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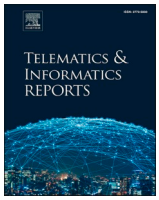

The impact of happiness in political ads on party evaluation: A data donation study with emotion recognition☆

Xiaotong Chu, Annelien Van Remoortere, Susan Vermeer, Rens Vliegenthart *, Sanne Kruikemeier

Strategic Communication Group, Wageningen University & Research,the Netherlands

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ABSTRACT

Laughter is contagious. A happy stimulus could arouse positive affections and inhibit negative responses. This study investigates the impact of projected images of happiness in election campaigns on ad-evoked emotions and party evaluation. An elaborate data collection was conducted during the final weeks of the 2021 Dutch General Election campaign. An experience sampling method was applied where 126 participants donated a total of 2626 online political ads they encountered daily. The happy stimuli in the donated ads were recognized using Pykognition and manual content analysis. Hypotheses were tested using two multi-level models. The results indicated that happiness in online political ads directly affected voters' evaluation of the promoted party. We also found that happiness had a positive effect on ad-evoked enthusiasm and a negative effect on ad-evoked anger, and these impacts subsequently affected party evaluation. Taken together, this study provides insights into the impacts of visualized positive emotions in political campaigns.

Political parties and candidates are increasingly investing in online advertisements [1]. In recent years, we have witnessed a rise in the use of social media ads that are targeted to specific (groups of) voters [2,3]. Many political parties use voter data collected by large online intermediaries (e.g., Meta and Google) and their platforms (e.g., Instagram and YouTube) to target voters with ads that are tailored toward their interests. While the usage of these ads is subject to numerous regulatory, societal, and academic debates (e.g., evolving around the discussion that political ads can cause detrimental consequences), research that examines the impact of online ads on voters is rather limited [1].

We identified three gaps in the current work regarding the impact of online political ads. First, most work has focused on negative ads (and often attack ads) [4,5]. Considerable less attention has been devoted to the use and impact of positive ads [6]. More specifically, we know far less about the extent to which the usage of happiness in ads affects voters' evaluations of political parties. This is surprising as previous evidence shows that (online) political ads in general are neutral to positive in nature [7,8]. Second, visualization in the exposure to media content has played an important role in gaining people's attention, increasing political participation, and evoking feelings toward a party, etc [9–11]. However, previous research has mainly focused on studying the effect of texts in political ads rather than images [12]. Third, to date, previous work on the impact of ads focused less on countries with a multi-party system. Most studies were conducted in the United States, where negative campaigning is omnipresent [13–15]. In multi-party contexts, such as The Netherlands, many parties compete and thus there are more undecided voters [16]. Consequently, in such electoral systems, the effects of political ads might be more divergent because voters have diverse feelings and evaluations toward different parties.

Taken together, this paper attempts to look into the positive emotions embedded in the images in political ads in a multi-party electoral system. Building upon the Affective Intelligence Theory [17] and the affect-transfer hypothesis [18], we study how happiness in a political ad impacts ad-evoked enthusiasm and anger, and how this effect translates to the evaluation of the party promoted in the ad. To test the hypotheses, we conducted a mobile experience sampling method (mESM) two weeks before the 2021 Dutch General Election. Participants were asked to upload online political ads they encountered daily, as well as take part in a panel survey. Automatic content analyses were conducted to detect the presence of happiness in political ads. The findings of this study contribute to the growing area of research on the impact of political ads by exploring how positive emotions in visuals affect voters during an

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* Corresponding author.
E-mail address: rens.vliegenthart@wur.nl (R. Vliegenthart).

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election campaign.

Theoretical background

Happiness in political ad images

In the realm of advertising, emotional appeals are widely used to increase consumption and support, as well as to promote a brand image. Emotional appeals can be divided into two categories: positive and negative emotional appeals [5,19]. Positive emotional appeals aim to convey positive feelings to the recipients of an ad, which can be distinguished into two categories: abstract and concrete positive emotions [20]. The former refers to decontextualized feelings (e.g., hope, trust, warmth, etc.), while the latter is linked to details or specifics of certain situations (e.g., excitement, elation, satisfaction, etc.). Happiness falls under the category of concrete positive emotions. Oishi et al. [21] conducted a thorough study on the concept of happiness across time and geographical contexts, and they found that happiness was defined as favorable internal feeling states in American English, while in other cultures, happiness tends to be related to external conditions such as welfare. Although the definition and measures of happiness remain controversial [22], we determined to take the concept of happiness in American English, which focuses on individuals' expression of their internal feelings.

Emotional appeals in political narratives and discourses have been studied excessively [23], while emotional appeals in political visuals (i.e., images and videos) have attracted less attention in the field of political advertising. This is remarkable, given the general importance that is assigned to visuals in election campaigns [24,25]. In print advertisements, inserting a picture in an ad has an impact on the audience's attitudes and beliefs toward the product [26]. In an online environment, nowadays, media users might experience information overload regularly, and consequently be more inclined to expect to receive "fast food information". It is likely that mainly the image in an ad attracts the audience's attention and improves recall of the ad.

Given the aforementioned aspects, this study aims to examine the effects of happiness in political ad images. In line with the conceptualization of happiness as referring to internal feelings, this study examines the explicit facial expressions in political ad images.

Effect of happiness on party evaluation

Emotions play an important role in persuasive messages. We know for example that the strategic use of fear appeals might make people more open to new information. Felt emotions are strongly associated with political attitudes. Aarøe et al. [27] for example, demonstrate a strong association between disgust sensitivity and attitudes towards migrants. Political parties use those appeals to gain electoral support. Following the Affective Intelligence Theory, (political) decision-making by voters relies heavily on affective responses [28] and political actors can use emotional appeals to persuade voters [29].

