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### Citizens as political participants: The myth of the active online audience?

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## **Chapter 3**

Predicting participation: Personality,  
political attitudes and the use of  
participatory media

The ubiquitousness and popularity of participatory media like blogs, Twitter and social networks have led many to declare the age of ‘citizen participation’ (e.g., Benkler, 2006; Bruns, 2008; Shirky, 2008), with mainstream media losing their central role as a public platform for political information and discussion (Coleman & Blumler, 2009; Dahlberg, 2001; Jenkins & Thorburn, 2003). Although the previous chapter has demonstrated that there is only a small percentage of the audience that actually uses participatory media for political purposes, news media (Domingo et al., 2008, Thurman, 2008) and political actors (Francoli & Ward, 2008; Meraz, 2007) are increasingly using participatory media to consult and inform their target groups (voters, readers, eyewitnesses et cetera). These – seemingly contrasting – observations make it particularly relevant to study the small group of ‘political’ users in greater detail. In this study their personal characteristics are central and we ask how these are related to the use of participatory media.

This chapter explores a number of hypotheses based on theories and findings from political science and neighboring disciplines, aiming at shedding light on the individual characteristics that help explain the political uses of participatory media such as Twitter, social networks and weblogs. More specifically, we examine if the trait characteristics extraversion and openness to experience are – in tandem with more conventional predictors – significant predictors of participatory media use. We hereby draw on the nascent literature that has demonstrated that individual personality traits can play a significant role in guiding politically related attitudes and behavior (Mondak, Hibbing, Canache, Seligson, & Anderson, 2010; Orchard & Fullwood, 2010). We argue that the driving individual factors behind participatory behavior merits closer examination, given the notions that traditional forms of participation are in decline while online participatory platforms could serve as attractive alternatives (Gil de Zúñiga, Jung, & Valenzuela, 2012). Besides the role of personality, we take into account the role of political interest, talk and online news consumption by testing the ‘mediation hypothesis’ (Blais & St. Vincent, 2011; Gallego & Oberski, 2012), which proposes that the effects of personality on participatory behavior are mediated by conventional ‘political predictors’.

## THEORETICAL FRAMEWORK

### PARTICIPATORY MEDIA

It has been hoped that with the emergence of participatory media a more egalitarian and accessible information and discussion space has surfaced online, which more closely resembles the original discursive arenas that have been described in Habermas' work (1962) on the public sphere (e.g., Benkler, 2006). Here, citizens were able to engage in rational and open discussion without intervention from the state or other power holders. But while participatory media could indeed mobilize and enable citizens from more diverse backgrounds to participate (also referred to as the 'mobilization thesis'), others suggest that existing inequalities in participation rates persist and even become more pronounced (the 'reinforcement thesis'), possibly leading to 'cyberbalkanization', online 'echo chambers', and a decrease of social capital (e.g., Keen, 2012; Pariser, 2011; Sunstein, 2007; Van Alstyne & Brynjolfsson, 2005).

The lack of clarity can partly be attributed to the fact that there is, to begin with, little conceptual and methodological agreement over what 'using participatory media' entails. Most notably, often no distinction is made between 'passive' participatory media use, such as *readings* blogs, tweets or discussions, and *actively contributing* to such platforms (e.g., Hanson, Haridakis, Cunningham, Sharma, & Ponder, 2010; Kaufhold, Valenzuela, & Gil de Zúñiga, 2010). For example, Hanson et al. (2010) acknowledge in their conclusion that their study "did not differentiate between those who create media content in the social networking environments and those who merely read or watch the content posted by others" (p. 602). Although both activities can be considered forms of engagement, conceptually they are different: while the first 'only' requires passive behavior such as clicking, reading and watching, the latter involves more cognitive and creative effort and resources, actually creating or contributing content.<sup>1</sup> That the two activities are not the same also became apparent from the previous chapter, which revealed significant differences between the participation rates. In this study, we distinguish between more passive uses of participatory media (e.g., reading political tweets, following political blogs) and active uses (e.g., posting political tweets, publishing political blog posts).

## EXPLANATIONS OF PARTICIPATORY BEHAVIOR

In recent years, both scholars and political actors have focused on the increasing use and presence of participatory media in the political domain. At the same time, there is a growing interest among political communication scholars in what the relationships are between individual psychological characteristics and specific forms of political behavior.

**PERSONALITY TRAITS.** After a long wave of dominance of rational choice and cognitive processing in political communication, the study of personality came back into fashion in the nineties of the last century (Kinder, 1994). It was found that personality traits have a genetic basis and are thus heritable (Van Gestel & Van Broeckhoven, 2003), and that they can explain variance in attitudes, opinions, and behavior used across various disciplines. Following improvements with regard to adequately, but also parsimoniously measuring personality, evidence has accumulated demonstrating that an individual's personality – “a disposition to react in certain ways” (Blais & St-Vincent, 2011, p. 414) – affects various forms of politically related behavior (Blais & St-Vincent, 2011; Gerber, Huber, Doherty, Dowling, Raso et al., 2011; Mondak & Halperin, 2008). The ‘Big-Five’ (also: the ‘Five-Factor Model’) is one of the most established and comprehensive frameworks in scholarly research and provides a view on the composition of individuals’ personality (Goldberg, 1990; John & Srivastava, 1999; McCrae & John, 1992). The Big Five taps into the following basic individual traits: extraversion, agreeableness, conscientiousness, neuroticism and openness to experience.

