing with issues of causality as polls themselves are indicators of the vote choice on which they are supposed to have an effect. By combining a panel survey with a media content analysis on an individual level, with a high degree of granularity, this study goes beyond previous studies. The first survey wave allows controlling for preexisting attitudes, feelings, and intentions. The media content analysis enables differentiation of the size of the effect of polls based on the amount of actual exposure. Future research using a rolling cross section design could still further improve the causal argument, as it could temporally differentiate between campaign events and polls. Shifts in polls during the campaign are likely driven by campaign events other than poll reports. Still, as such factors are not obviously related to poll exposure on a participant-by-participant basis, this should not automatically compromise the reported results. In addition, as far as these events translate into shifting poll ratings, they are controlled for.

Determining causality for the mediators is more difficult. The emotions themselves are measured in the same survey as vote choice and their influence on vote choice is modeled as a direct effect, so the results cannot differentiate between AIT and the affect transfer model suggested by Ladd and Lenz (2008). In affect transfer, emotions have a direct instead of an indirect effect on changing vote intention, both of which are equivalent with the findings presented here. Green, Ha, and Bullock (2010) explain how difficult it is to assess causality in mediation analyses, let alone doing so for serial mediation. The single study presented here, like any other, is not able to determine the causal role of any mediator in a definite sense. Still, it presents one extra empirical argument compared with other survey studies: The analyses in this article only incorporate a small part of the influence of emotions

on vote choice, namely that which is related to poll exposure. Polls are measured before the second survey wave. They are unlikely to be the single determinant of emotions and party ratings, as many other factors during the campaign, and perhaps also after the election, might affect responses to the questions on emotions and party ratings. The smaller part, which is explained by exposure to polls, is thus more likely to be causally before vote choice than are the full reported emotions and party ratings.

With respect to the measurement of emotions, no distinction between anxiety and aversion was found. This result adds to the argument of Marcus et al. (2006) and Lee and Kwak (2014) that such a distinction is only present for specific contexts. Perhaps, measuring emotions over a 1-month interval results in only picking up a more general emotional “end” state, which is a product of various events throughout the campaign. In experiments, the stimulus is much more highly present and concrete, which might help inducing more fine-grained emotional states. In the course of an election campaign, many events might trigger emotions and one emotion might follow another. If aversion does *not* play a specific and prominent role within a campaign, then consecutive events are likely to trigger multiple negative emotions about a loathed party resulting in anxiety being highly correlated to aversion. Emotions might become blended over time, but might also occur consecutively. Anxiety, for example, which in AIT triggers information search, might very well be followed by enthusiasm based on the new information considered. If this enthusiasm is about another party, maybe the anxiety felt previously toward that party is likewise reduced by this new information. Recently, Robin Nabi (2015) has proposed the term “emotional flow” to study the effects that different sequences of emotions have in the context of health communication. For voting research, studying emotional flow might be a fruitful avenue for further research as well.

The analysis explicitly compared the influence of poll reporting versus poll ratings and results replicate the field experimental findings of Van der Meer et al. (2015) in a panel survey setting. The influence of polls on vote choice relies more on the descriptions of journalists than on the bare poll figures by themselves. The emphasis on poll interpretation (by journalists) raises questions for further research into the mechanisms through which such interpretations arise. The poll exposure index used in this study is based on a limited sample of the polls to which individuals were exposed during the campaign. Polls figure prominently on other pages of newspaper than just the front page, they are also frequently reported in magazines, talk-shows, and current-affairs shows. People may learn about polls through discussions with co-workers, friends, or family rather than through media alone, and different people may be more or less susceptible. Perhaps, including such exposure to (evaluations of) polls can give a more detailed picture of their effect.

Extending this point, one alternative explanation for the results found could be that poll evaluations influenced the journalists of the outlets reporting them or the other way round. Perhaps, outlets that reported more positively on a certain party tended to describe their polls in a more positive light, or, maybe, positive poll results changed the way journalists of that outlet saw and reported on that party.²² Both situations would produce differences in the portrayal of parties related to polls, which instead might be the drivers of the effects found here. One study by Jandura and Peterson (2009) suggests that poll reports precede changes in media coverage, supporting the argument presented here.

After polls being interpreted and reported, the bandwagon effect of poll reports on voting can be the result of many different routes. While the emphasis here has been on emotions, Hardmeier (2008) lists various other (overlapping) possibilities. In the German multiparty context studied here, strategic voting can be expected to play an important role. Emotions might or might not play a role within strategic voting as is illustrated by the significant path found from poll exposure directly on voting. Further studies can investigate whether emotions play different roles for different kinds of bandwagon effects.

This study shows how the *amount* of exposure to poll *evaluations* in the media contributes to individuals changing their vote intention over the course of the campaign. It presents empirical support for the role played by both enthusiasm and anxiety in the mechanism behind the bandwagon effect. There is indeed a bandwagon effect in real election campaigns and AIT can help explain it.

Supplementary Data

Supplementary Data are available at IJPOR online.

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²²The reverse would hold for negative polls; they might be a cause of or consequence for more negative reporting on a party.

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