While considerable scientific attention has been devoted to negative emotional appeals, research into the use of positive emotions is limited. Existing studies, however, do reveal that positive emotions yield positive responses. Grüning and Schubert [6] demonstrate that if an ad can 'move' people, it yields positive effects on the support for the political candidate that commissioned the ad. Translated to the context of our study, we anticipate that if an ad conveys positive emotions, and in particular happiness, this will contribute to feelings of positivity among receivers and yield a more positive assessment of the sender. In addition, work within psychology found that exposure to positive images (and thus emotions) leads to increased memory of details in the picture [30]. This effect is more pronounced for positive pictures than for negative pictures. It can thus be expected that positive ads, in particular peripheral information such as smiling people, are more likely to affect voters, as these ads can be easily remembered. This, in turn, will positively affect voters' evaluations of the 'smiling' politicians in the ads. Similarly, Brader [31] argues that emotional images in ads might increase attentiveness to the ads because they are more vivid. Lastly, based on the entertainment value hypothesis [31], it can be argued that emotional cues make an ad more interesting to its viewers and thus can trigger more positive evaluations. This idea is further supported by other research. Brader [31] conducted two experiments and found that cueing enthusiasm in political ads activates existing loyalties toward the political party. In addition, Seibt et al. [32] found that heart-warming ads moved voters to tears, which subsequently led to increased intention to vote for the candidate in the ad (in a partisan manner). While heart-warming ads are not equivalent to happiness in ads, they can both be regarded as positive ads. Therefore, we expect similar processes at work.

While previous research has not directly tested the relationships that we consider in our study, findings indicate that political ads that contain are evaluated more positively and consequently yield more positive evaluations of the sender. Thus, we propose the following hypothesis:

H1. *Compared to a political ad without happy emotions, an ad with happy emotions leads to a more positive evaluation of the promoted party in the ad.*

Effect of happiness on ad-evoked emotions

The positive effect of happiness on party evaluations as hypothesized in the first hypothesis is likely to be mediated by direct emotional responses that are triggered by seeing the ad. Generally speaking, emotions act as the mediators for the effects of (media) content on attitudinal and behavioral outcomes. Lecheler and de Vreese [33], and Kepplinger et al. [34] found that enthusiasm and anger mediate the effects of news frames on public opinion. Emotional appeals as a type of framing can also lead to the mediating effects of emotions. The Affective Intelligence Theory argues that emotions can trigger a temporary state of arousal, and arousal can subsequently affect how voters think about the party [1]. Moreover, Hager [1] notes that, based on the affect-transfer hypothesis, it can be assumed that when emotions are used in the ad, this will "rub off" on individuals, and in turn, this could affect voting behavior (and probably voters' evaluation of the party). The affect-transfer hypothesis argues that political ads can 'transfer', in our case, positively affect. For instance, if the image is positive towards the candidate or politician in an image, this leads to positive feelings towards the politician in the ad. In other words, it is expected that voters associate with positive feelings that are aroused by an ad that contains happiness [31].

This study investigated the effects on both positive and negative emotional responses. First, we anticipate that happiness in the ad will spur enthusiasm among viewers of the ad. Lecheler et al. [35] illustrated that positive emotions mediate the effects of political content on attitudes. Enthusiasm is a positive emotion that can indeed be invoked by exposure to political information [36], and in turn, affect political attitudes [37]. More specifically, we believe that happiness in the political ad will rub off on voters and it will affect their enthusiasm, and this will in turn affect how they evaluate the party (the sponsor of the ad). In line with this reasoning, we anticipate that the positive relationship between hapiness as portrayed in the ad and the evaluation of the source (party) is mediated by positive emotions (enthusiasm) the as evokes. We formulate the following two hypotheses:

H2a. *Compared to a political ad without happiness emotions, an ad with happiness emotions leads to a higher level of ad-evoked enthusiasm in the ad.*

H2b. *Ad-evoked enthusiasm positively mediates the effect of ad-embedded happiness on party evaluation.*

We contend that happiness in an ad does not only increase positive emotions among receivers, but also lowers negative emotions. Anger, as one of the key negative emotions, has often been studied as the opposite

emotion of enthusiasm [38,39]. Positive and negative emotions can be considered two sides of the same coin and are correlated negatively. People are very unlikely to experience, for example, both high levels of enthusiasm and anger simultaneously. Therefore, anger plays an important role in political attitude formation [40], but having opposite effects compared to enthusiasm. A meta-analysis regarding the relationship between anger and persuasive messages conducted by Walter et al. [41] showed a small impact of anger on behavior, especially when the message contains a strong appeal. Lu and Lee [42] found that anger mediated the effect of exposure to partisan news on affective polarization. We thus anticipate that not only positive emotions mediate the relationship between ad content and source evaluations, but also negative ones. Concretely, we anticipate that happiness in the ad lowers anger and also through this mediation contributes to higher party evaluations. Hence, we hypothesize the following:

H3a. *Compared to a political ad without happiness emotions, an ad with happiness emotions leads to a lower level of ad-evoked anger in the ad.*

H3b. *Ad-evoked anger negatively mediates the effect of ad-embedded happiness on party evaluation.*

The moderating role of party identification

Predispositions matter in understanding the impact of political ads. Party identification is a moderator that is often considered when understanding the effects of media and party communication on voters, in particular in a bipartisan context [43]. Also, recent research that examines how political ads specifically evoke emotions, demonstrates the importance of identification: people who have a preference for a certain party are more strongly affected by the emotions conveyed in the ad [32]. Though party identification is a more complex and less self-evident phenomenon in a multiparty context [44], we still anticipate that strong party identification contributes to the effectiveness of ads.

There is some empirical evidence that is in line with the idea that political identification moderates campaign ad effects. Brader [31] found that an optimistic campaign message, seems to reinforce convictions on party lines, and might lead to more polarization. Brader [31] explains such results in the following way, "[p]olarization occurs by *attraction* if appeals to enthusiasm strengthen the convictions of those watching their preferred candidate. Polarization occurs by *repulsion* if such appeals strengthen the convictions of those watching the opposing candidate." (p. 127). In other words, partisan identification is expected to play an important conditional role when explaining the effect of positive emotions on voters. This anticipated effect is further supported by research into source credibility from the field of advertising (see [45] for an overview). Here, a consistent finding is that the more credible a source is considered by the respondent, the more persuasive the message is. While identification and credibility are not the same, they are conceptually related [46]. More concretely, we anticipate that identification with the source of the political ad increases the impact of ad content on emotions. We thus hypothesize the following :

H4. *Party identification moderates the relationship between happiness and ad-evoked emotions: the stronger the identification, the stronger the relationship between happiness and ad-evoked emotions.*

Method

To test the hypotheses (see Fig. 1), we adopted a combined methodology during the 2021 Dutch General Election. The Netherlands applies a multi-party electoral system, and 37 political parties participated in the General Election. The election took place in the middle of the COVID pandemic, thus a large body of campaigns was launched online [47]. This offered an opportunity to study online political advertising.