Although the traits have been used to explain behavior and attitudes across disciplines (e.g., Ozer & Benet-Martinez, 2006; Paunonen & Ashton, 2001), it is important to note that whether or not a certain trait corresponds with certain behavior depends on the nature of the activity involved. Accordingly, Gerber, Huber, Doherty, Dowling, Raso et al. (2011) note: “Big Five traits shape the attractiveness of different forms of stimuli. Determining exactly what sort of stimuli political participation constitutes is therefore a necessary step in forming expectations about the relationship between personality and those activities” (p. 695). With regard to form of political behavior, the most solid theoretical foundations and consistent findings have been reported with regard to extraversion and openness to experience.

*Extraversion.* People with higher levels of extraversion have been characterized as being sociable, energetic, assertive, lively, talkative, outgoing and active (McCrae & John, 1992). Also, extraverts are said to have

a preference for companionship and social stimulation, leading to more social skills, friendships and memberships in clubs (McCrae & Costa, 2008). Plausibly, Mondak and Halperin (2008) hypothesized and demonstrated that extraversion is related to group-based or 'social' forms of political participation, such as attending rallies, speaking at political meetings and contacting politicians and media (see also Gerber, Huber, Doherty, Dowling, Raso et al., 2011; Mondak et al., 2010). For less social forms of participation such as voting, also a significant positive relationship was found (Matilla et al., 2011), but not always (Mondak & Halperin, 2008). In our context, extraversion has been linked with higher levels of social media use (Aharony, 2009; Correa, Hinsley, & Gil de Zúñiga, 2010; Glynn, Huges, & Hoffman, 2012; Ross et al., 2009; Yoo & Gretzel, 2011).

Given the proposition that extraversion is related with social media use as well as traditional forms of political participation, we expect that extraversion should be related with political activities on participatory media, such as posting political messages on Facebook walls or engaging in online discussions on forums and news sites. Although there is less theoretical basis to expect extraversion to be related to participatory media use in which no actual interpersonal interaction takes place (reading forums, blogs, wall posts et cetera), we still expect a relationship given the notion that these activities still take place in more or less 'social' environments: platforms such as forums, social networks and Twitter are inherently social in nature and solely exist as a result of the contributions and interactions of its users. Consequently, we formulate the following hypothesis:

H1: Extraversion and political uses of participatory media are positively related.

*Openness to experience.* Similar to extraversion<sup>2</sup>, openness to experience has been linked with various participatory and socially orientated behaviors. "Open individuals express their creativity, intellectual curiosity, and need for variety in characteristic ways across a variety of mediums. They are verbally fluent, humorous, and expressive in interpersonal interactions" (McCrae & Sutin, 2009, p. 259). Not only seem 'open' people more likely to visit restaurants, bars and coffee shops, to be more curious and to have a wide range of interests (Mehl, Gossling, & Pennebaker, 2006) and to engage in various cultural behaviors (Kraaykamp & Van Eijck, 2005). They also tend to have preferences with regard to political behavior and social media use. Also

positive relationships with social media use (Correa, Hinsley, & Gil de Zúñiga, 2010) and forms of political participation have been found (Mondak & Halperin, 2008; Vecchione & Caprara, 2009).

In light of these recent findings, we formulate the following hypothesis:

H2: Openness to experience and the political use of participatory media are positively related.

**AN INDIRECT RELATIONSHIP?** There are good reasons to assume that personality does not only exert direct effects on participatory behavior. Plausibly, because of their general nature, personality traits increase the chance that individuals acquire certain political habits and attitudes, which in turn impact political behavior (Blais & St.-Vincent, 2011). Examining this ‘mediation hypothesis’, Gallego and Oberski (2012) found that the relationship between extraversion and political protest activities was mediated both by political discussion and efficacy (for similar findings, see Vecchione & Caprara, 2009). Combining our expectations regarding extraversion and openness with the notion that there are both direct and indirect effects, we below discuss the three most central mediating factors of our study.

*Political interest.* It has been found that extraversion and openness to experience are linked with higher levels of political interest (Gerber, Huber, Doherty, & Dowling, 2011; Mondak & Halperin, 2008). These relationships were expected based on the notion that extravert and open people tend to have a curious and active nature, have a preference for social contacts and have a wide range of interests, characteristics that make them more likely to be drawn to politics. People with higher levels of political interest, on their turn, have consistently been found to show higher levels of civic and political engagement and participation (Bakker & De Vreese, 2011; McLeod, Scheufele, & Moy, 1999; Quintelier & Vissers, 2008; Vedlitz, 1980).

*Political talk.* Following the notions that open people are more verbally fluent, enjoy social environments and that extraverts are assertive, talkative and outgoing, it has been found both traits are positively related with political discussion (Mondak & Halperin, 2008). At the same time, political talk has been found to be a significant predictor of forms political participation (Hardy & Scheufele, 2005; Kim, Wyatt, & Katz, 1999; McLeod et al., 1999). Although political talk of course also can take place online, on participatory platforms, surveys usually tap into the frequency of political talk in offline settings.