Participants

The approval of data collection was issued by the Ethics Review Board of [anonymous for peer review]. We invited the participants via an audience research organization [anonymous for peer review]. 126 participants fully participated in the study. The age of the participants ranged from 18 to 76 years ($M = 48.08$, $SD = 16.23$). 48.4 percent was female while 51.6 percent was male. The participants were relatively highly educated, with a percentage of 69.8 holding a bachelor's degree or higher.

Procedure: data collection

The procedure of the study is demonstrated in Fig. 2. We adopted an innovative method combining a panel survey, a mESM, and a three-phase content analysis [48] . This method is particularly useful when examining the immediate effects of media use in a real-life and real-time setting.

An mESM study with an event-contingent sampling design took place from March 3 to 17, 2021. The mESM helped record voters' daily

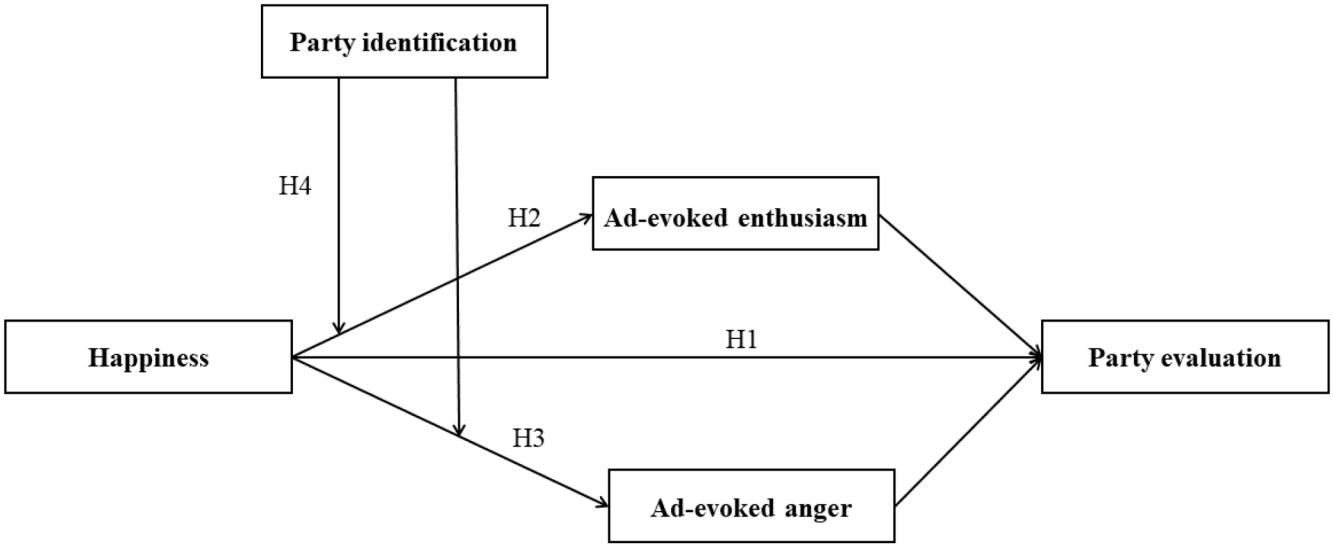

Fig. 1. Conceptual model outlining the hypothesized relationships between ad characteristics (hapiness), mediating variables (ad-invoked) emotions and party evaluation and the moderation by party identification.