*Online news consumption.* Kraaykamp and Van Eijck (2005) report positive relationships between openness and reading literature and watching cultural and informative television programs (no effects are found for extraversion), while Mondak and Halperin (2008) show that extraversion positively relates to newspaper consumption and watching television news, while Trilling and Schoenbach (forthcoming) show the same for online news consumption. A wide range of extant literature, in turn, demonstrates that news consumption is related to political participation. While it is known that reading newspapers and watching television news predicts participatory behavior (e.g., Eveland & Scheufele, 2000; Jeffres, Lee, Neuendorf, & Atkin, 2007; Moy, 1999; Scheufele, 2002), an extensive meta-analysis by Boulianne (2009) showed that online news consumption is a key predictor of offline forms political participation. Bakker and De Vreese (2011) demonstrated that following the news on online newspaper and news sites also predicts online forms of engagement, such as signing online petitions and visiting political websites.

Although not all results are inconclusive and the relationships between personality and political participatory media use is still rather unexplored, the literature provides sufficient cues to formulate the following hypotheses:

H3: The effects of openness to experience and extraversion on the political uses of participatory media are mediated by political talk, political interest, and online news consumption.

**THE MODERATING ROLE OF EXTERNAL EFFICACY.** We have argued that people with specific personality traits and political attitudes are more likely to make use of participatory media. But does this proposed mechanism apply to everybody? We suggest that there is a particular role for external efficacy. External efficacy refers to individuals' feeling or belief that the government is responsive to its citizens (Balch, 1974). Consequently, higher levels of external efficacy have commonly been linked with higher levels of conventional forms of participation (Abramson & Aldrich, 1982; McLeod et al., 1999; Schaffer, 1981). However, at the same time it has been found that citizens with less confidence in the responsiveness of their government are more likely to engage in *alternative* forms of political participation (Vedlitz & Veblen, 1980). Also recently, Schuck and De Vreese (2011) demonstrated that people who are low in external efficacy are more likely to turn out at referendums. Although less conclusively, such findings have also been

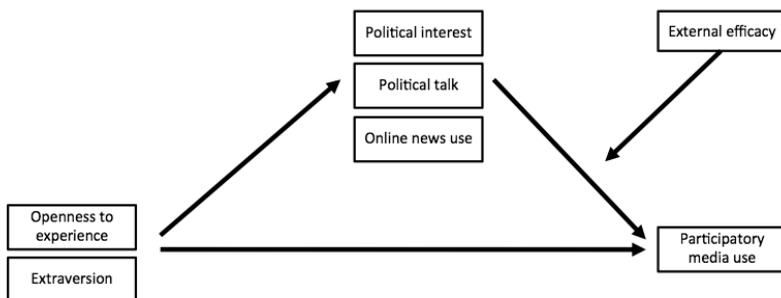
reported by others (Donovan & Karp, 2006; McLeod et al., 1999; Pomper & Sernekos, 1991). Extending this line of argumentation, it could be that lower levels of confidence of the performance and responsiveness of mainstream media and politics also drive the use of participatory media. As Bowman and Willis (2003) note: “The conglomeration and corporatization of media and the sophisticated means by which sources (such as *politicians* and business executives) ‘spin’ media leaves the mass audience often grasping to make sense of the news and wondering what information to trust.” (p. 40). And, as Bennett (2008) contends, (younger) citizens can both be interested in politics, but at the same time be critical of the responsiveness of politicians and their performance within mainstream media or conventional political platforms.

Given the theoretical assumption – supported by a few empirical studies – that lower external efficacy could result in an increase in participation, we tentatively hypothesize:

H4: Under the condition of lower external efficacy, the relationships between online news consumption, interest, and talk on the one hand and contributing political content to participatory media on the other, becomes stronger.

The hypothesized relationships are represented in Figure 1.

**Figure 1 Proposed model to explain the political use of participatory media use**



*Note.* The moderating effect of external efficacy on the relationship between the mediators and the dependent variable is only hypothesized in case participatory media use is operationalized as actively contributing content to participatory media.

## METHOD

A CAWI survey was conducted among a sample (N=2,130), representative of the Dutch population in terms of sociodemographics<sup>3</sup>. The fieldwork was conducted in December 2009 and carried out by research company TNS NIPO. The company maintains a respondent database with more than 230,000 respondents that is representative of the Dutch population. Prior to the final fieldwork, a pre-test (n=74) was conducted. The average completion time of the survey was 20 minutes and the response rate 73% (AAPOR RR1). The final dataset consisted of 2,081 cases because 49 cases were removed due to invalid responses.

### DEPENDENT VARIABLES

Respondents were asked about the political uses of the following participatory platforms and media: blogs, Twitter, social networks, discussion forums, comments and uploading user-generated content. A distinction was made between 'consuming' and 'contributing', e.g., reading political tweets on Twitter versus writing and publishing political Tweets; following discussions on social networks about political issues versus interacting with political content (liking, installing apps, posting comments) et cetera<sup>4</sup>. In case respondents indicated to consume (read, follow, visit), at least once per month, one or more of the above-mentioned participatory media, they were classified as 'consumers' (18.1%, n=376), if they also contributed political content at least monthly they were 'contributors' (5.8%, n=121), while individuals who did not consume nor contribute content were categorized as 'inactives' (76.1%, n=1583).

Eventually, two dichotomous variables were used in the final analyses. The first variable distinguished between those who consume participatory media (i.e., consumers and contributors) and those who do not (inactives). The second variable was created to separate between those who contribute content (contributors) and those who do not (inactives and consumers).<sup>5</sup>

It is important to note something about the hypothesized direction of the causal relationships in this study between personality, the mediators and participatory media use. It is widely acknowledged that personality traits have a genetic basis and that they are therefore largely heritable (Bouchard Jr. & Loehlin, 2001). Given the dispositional nature of personality, it is commonly

assumed that an individual's personality remains largely unaltered and that as a result, one's personality affects attitudes and behavior. Therefore, we in this study hypothesize that the causal relationship in this study runs from personality – through attitudes – to behavior instead of the other way around. However, it is important to note recent work has discussed not only the possibility that both personality and attitudes are influenced by an underlying common genetic structure, but also that reciprocal relationships between traits, attitudes and behavior exist (Verhulst, Eaves, & Hatemi, 2012).

## **INDEPENDENT VARIABLES**

Extraversion was measured with four items from 1-7 and formed a reliable scale ( $M = 4.27$ ,  $SD = 1.06$ ,  $\alpha = .70$ ). Openness to experience was measured using 1 item on a 7-point scale that tapped into curiosity ( $M = 4.87$ ,  $SD = 1.46$ ). Although curiosity is usually viewed as one of the components on which openness to experience is based, it has been noted curiosity is a “fundamental motivational component of all openness facets” (Kashdan, 2004, p. 126).

While early measures of the Big Five included 240 items (McCrae & Costa, 1992), increasingly scholars have started to use shorter inventories (Credé, Harms, Niehorster, & Gaye-Valentine 2012), as low as 5 items to measure the Big Five. Although shorter inventories may pose a threat to the construct validity and reliability, shorter fill-in times could increase the quality of answers compared to longer surveys (Credé et al., 2012). Given the relatively extensive survey that respondents were presented with (20 minutes average completion time), a preference was given to parsimonious measurements.

## **MEDIATING AND MODERATING VARIABLES**

Political talk, political interest and online news consumption are modeled as mediating variables in this study. Political talk was probed with one item on an 8-point scale (0-7, in days per week,  $M = 1.28$ ,  $SD = 1.58$ ).<sup>6</sup> Political interest was measured with one item on a 1-7 scale ( $M = 3.63$ ,  $SD = 1.76$ ) and online news consumption in days per week, with one item on a 0-7 scale ( $M = 2.66$ ,  $SD = 2.78$ ). External efficacy was gauged with three 7-point items ( $M = 3.14$ ,  $SD = 1.47$ ,  $\alpha = .78$ ).

## **CONTROL VARIABLES**

We control for the impact of sociodemographic variables gender (1=male), age (in years) and education (low-high). First, it allows us to establish whether or not age, gender and education are defining factors in predicting participation, even when various other factors are controlled for. This would shed more light on the notion that the online political landscape is still, as is the case with offline and traditional forms of political participation (Verba & Nie, 1972), dominated by highly educated older males (Hindman, 2009).

The complete question wording can be found in Appendix A. A correlation analysis was run with all variables to examine the strength of mutual relationships (Appendix B).

## **ANALYSIS**

To test the hypothesized model the SPSS PROCESS macro was used (Hayes, 2012), which allows us to combine path analysis-based moderation and mediation analyses in a conditional process model. Two separate models were tested, using consuming participatory media and contributing to participatory media as dependent variables respectively. In order to measure all relevant coefficients with two independent variables in the model, PROCESS requires running the model twice (each time modeling one independent variable as the independent variable and the other as one of the covariate). In order to assess whether the indirect effects are significant, we generate 95% bias corrected confidence intervals using bootstrapping. Bootstrapping is a non-parametric approach for testing the significance of indirect effects (as is the case with mediation) by generating multiple samples (with replacement) from the original sample, resulting in bias corrected confidence intervals and eventually a final confidence interval. If this interval does not include zero (both the lower and ultimate limit are either above or below zero), the indirect effect is considered significant. Further, bootstrapping is preferred because it also allows analyzing the significance of moderated mediation (see H4) by producing confidence intervals for indirect effects at specific values of one or more moderators (Preacher, Rucker, & Hayes, 2007). In this study we will present confidence intervals for the moderator (external efficacy) at the mean and at one standard deviation below and above the mean.

## RESULTS

People who are extravert and open to experiences are more likely to use participatory media for political purposes (see Table 1 to Table 4). Furthermore, the effects of these personality traits are not only direct. It appears that extraversion and openness also increase the chance that people are interested in politics, talk about politics and consume online news, factors that in turn also have a positive effect on participatory media use. The first two hypotheses that specific personality traits would increase the chance that individuals would use participatory media for political purposes are thus confirmed.