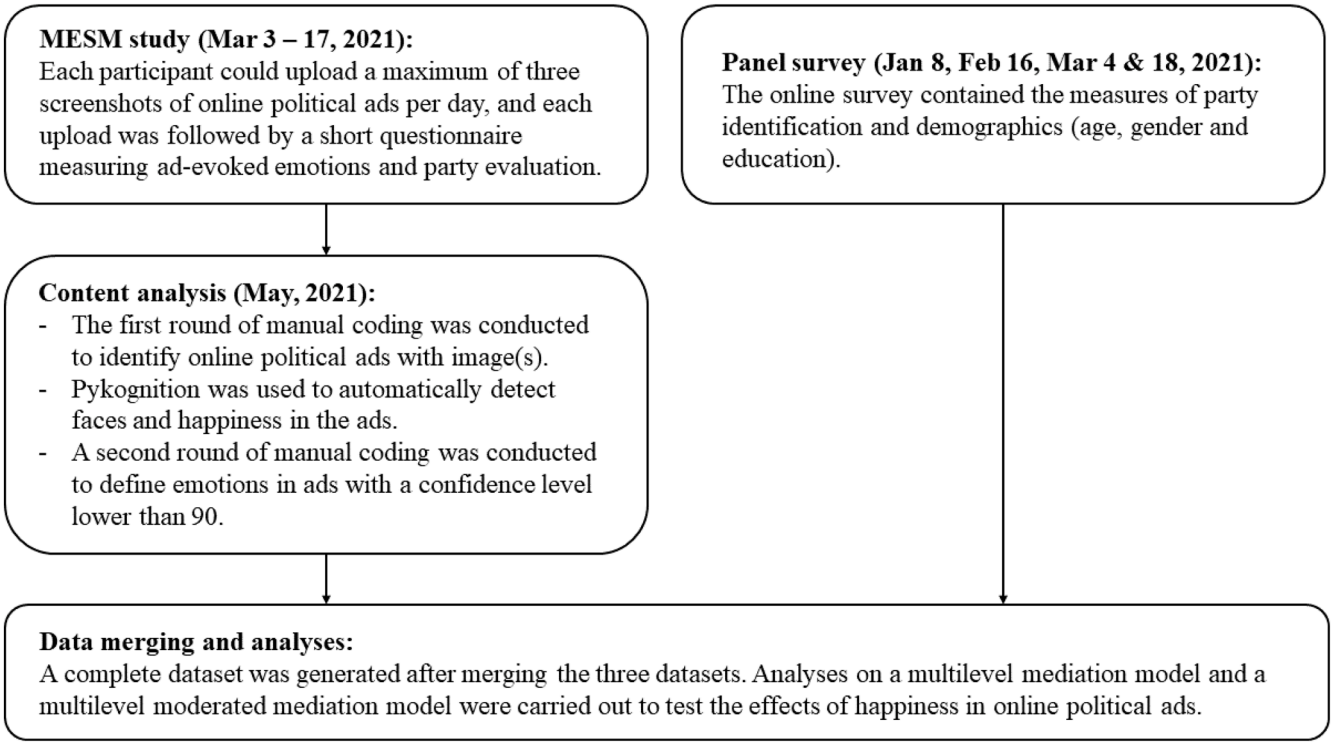

Fig. 2. Flow diagram of the data collection procedure, outlining the various data procedures and how they are combined.

exposures to online political ads, and thus reduced memory bias caused by self-reported measures (i.e., surveys). Before the start of the study, participants were instructed about the procedure of the study, after which they gave their consent to participate. We asked participants to use their phone to take either a screenshot or a photo of online political ads they encountered on any device, and then upload them via a reminder link sent to their phones every morning. After each upload, participants were also asked to answer a short questionnaire where ad-evoked enthusiasm, anger, and party evaluation were measured. To avoid wearing out the participants, we asked each participant to upload a maximum of three screenshots every day. In the end, a total number of 2626 ads were uploaded.

Meanwhile, a panel survey was conducted to measure participants' demographics and party identification. Participants' demographics were measured in the first wave, and party identification was measured in the third wave of the panel survey.

Procedure: happiness recognition

To detect happiness in the ads, we conducted three rounds of content analysis. As the focus of this study was online political ads with images, the first round of content analysis was carried out to identify these ads. We first removed ads that were not considered to be online political ads, and then we removed ads without images (e.g., ads with plain text or video clips). The number of online political ads for analyses was shortened to 1115.

Second, we conducted an automatic content analysis to detect emotions in these ads. As we discussed earlier, within this study, we define happiness as an explicit facial expression. Therefore, we employed Pykognition, an open-science tool for emotion detection on human faces [49]. Pykognition can detect whether an image includes a human face, as well as the main emotion on the face together with a score of the confidence level (i.e., happy, calm, sad, angry, etc.). After coding, 430 ads were detected to contain no human faces, 471 had one human face, and 214 had more than one human face. Among the 471 ads with one human face, 223 had a confidence level of emotion detection lower than 90.

Considering ads with more than one face may contain multiple emotions, we decided to manually code these ads. To obtain better measurement reliability, we also manually coded ads with a single face and a confidence level lower than 90. Therefore, the number of ads in the third round of content analysis was 447. In line with our definition of happiness as well as the emotion detection criteria of Pykognition, the coders were trained and told that a human face with an explicit laugh (particularly with teeth showing) is an indication of happiness.

Measures

Happiness. As a result of the content analysis, we developed the predictor happiness ($M = 0.18$, $SD = 0.38$) as a dichotomous variable where 1 represented the presence of happiness in the ad, and 0 represented the absence of happiness in the ad. Among the 1115 political ads with images, 199 were coded as happiness being present, and 916 were coded as happiness being absent.

Ad-evoked enthusiasm and anger. Ad-evoked emotions were measured using the positive and negative affect schedule (PANAS) [50, 51]. Participants were asked to indicate to what extent the uploaded ad made them feel enthusiastic ($M = 2.82$, $SD = 1.72$) and anger ($M = 1.94$, $SD = 1.50$) on a 7-point scale ranging from 1 (not at all) to 7 (very much) [52].

Party evaluation. Party evaluation was measured by asking participants to indicate the extent to which they find the party in the uploaded ad honest, competent, and likable on a 7-point Likert scale from 1 (not at all) to 7 (very much) [53]. Party evaluation was calculated by averaging the three items (*Cronbach's* $\alpha = 0.94$, $M = 3.56$, $SD = 1.55$).

Party identification. Party identification is a dummy variable indicating whether the respondent indicates a likelihood they will vote for the party that issued the ad ($M = 0.71$, $SD = 0.45$) was measured by asking the participants to indicate the likelihood of voting for a political party in the upcoming Dutch election on a 12-point scale ranging from 0 (I will never vote for this party) to 11 (I will probably vote for this party) [54]. Participants answered this question repeatedly for each one

of the eighteen Dutch political parties provided in the survey. We used the average score for party identification was derived if (in rare instances) more than one party was promoted in an ad. Scores higher than 0 indicate that the party is an option for the respondent and thus some level of identification is present.

Demographics. We included participants' demographic information (i.e., age, gender, and education level) as control variables. Operationalization and descriptive statistics can be found in the *Appendix*.

Results

Analytic strategies

The unit of analysis is each political ad. Since the data had a multilevel structure due to repeated measurements, the intra-class correlation (ICC) was calculated with null models. Table 1 reports the ICCs and bivariate correlations among our central variables. As seen in Table 1, all the outcome variables had an ICC above 0.20, indicating that the variation of these variables could be explained to a considerable degree at the level of participants. Therefore, two multilevel path analyses were carried out using the R package Lavaan (version 0.6–11, Rosseel [55]). Specifically, we first carried out a multilevel mediation model to test the direct effects of happiness on party evaluation, as well as the mediating effects of ad-evoked enthusiasm and anger. Second, we conducted a multilevel moderated mediation model to test the interactive effect of party identification on the relationship between ad-evoked emotions and happiness in the ad. The Lavaan syntax can be found in the *Appendix*.

All parameter estimates of the models are summarized in Table 2. At the within-individual level, we compared the effects of each ad exposure on a single response of a participant. At the between-individual level, we compared the systematic differences among participants' general responses to a set of ads they were exposed to. As our hypotheses focus on ad-evoked responses to a single exposure to an online political ad, we only interpreted the results at the within-individual level in the following sections.