When looking at Table 2 for example, we see that the direct effects are .15 and .17 for openness and extraversion respectively, while all the coefficients for the indirect effects are also positive. The indirect effects are significant, because the bootstrapped confidence intervals do not include zero. There is no direct effect of openness on contributing participatory media, as the coefficient (.14) is not significant. Translating the coefficients for the direct effects (.15 and .17) in Table 2 to odd ratios (by taking the natural exponent of the coefficients), reveals that a one-unit increase on the 1-7 scale of openness, increases the chance to consume participatory media, with 16% ( $=e^{.15}$ ), while a one-unit increase in extraversion increases the chance to be categorized as a consumer with 19% ( $=e^{.17}$ ). With regard to the direct effect of extraversion on contributing, transforming the coefficient (.35) to odd ratios reveals that only a one-unit (again on a 1-7 scale) increase in extraversion – for example by scoring a 4.0 instead of 3.0 – increases the chance of contributing political content to participatory media with 42%.

The third hypothesis stated that the effects of personality would be mediated by political interest, political talk and online news consumption. This indeed seems the case. First of all, the relationships between the two trait variables and the mediators are positive and significant, as the coefficients in the first three columns of Table 1 and Table 3 show, and the effects (with one exception) of political talk, political interest and online news consumption on the outcome variables are also significant. To see whether there are indeed significant indirect effects, the coefficients in Table 2 and Table 4 have to be examined. Here we see that the indirect effects of the mediators are indeed positive and significant. Thus, the effects are mediated. For the effect of openness on contributing to participatory media, it can be seen that the

indirect effects are significant but the direct effect (.14) is not (Table 3). Our expectations regarding the mediated effects (H3) are thus confirmed.

In order to better understand the magnitude of the indirect effects, it is possible to also translate them into odd ratios and calculate chance that these will change. For example, with regard to effect of openness, through political talk, on consuming participatory media (Table 2), we find that a one-unit increase in openness the odds to fall in the category of 'consumers of participatory media' increase with 2% ( $=e^{.09 \cdot 24}$ ). As for the indirect effect of extraversion, through political interest, on contributing to participatory media (Table 4), it is found that (excluding the interaction from the interpretation) the odds to be categorized as a 'contributor to participatory media' increases with 8% in case of a one-unit increase in extraversion.

Also relevant to note are the positive effects of political talk, interest and online news consumption on using participatory media. This confirms our expectation that predictors of conventional forms of participation are also predictive of more contemporary forms of participation.

We further find that males and those with a high education are more likely to talk about politics, to be interest and to use online news (see the coefficients in the first three lines of Table 1 and Table 3). The direct links between age, gender and education and participatory media use however do not show this pattern. However, these effects are hard to interpret, as the indirect effects through the mediators are not visible in these coefficients.

**Table 1 Effects of personality on talk, interest, online news consumption and consuming participatory media**

	Political talk	Political interest	Online news consumption	Consuming part. media
Gender	.39 (.07) ***	.48 (.07) ***	.65 (.12) ***	-.30 (.12) *
Age	.02 (.00) ***	.04 (.00) ***	-.01 (.00) ***	-.01 (.00) *
Education	.59 (.07) ***	.76 (.07) ***	.97 (.12) ***	-.01 (.13)
Openness to experience	.09 (.09) ***	.17 (.03) ***	.26 (.05) ***	.15 (.05) **
Extraversion	.26 (.03) ***	.20 (.04) ***	.16 (.06) *	.17 (.07) *
Political talk				.24 (.04) ***
Political interest				.26 (.04) ***
Online news consumption				.31 (.02) ***
Constant	-1.46 (.18) ***	-.15 (.19)	.54 (.33)	-4.48 (.39) ***
R <sup>2</sup>	.14	.25	.09	
R <sup>2</sup> (Nagelkerke)				.33

Note. N=2,065. From the 2,081 original cases 16 were deleted because of missing education data.

\*  $p \leq .05$ . \*\*  $p \leq .01$ . \*\*\*  $p \leq .001$ .

**Table 2 Direct and indirect effects of personality on consuming participatory media**

	Effect	Boot strapped SE	Boot strapped LLCI	Boot strapped ULCI
<i>Openness</i>				
Direct effect	0.15 (.05) **			
Indirect effects				
Total	0.14	0.02	0.10	0.19
Talk	0.02	0.01	0.01	0.04
Interest	0.04	0.01	0.03	0.07
Online news consumption	0.08	0.02	0.05	0.11
<i>Extraversion</i>				
Direct effect	0.17 (.07) *			
Indirect effects				
Total	0.16	0.03	0.11	0.22
Talk	0.06	0.01	0.04	0.09
Interest	0.05	0.01	0.03	0.08
Online news consumption	0.05	0.02	0.01	0.09

*Note.* Number of bootstrap samples = 5000. Level of confidence for all confidence intervals = .95. *LLCI* = lower limit confidence interval, *ULCI* = upper limit confidence interval.