The effect of happiness on party evaluation

First, we tested the direct effect of happiness in online political ads on party evaluation. Fit statistics indicate a good model fit ($X^2(3) = 1.08$, $p = .782$; $CFI = 1.00$; $RMSEA = 0.00$; $SRMR = 0.00$) and results replicate if we use a robust maximum likelihood estimation technique. As shown in Table 2, happiness in online political ads had a positive effect on party evaluation ($b = 0.16$, $SE = 0.08$, $p = .047$). This showed that those exposed to a projected image of happiness in an online political ad evaluated the promoted political party more positively. H1 was supported.

The effect of happiness on ad-evoked emotions

Second, we looked into the direct effect of happiness in online political ads on ad-evoked emotions. The results showed that happiness in online political ads had a positive effect on ad-evoked enthusiasm ($b = 0.35$, $SE = 0.12$, $p = .002$), and a negative effect on ad-evoked anger ($b = -0.33$, $SE = 0.11$, $p = .003$). H2a and H3a were supported.

The mediating effect of ad-evoked emotions

Third, we conducted mediation analyses to test the indirect effect of happiness on party evaluation via ad-evoked emotions. The direct effect

Table 2
Multilevel models predicting ad-evoked emotions and party evaluation.

Variables	Multilevel mediation model		Multilevel moderated mediation model	
	B	*SE*	*B*	*SE*
Within-individual level				
Outcome: Ad-evoked enthusiasm				
Happiness	0.35**	0.12	−0.24	0.24
Party identification			1.36***	0.12
Happiness * Party identification			0.52*	0.27
Outcome: Ad-evoked anger				
Happiness	−0.33**	0.11	−0.34	0.23
Party identification			−1.07***	0.11
Happiness * Party identification			0.16	0.26
Outcome: Party evaluation				
Happiness	0.16*	0.08	0.19*	0.08
Ad-evoked enthusiasm	0.51***	0.02	0.50***	0.02
Ad-evoked anger	−0.20***	0.02	−0.20***	0.03
Between-individual level				
Outcome: Ad-evoked enthusiasm				
Happiness	0.06	2.21	0.50	7.40
Party identification			1.45*	0.64
Happiness * Party identification			−0.20	2.35
Age	0.01	0.008	0.02*	0.01
Gender	−0.30	0.24	−0.25	0.25
Education	−0.14	0.21	−0.04	0.21
Outcome: Ad-evoked anger				
Happiness	−0.22	1.66	0.03	5.95
Party identification			−0.25	0.53
Happiness * Party identification			0.67	1.93
Age	−0.00	0.01	−0.00	0.01
Gender	−0.07	0.19	−0.08	0.21
Education	−0.04	0.16	−0.05	0.17
Outcome: Party evaluation				
Happiness	1.98	1.25	4.92	5.23
Ad-evoked enthusiasm	0.66***	0.07	0.66***	0.08
Ad-evoked anger	−0.30**	0.10	−0.31**	0.12
Age	−0.01	0.01	−0.01	0.01
Gender	−0.20	0.14	−0.19	0.15
Education	0.03	0.12	0.03	0.12
N of observations	1115		1050	
N of respondents	126		124	
Log likelihood user model	−6011.97		−5605.63	
Log likelihood unrestricted model	−6011.43		−5440.29	
Akaike (AIC)	12,087.94		11,291.26	
Bayesian (BIC)	12,248.47		11,489.52	

* $p < .1$.
** $p < .01$.
*** $p < .001$.

Table 1
Overview of variables.

Variables	*M*	*SD*	*ICC*	Level	Measurement point	Pearson's Correlations				
						1	2	3	4	5
1. Happiness	0.18	0.38	.06	Ad	Content analysis	–				
2. Ad-evoked enthusiasm	2.82	1.72	.38	Ad	mESM	.09**	–			
3. Ad-evoked anger	1.94	1.50	.26	Ad	mESM	−0.08**	−0.18***	–		
4. Party evaluations	3.56	1.55	.37	Ad	mESM	.13***	.66***	−0.31***	–	
5. Party identification	0.71	0.45	.37	Ad	Survey	.10***	.36***	−0.23***	.49***	–

* $p < .1$.
** $p < .01$.
*** $p < .001$.

of happiness on party evaluation was significant ($b = 0.16$, $SE = 0.08$, $p = .047$), so was the indirect effect of happiness on party evaluation via ad-evoked enthusiasm ($b = 0.18$, $SE = 0.06$, $p = .003$), and the total effect ($b = 0.34$, $SE = 0.10$, $p = .001$). Therefore, ad-evoked enthusiasm fully mediated the relationship between happiness and party evaluation. In other words, happiness in political ads led to a higher level of ad-evoked enthusiasm, which subsequently had a positive effect on party evaluation. Therefore, H2b was supported.

Similarly, both the indirect effect of happiness on party evaluation via ad-evoked anger ($b = 0.07$, $SE = 0.02$, $p = .005$) and the total effect ($b = 0.22$, $SE = 0.08$, $p = .007$) were significant. This indicated that ad-evoked anger was lessened when happiness was present in political ads, which led to a more positive party evaluation. H3b was therefore supported.

The moderating effect of party identification

We test the moderation effect in the second model ($X^2(9) = 330.69, p < .001$; $CFI = 0.80$; $RMSEA = 0.19$; $SRMR = 0.08$). Again, results replicated when using a robust maximum likelihood estimation technique. Here, model fit statistics indicated a less good model fit according to conventional standards, which is not surprising given the high level of additional possible relations (and thus degrees of freedom) between variables in this model (38 compared to 24). The results revealed that party identification had a marginally significant interaction effect on the relationship between happiness and ad-evoked enthusiasm ($b = 0.52$, $SE = 0.27$, $p = .058$), but not on the relationship between happiness and ad-evoked anger ($b = 0.16$, $SE = 0.26$, $p = .551$). To be more specific, as demonstrated in Fig. 3, political ads with the presence of happiness led to a higher level of ad-evoked enthusiasm when the ad promoted a more favorable party; however, when the ad promoted a non-favorable party, happiness in the ad evoked a lower level of enthusiasm. Therefore, H4 was partially supported.