\*  $p \leq .05$ . \*\*  $p \leq .01$ . \*\*\*  $p \leq .001$ .

**Table 3 Effects of personality on talk, interest, online news consumption and contributing to participatory media**

	Political talk	Political interest	Online news consumption	Contributing	Contributing (incl. mod.)
Gender	.39 (.07) ***	.48 (.07) ***	.65 (.12) ***	.22 (.21)	.22 (.21)
Age	.02 (.00) ***	.04 (.00) ***	-.01 (.00) **	-.04 (.01) ***	-.04 (.01) ***
Education	.59 (.07) ***	.76 (.07) ***	.97 (.12) ***	-.29 (.22)	-.26 (.22)
Openness to experience	.09 (.03) ***	.17 (.03) ***	.26 (.05) ***	.14 (.10)	.14 (.10)
Extraversion	.26 (.03) ***	.20 (.04) ***	.16 (.06) *	.35 (.12) **	.34 (.12) **
Political talk				.14 (.06) *	.05(.15)
Political interest				.37 (.08) ***	.81 (.18) ***
Online news consumption				.22 (.04) ***	.23 (.09) *
External efficacy					.51 (.22) *
Ext. eff. * talk					.04 (.04)
Ext. eff. * interest					-.14 (.05) **
Ext. eff. * news consumption					-.00 (.03)
Constant	-1.4639	-.1507	.5446	-6.1399	-7.8883
R <sup>2</sup>	.14	.25	.09		
R <sup>2</sup> (Nagelkerke)				.23	.24

Note. N=2,065. From the 2,081 original cases 16 were deleted because of missing education data.

\*  $p \leq .05$ . \*\*  $p \leq .01$ . \*\*\*  $p \leq .001$ .

**Table 4 Direct and indirect effects of personality on contributing to participatory media**

	Effect	Boot strapped SE	Boot strapped LLCI	Boot strapped ULCI
<i>Openness</i>				
Direct effect	.14 (.10)			
Indirect effects				
Total	0.13	0.02	0.09	0.19
Talk	0.01	0.01	0.00	0.03
Interest	0.06	0.02	0.03	0.11
Online news consumption	0.06	0.01	0.03	0.09
<i>Extraversion</i>				
Direct effect	.35 (.12) **			
Indirect effects				
Total	0.15	0.03	0.08	0.20
Talk	0.04	0.02	0.00	0.07
Interest	0.07	0.02	0.04	0.12
Online news consumption	0.03	0.02	0.01	0.07

Note. Number of bootstrap samples = 5000. Level of confidence for all confidence intervals = .95. *LLCI* = lower limit confidence interval, *ULCI* = upper limit confidence interval.

\*  $p \leq .05$ . \*\*  $p \leq .01$ . \*\*\*  $p \leq .001$ .

The last hypothesis (H4) proposed a moderated mediation: The effects of personality through the mediators on using participatory media would be stronger for those lower on external efficacy. As the last column of Table 3 shows, the interaction between political interest and efficacy is significant (-.14). Looking in closer detail, the bootstrapped confidence intervals of the

conditional indirect effects (Table 5) reveal that the effects of extraversion and openness are indeed significant for respondents with a low (-1 SD) or average (M) level of external efficacy, while the effect for those high on efficacy (+1 SD) are not significant.

In other words, the findings reveal that for those who do not have much confidence in the responsiveness of the political system (low external efficacy), there are indeed effects of extraversion and openness on political interest, which in turn impacts the chance to contribute political content to participatory media. While these effects are still there (though weaker) for people who possess an average sense of political efficacy, the mechanism does not apply for individuals who are highly confident about the responsiveness of the political system (high external efficacy). As we have found significant effects for the interaction of external efficacy with interest, but not for efficacy with political talk and online news consumption, hypothesis 4 is partly supported.

**Table 5 Conditional indirect effects of personality traits on contributing to participatory media at different values of external efficacy**

	External efficacy	Effect	Boot strapped SE	Boot strapped LLCI	Boot strapped ULCI
<i>Openness</i>					
Political interest	1.69	0.10	0.03	0.05	0.16
Political interest	3.16	0.07	0.02	0.03	0.11
Political interest	4.64	0.03	0.02	-0.00	0.07
Political talk	1.69	0.01	0.01	-0.01	0.03
Political talk	3.16	0.01	0.01	0.00	0.03
Political talk	4.64	0.02	0.01	0.00	0.05
Online news consumption	1.69	0.06	0.02	0.03	0.10
Online news consumption	3.16	0.06	0.01	0.03	0.09
Online news consumption	4.64	0.06	0.02	0.03	0.10
<i>Extraversion</i>					
Political interest	1.69	0.12	0.03	0.07	0.19
Political interest	3.16	0.08	0.02	0.04	0.13
Political interest	4.64	0.04	0.02	-0.00	0.09
Political talk	1.69	0.03	0.02	-0.02	0.07
Political talk	3.16	0.04	0.02	0.00	0.07
Political talk	4.64	0.05	0.03	0.00	0.10
Online news consumption	1.69	0.04	0.02	0.01	0.08
Online news consumption	3.16	0.04	0.02	0.01	0.07
Online news consumption	4.64	0.04	0.02	0.01	0.08

*Note.* Values for the moderator External efficacy in the first column are the mean and plus/minus one SD from mean. Number of bootstrap samples: 1000. Level of confidence for all confidence intervals: .95. *LLCI* = lower limit confidence interval, *ULCI* = upper limit confidence interval.

## CONCLUSION

This study sought to shed light on the factors that help explain the use of participatory media by citizens to inform and express themselves about politics. Although many have hailed the political potential of participatory media, recent studies showed that there is only a small share of people who actually use participatory media for political purposes. Therefore, the question as to what the characteristics of this group are, becomes even more relevant. Employing a unique combination of theoretical starting points, we posited that there are various factors that could help to explain the participation of citizens in online participatory platforms.

We find evidence that typical psychological variables as well as established 'political' predictors help to explain the use of tools like Facebook, Twitter, forums and the like. Extravert and 'open' people are more likely to use these media. Moreover, their personality increases the chance that they talk to others about politics (given their preference for new and social situations) and also makes it more likely that they are interested in politics and consumes online news (because they tend to be outgoing, curious and have many interests), which in turn influences participatory media use. Further, the negative effect of political efficacy for some relationships, suggest that those who have a low to average confidence in the responsiveness of the political system are more likely to turn to alternative ways of engagement, such as contributing political content to participatory media.

The explanatory power of personality variables advances our understanding of what political users of participatory media 'are like'. Hitherto, there has been no or little research that has combined the insights from psychological studies and traditional political participation studies to explain the use of participatory media. While our study has only examined two psychological factors that could play a role, we contend that there are most likely more extant psychological mechanisms that may serve as handles for sketching a more complete profile of participatory people on the Web. This feeling is corroborated by the fact that our analysis included three typical strong predictors of political participatory behavior: talk, interest and news use (Boulianne, 2009). However, three of the four direct relationships between personality and using participatory media remained significant.

Of course, there are various practical considerations when deciding to contribute to participatory media, like ‘simple’ costs and benefits analyses (Li, 2010). However, recent studies lend support to the notion that psychological characteristics may be important in various aspects, and thus should be explored in future studies. For example, it could be that people who are more ‘risk averse’ could be less likely to participate because “any error will be just one Google search away for anyone to see” (Samuel, 2010, para. 1). Also, the various links between emotion and political behavior (Marcus et al., 2000) may be extended to the realm of participatory media. And, different mechanisms may of course apply depending on the action that is performed: Hitting a ‘like’-button on Facebook while only your personal friends can see it is a significantly different activity than openly and extensively expressing oneself on a public blog on sensitive political topics. This is also one of the limitations of this study: We do not have information about what citizens precisely *do* on participatory media. Also, given the very low number of active political users of participatory media, we were only able to construct dichotomous variables that distinguished between using and not using. Data about the intensity of participatory media use would for example have helped to provide insight into factors that explain excessive participatory media use.

This study of course was only one step in shedding more light on the factors that determine the political use of participatory media. There certainly are more factors (Gallego & Oberski, 2012; Vecchione & Caprara, 2009) and the link between personality and political attitudes may be even more complex (Verhulst et al., 2012). However, also recently it has been demonstrated that in order to explain politically oriented behavior, it is relevant to establish expectations that are theoretically founded in neighboring disciplines such as psychology (Mondak et al., 2010; Orchard & Fullwood, 2010). The role of personality may even be erroneously overlooked when not also indirect effects through political attitudes are considered (Gallego & Oberski, 2012; Vecchione & Caprara, 2009). Relatedly, as the relationship between personality and behavior is context-dependent, future research should focus on further disentangling the complex interactions between specific personality traits, social settings and media use – which together can impact how people think, feel or behave.

Our study also has practical implications. In general, our findings could suggest that the online political sphere perhaps somewhat mirrors the participation patterns that are promoted by supporters of representative

democracy, who suggest that democracy functions best when only a small share of the population is actively involved in the political decision making process (Ferree, Gamson, Gerhards, & Rucht, 2002). Simply put, they argue that not all citizens have the desire or the potential to participate, and massive participation at every stage of the political process would be far from efficient. From their perspective, the low participation rates and the overrepresentation of extravert and 'open' individual on the Internet would thus not be considered very problematic. However, with the emergence of Internet many have seen possibilities to create a more participatory democracy model, which advocates the maximization of political involvement of citizens from all backgrounds. The Internet would, for example, also give introvert people the chance to get themselves heard. Given the fact that individuals with specific trait characteristics – which are unlikely to change given their genetic basis – are overrepresented, media educators and policy makers should take the role of personality traits into account when trying to mobilize 'the audience' into political involvement.

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## APPENDIX A

### Question wording and scales survey items

*Extraversion* (1-7, completely disagree – completely agree)

I am someone who actively seeks as much information as I can in a new situation

I really enjoy talking to people

I like to be where the action is

I you usually take the initiative in making new friends

*Openness to experience* (1-7, completely disagree – completely agree)

I am a curious person

*Online news consumption* (0-7 days)

How many days in a regular week (Monday until Sunday) do you read or watch news on the Internet?