Conclusion and discussion

This study investigated the impact of emotionally loaded content in online political ads. Unlike most previous research, which has focused mainly on the use of negative emotions such as conflicts and fear appeals, we focused on the use of a positive emotion happiness. We relied on an elaborate data collection effort, combining an mESM, a panel survey, and an automated content analysis, which yielded interesting findings: happiness has a small positive immediate effect on party evaluations, and those effects are partly mediated by ad-evoked emotions enthusiasm and anger. The mediation through enthusiasm is moderated by party identification - with stronger effects of happiness on ad-evoked enthusiasm when participants identify more strongly with the sender of the ad.

The findings in our paper are largely in line with previous research, but this study is among the first ones to establish the effect of positive emotions in political advertisements in a real-life setting that is outside the bi-partisan US context. Furthermore, we relied on an analysis of the visual presence of emotions, which might be a particularly relevant feature of ads to consider. The overall conclusion is that the use of emotions could be effective also in a situation where a high number of parties compete for the grace of the voter.

Furthermore, the paper proposes and tests a moderated-mediation model, demonstrating how ad-evoked emotions, as well as individual-level attachments to political parties, play their role in the process by which advertisements might influence party evaluations. By combining both measures of emotions and direct evaluations of the sender of ads, we get a firmer grip on the processes by which voters are affected by the way information is presented to them in the final stages of an election campaign.

For political parties, the findings of this paper carry relevance when designing their campaigns. The use of negativity is dominant in election campaigns across the globe [4]. This paper suggests that the use of positive strategies might be worthwhile to consider - if evoking positive emotions indeed contributes to the success of political parties, it might be an effective manner to distinguish oneself from the majority of parties that rely on negativity and negative emotions in their campaigns. An important qualification is that this type of positive communication mainly works for people who already identify at least to some degree with the party. People with little attachment to the party are not likely to be persuaded by conveying a happy image.

Limitations and future research

The paper is not without shortcomings and it leaves several questions unanswered that deserve attention in future research. Here we mention four limitations together with important implications for future research.

First, while the use of the experience sampling method offers a reliable way to capture content voters encounter, we must be cautious with over-generalizing the findings. For example, one can imagine that respondents participating in this type of high-intensity data collection are likely to be more politically interested. Additionally, they might be biased in the ads they uploaded, for example preferring ads that come from parties they like or choosing ones that evoke the strongest emotions. While our data shows considerable variation in the ads people upload and 29 percent actually stems from a party they would never consider voting for, complementary data collection efforts and data donation strategies based on for example browsing histories could provide a more complete picture.

Second, we only captured the immediate responses to advertisements and did not consider any longer-term effects. In an information-rich context, as the final days of a national election campaign for sure is, voters get exposed to a wide range of different messages from different channels. The question of whether the effects of exposure to single ads last, in what ways they might accumulate and ultimately

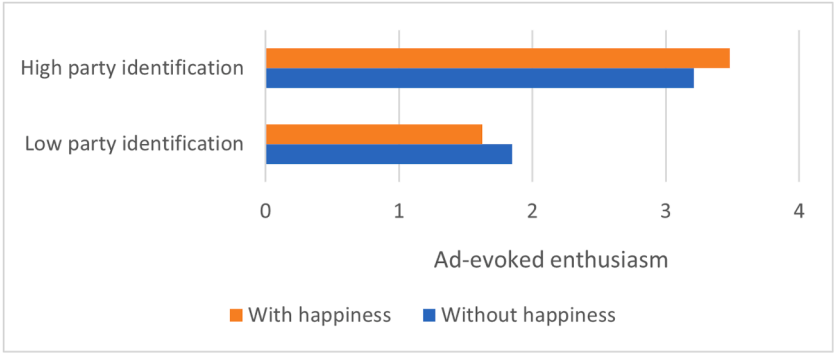

Fig. 3. The moderating effect of party identification on the relationship between happiness and ad-evoked enthusiasm.

make a difference in the ballot box needs to be further investigated.

Third, future research might consider multiple emotions simultaneously. We now only focused on happiness and it would be interesting to investigate whether other emotions have similar effects. In line with notions of negativity bias [56], it might well be that the impact of negative emotions (e.g. evoking anger about opponents) is stronger than that of happiness.

Fourth, another venue for further exploration is cross-party variation. In multi-party contexts such as The Netherlands, negativity has been considered particularly effective for outsider parties with little coalition potential and no substantial chance to participate in post-election government formation (A. S [57]). The question is whether the use of positive emotions is then most advisable for a party that does have a role in post-election bargaining and thus has to uphold a positive image as a party that does not (too fiercely) attack opponents by the use of negative emotions.

Despite those unresolved questions, our paper offers a useful starting point demonstrating the potential impact of positive emotions in campaign communication.

CRediT authorship contribution statement

Xiaotong Chu: Writing – original draft, Methodology, Formal analysis, Data curation, Conceptualization. **Annelien Van Remoortere:** Writing – original draft, Methodology, Conceptualization. **Susan Vermeer:** Writing – original draft, Methodology, Formal analysis. **Rens Vliegenthart:** Writing – original draft, Supervision, Methodology, Formal analysis, Data curation. **Sanne Kruikemeier:** Writing – original draft, Supervision, Project administration, Conceptualization.

Declaration of competing interest

The authors have no competing interests to declare.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.teler.2025.100196.

Data availability

Data will be made available on request.

References

[1] A. Hager, Do online ads influence vote choice? Political Comm. 36 (3) (2019) 376–393, https://doi.org/10.1080/10584609.2018.1548529.

[2] R. Eg, Ö. Demirkol Tønnesen, M.K. Tennfjord, A scoping review of personalized user experiences on social media: the interplay between algorithms and human factors, Comput. Human Behav. Reports 9 (2023) 100253, https://doi.org/10.1016/j.chbr.2022.100253.

[3] F.J. Zuiderveen Borgesius, J. Möller, S. Kruikemeier, R. Ó Fathaigh, K. Irion, T. Dobber, B. Bodo, C. De Vreese, Online political microtargeting: promises and threats for democracy, Utrecht Law Rev. 14 (1) (2018) 82–96, https://doi.org/10.18352/ulr.420.

[4] A. Nai, A.S. Walter, How negative campaigning impinges on the political game: a literature overview. New Perspectives on Negative Campaigning: Why Attack Politics Matters, ECPR Press, 2015, pp. 187–212.

[5] M. Zheng, When and why negative emotional appeals work in advertising: a review of research, Open J. Social Sci. 08 (03) (2020) 7–16, https://doi.org/10.4236/jss.2020.83002.

[6] D.J. Grüning, T.W. Schubert, Emotional campaigning in politics: being moved and anger in political ads motivate to support candidate and party, Front Psychol 12 (2022) 781851, https://doi.org/10.3389/fpsyg.2021.781851.

[7] A. López Ortega, Are microtargeted campaign messages more negative and diverse? An analysis of Facebook Ads in European election campaigns. European Political Science, 2021, https://doi.org/10.1057/s41304-021-00346-6.

[8] J. Ruohonen, A DIP into a deep well: online political advertisements, valence, and european electoral campaigning, in: Multidisciplinary International Symposium on Disinformation in Open Online Media, Springer, 2020, pp. 37–51. http://arxiv.org/abs/2001.10622.

[9] N.S. Dahmen, An eye-tracking research study of graphic photographs in the news media, Journalism Practice 9 (3) (2015) 418–432.

[10] S. Geise, A. Heck, D. Panke, The effects of digital media images on political participation online: results of an eye-tracking experiment integrating individual perceptions of "Photo news factors, Policy & Internet 13 (1) (2021) 54–85.

[11] T.E. Powell, H.G. Boomgaarden, K.D. Swert, de Vreese, A clearer picture: the contribution of visuals and text to framing effects, J. Commun. (2015) 21.

[12] J. Grimmer, B.M. Stewart, Text as data: the promise and pitfalls of automatic content analysis methods for political texts, Political Analysis 21 (3) (2013) 267–297, https://doi.org/10.1093/pan/mps028.

[13] T. Hopp, C.J. Vargo, Does negative campaign advertising stimulate uncivil communication on social media? Measuring audience response using big data, Comput Human Behav 68 (2017) 368–377, https://doi.org/10.1016/j.chb.2016.11.034.

[14] J. Kjeldsen, A. Hess, Experiencing multimodal rhetoric and argumentation in political advertisements: a study of how people respond to the rhetoric of multimodal communication, Visual Communication 20 (3) (2021) 327–352, https://doi.org/10.1177/14703572211013399.

[15] R.R. Lau, G.M. Pomper, Negative campaigning: An analysis of US Senate elections, Rowman & Littlefield, 2004.

[16] H.S. Solgaard, Modelling voter switching behavior in a multiparty system, Associat. Consum. Res. 2 (1995) 304–309.

[17] G.E. Marcus, W.R. Neuman, M. MacKuen, Affective Intelligence and Political Judgment, University of Chicago Press, 2000.

[18] A.A. Mitchell, J.C. Olson, Are product attribute beliefs the only mediator of advertising effects on brand attitude? J. Market. Res. 18 (3) (1981) 318–332.

[19] M.N. Shiota, B. Campos, C. Oveis, M.J. Hertenstein, E. Simon-Thomas, D. Keltner, Beyond happiness: building a science of discrete positive emotions, Am. Psychol. 72 (7) (2017) 617–643, https://doi.org/10.1037/a0040456.

[20] C. Bülbül, G. Menon, The power of emotional appeals in advertising: the influence of concrete versus abstract affect on time-dependent decisions, J. Advert. Res. 50 (2) (2010) 169–180, https://doi.org/10.2501/S0021849910091336.

[21] S. Oishi, J. Graham, S. Kesebir, I.C. Galinha, Concepts of happiness across time and cultures, Personal. Soc. Psychol. Bull. 39 (5) (2013) 559–577, https://doi.org/10.1177/0146167213480042.

[22] E. Angner, Is it possible to measure happiness?: the argument from measurability, Eur. J. Philosophy Sci. 3 (2) (2013) 221–240, https://doi.org/10.1007/s13194-013-0065-2.

[23] M. Vafeiadis, R. Li, F. Shen, Narratives in political advertising: an analysis of the political advertisements in the 2014 midterm elections, J. Broadcast. Electron. Media. 62 (2) (2018) 354–370, https://doi.org/10.1080/08838151.2018.1451858.

[24] S.Y.B. Lam, M.F.M. Cheung, W.H. Lo, What matters most in the responses to political campaign posts on social media: the candidate, message frame, or message format? Comput. Human. Behav. 121 (2021) 106800 https://doi.org/10.1016/j.chb.2021.106800.

[25] J. Maier, I. Glogger, L.P. Otto, J. Bast, Is there a visual bias in televised debates? Evidence from Germany, 2002–2017, Visual Commun. 22 (2) (2023) 221–242, https://doi.org/10.1177/1470357220974068.

[26] J.A. Edell, R. Staelin, The information processing of pictures in print advertisements, J. Consumer Res. 10 (1) (1983) 45, https://doi.org/10.1086/208944.

[27] L. Aarøe, M.B. Petersen, K. Arceneaux, The Behavioral Immune System Shapes Political Intuitions: why and How Individual Differences in Disgust Sensitivity Underlie Opposition to Immigration, Am. Polit. Sci. Rev. 111 (2) (2017) 277–294, https://doi.org/10.1017/S0003055416000770.

[28] G.E. Marcus, M. MacKuen, W.R. Neuman, Parsimony and complexity: developing and testing theories of affective intelligence, Polit. Psychol. 32 (2) (2011) 323–336, https://doi.org/10.1111/j.1467-9221.2010.00806.x.

[29] S. Scheller, The strategic use of fear appeals in political communication, Political Communication 36 (4) (2019) 586–608, https://doi.org/10.1080/10584609.2019.1631918.

[30] N.S. Yegiyan, A.P. Yonelinas, Encoding details: positive emotion leads to memory broadening, Cognit. Emotion 25 (7) (2011) 1255–1262, https://doi.org/10.1080/02699931.2010.540821.

[31] T. Brader, Striking a responsive chord: how political ads motivate and persuade voters by appealing to emotions, Am. J. Pol. Sci. 49 (2) (2005) 388–405, https://doi.org/10.1111/j.0092-5853.2005.00130.x.

[32] B. Seibt, T.W. Schubert, J.H. Zickfeld, A.P. Fiske, Touching the base: heartwarming ads from the 2016 US. election moved viewers to partisan tears, Cognit. Emot. 33 (2) (2019) 197–212, https://doi.org/10.1080/02699931.2018.1441128.

[33] S. Lecheler, C.H. de Vreese, What a difference a day makes? The effects of repetitive and competitive news framing over time, Comm. Res. 40 (2) (2013) 147–175, https://doi.org/10.1177/0093650212470688.

[34] H.M. Kepplinger, S. Geiss, S. Siebert, Framing Scandals: cognitive and Emotional Media Effects, J. Commun. 62 (4) (2012) 659–681, https://doi.org/10.1111/j.1460-2466.2012.01653.x.

[35] S. Lecheler, M. Keer, A.R.T. Schuck, R. Hänggli, The effects of repetitive news framing on political opinions over time, Commun. Monogr. 82 (3) (2015) 339–358, https://doi.org/10.1080/03637751.2014.994646.

[36] S. Kosmidis, Y. Theocharis, Can social media incivility induce enthusiasm? Public Opin. Q. 84 (S1) (2020) 284–308, https://doi.org/10.1093/poq/nfaa014.

[37] N.A. Valentino, V.L. Hutchings, A.J. Banks, A.K. Davis, Is a worried citizen a good citizen? emotions, political information seeking, and learning via the internet, Polit. Psychol. 29 (2) (2008) 247–273, https://doi.org/10.1111/j.1467-9221.2008.00625.x.

[38] J.J. Pierce, Emotions and the policy process: enthusiasm, anger and fear, Policy Politics 49 (4) (2021) 595–614, https://doi.org/10.1332/030557321X16304447582668.
[39] S. Vasilopoulou, M. Wagner, Fear, anger and enthusiasm about the European Union: effects of emotional reactions on public preferences towards European integration, Eur. Union Politics 18 (3) (2017) 382–405, https://doi.org/10.1177/1465116517698048.
[40] A.J. Lambert, F.R. Eadeh, E.J. Hanson, Anger and its consequences for judgment and behavior: recent developments in social and political psychology, in: Advances in Experimental Social Psychology, 59, Elsevier, 2019, pp. 103–173, https://doi.org/10.1016/bs.aesp.2018.12.001.
[41] N. Walter, R. Tukachinsky, A. Pelled, R. Nabi, Meta-analysis of anger and persuasion: an empirical integration of four models, J. Commun. 69 (1) (2019) 73–93, https://doi.org/10.1093/joc/jqy054.
[42] Y. Lu, J.K. Lee, Partisan information sources and affective polarization: panel analysis of the mediating role of anger and fear, J. Mass Commun Q 96 (3) (2019) 767–783, https://doi.org/10.1177/1077699018811295.
[43] S. Ansolabehere, S. Iyengar, Going Negative, 95, Free Press, 1995.
[44] R.J. Dalton, Party Identification and Its Implications, in: R.J. Dalton (Ed.), Oxford Research Encyclopedia of Politics, Oxford University Press, 2016, https://doi.org/10.1093/acrefore/9780190228637.013.72.
[45] C. Pornpitakpan, The persuasiveness of source credibility: a critical review of five decades' evidence, J. Appl. Soc. Psychol. 34 (2) (2004) 243–281.
[46] S. Molinillo, A. Japutra, Y. Ekinci, Building brand credibility: the role of involvement, identification, reputation and attachment, J. Retail. Consumer Serv. 64 (2022) 102819.
[47] G. Sorce, D. Dumitrica, From school strikes to webinars: mapping the forced digitalization of Fridays for Future's activism during the COVID-19 pandemic, Convergence: Int. J. Res. New Media Technol. 29 (3) (2023) 570–585, https://doi.org/10.1177/13548565221148112.
[48] L.P. Otto, F. Thomas, I. Glogger, C.H. De Vreese, Linking media content and survey data in a dynamic and digital media environment–mobile longitudinal linkage analysis, Digital Journalism 10 (1) (2022) 200–215.
[49] R. Schmøkel, M. Bossetta, FBAdLibrarian and Pykognition: open science tools for the collection and emotion detection of images in Facebook political ads with computer vision, J. Inf. Technol. Politics 19 (1) (2022) 118–128, https://doi.org/10.1080/19331681.2021.1928579.
[50] E.R. Thompson, Development and validation of an internationally reliable short-form of the positive and negative affect schedule (PANAS), J. Cross. Cult. Psychol. 38 (2) (2007) 227–242, https://doi.org/10.1177/0022022106297301.
[51] D. Watson, L. Anna, A. Tellegen, Development and validation of brief measures of positive and negative affect: the PANAS scales, J. Pers. Soc. Psychol. 54 (6) (1988) 1063–1070.
[52] L.P. Otto, F. Thomas, M. Maier, C. Ottenstein, Only one moment in time? Investigating the dynamic relationship of emotions and attention toward political information with mobile experience sampling, Communic Res 47 (8) (2020) 1131–1154, https://doi.org/10.1177/0093650219872392.
[53] I. Verhulsdonk, A. Nai, J.A. Karp, Are political attacks a laughing matter? Three experiments on political humor and the effectiveness of negative campaigning, Polit. Res. Q. (2021) 106591292110235, https://doi.org/10.1177/10659129211023590.
[54] C. Van der Eijk, B. Niemoller, Het Potentiele Electoraat van de Nederlandse Politieke Partijen, Beleid En Maatschappij 11 (1984) 192–204.
[55] Y. Rosseel, Lavaan: an R package for structural equation modeling, J. Stat. Softw. 48 (2) (2012), https://doi.org/10.18637/jss.v048.i02.
[56] S. Soroka, P. Fournier, L. Nir, Cross-national evidence of a negativity bias in psychophysiological reactions to news, Proc. Natl Acad. Sci. 116 (38) (2019) 18888–18892, https://doi.org/10.1073/pnas.1908369116.
[57] A.S. Walter, W. van der Brug, When the gloves come off: inter-party variation in negative campaigning in Dutch elections, 1981–2010, Acta Politica 48 (4) (2013) 367–388, https://doi.org/10.1057/ap.2013.5.