*Political talk* (0-7 days)

How many days in a regular week (Monday until Sunday) do you talk about politics with others?

*Political interest* (1-7, not interested at all – very interested)

Generally speaking, how interested are you in politics?

*External efficacy* (1-7, completely disagree – completely agree)

People like me don't have any say about what government does [reverse coded]

I don't think public officials care much what people like me think [reverse coded]

Parties are only interested in people's votes but not in their opinions [reverse coded]

### *Dependent variables*

The measurement of ‘consuming’ and ‘contributing’ – our main dependent variables – was constructed based on the answers on a variety of questions about activities on participatory media, described below. For each activity a short explanation was given as to what we meant. When the question pertained to ‘politics’, an info-box was shown where we explained what was meant with ‘politics’ (see endnote 4). The answer categories were: never; maximum once per year; a few times per day; about once per month; a few times per month; once per week; a few times per week; nearly every day.

### *Comments*

How often do you read comments on the Internet?

How often do you read comments on the Internet that are related to political issues?

How often do you write comments on the Internet?

How often do you write comments on the Internet that are related to political issues?

### *Forums*

How often do you read or follow discussions on discussion forums on the Internet?

How often do you read or follow discussions on discussion forums on the Internet that are related to political issues?

How often do you participate in discussions on discussion forums on the Internet?

How often do you participate in discussions on discussion forums on the Internet that are related to political issues?

*Social networks* [activities: joining fan pages, commenting on walls; use gadgets/widgets, engage in discussions]

How often do you follow activities on social networks?

How often do you follow activities that are related to politics on social networks?

How often do you participate in activities on social networks?

How often do you participate in activities that are related to politics on social networks?

### *Blogs*

How often do you read personal blogs?

How often do you read personal blogs that are regularly writing about political issues?

If you have a blog yourself: How often you do write on your own blog?

How often do you write about political issues?

If you blog on a blog from someone else: How often do you write on that blog (those blogs)?

How often do you write on that blog (those blogs) about political issues?

### *Uploading*

How often do you publish self-made photos or videos on the Web?

How often do you publish self-made photos or videos on the Web about political issues?

How often do you publish photos or videos on the Web that you have found elsewhere on the web?

How often do you publish photos or videos on the Web that you have found elsewhere on the web about political issues?

## APPENDIX B

### *Correlation matrix relevant variables*

	Con suming	Con tributing	1	2	3	4	5	6	7	8
1. Openness	.21**	.13**	1.00							
2. Extraversion	.20**	.14**	.45**	1.00						
3. Gender	.02	.05*	-.02	-.05*	1.00					
4. Age	-.03	-.10**	-.11**	-.09**	.07**	1.00				
5. Education	.15**	.07**	.23**	.12**	.05*	-.04*	1.00			
6. Online news	.40**	.19**	.21**	.14**	.11**	-.07**	.21**	1.00		
7. Political interest	.27**	.16**	.21**	.18**	.18**	.35**	.24**	.17**	1.00	
8. Political talk	.30**	.17**	.16**	.20**	.14**	.18**	.21**	.19**	.54**	1.00
9. External efficacy	.02	.02	.03	.00	-.03	-.13**	.14**	.03	.08**	.05**

\*  $p \leq .05$ , two-tailed. \*\*  $p \leq .01$ , two-tailed.

## NOTES

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<sup>1</sup> At the same time, it is relevant to not equate conventional news consumption (e.g., reading newspapers, visiting online news sites) with passive uses of participatory media. While the first relates to updating oneself with general news and current affairs, the latter is typically associated with actively seeking out and keeping track of participatory platforms where interactions between users are central instead of the publication of news

<sup>2</sup> The descriptions of openness to experience and extraversion to some extent seem to overlap, as both traits manifest themselves in forms of exploratory behavior (Peterson, Smith, & Carson, 2002). However, they are treated as personality research, and they are associated with different character descriptions. While openness has been linked with intellect, enjoying new experiences and having wide range of interest, extraversion is linked with positive emotionality and being talkative. Although in our study the correlation between the traits (.45) is substantive, it is not sufficient indication that the same concept is being measured.

<sup>3</sup> Weights were applied to ensure national representativeness regarding gender, age, education, social class, household size and geographical region.

<sup>4</sup> The following definition of 'political (issues)' was used and shown with every relevant question: "*Political issues* refers to topics where politicians or political parties are involved, or where political policy and legislation are mentioned. These issues may involve local, domestic or international politics and can relate to a wide variety of fields, such as health care, defense, immigration, elections, security, education, culture, traffic, real estate and housing, tax issues et cetera".

<sup>5</sup> The two variables could also have been constructed differently. Now, in the 'consumption' variable, both consumers and contributors were included – contributors could have been excluded from the analysis. And, in the 'contribution' variable, both inactives and consumers were categorized as non-contributors – here consumers could have been excluded from the analysis. In order to check whether our construction of the variables obfuscated the results, additional analyses were run in which we used two modified variables. In the analysis for 'consuming' we excluded the contributors, and for the 'contribution analysis' we removed the consumers. There were no apparent differences compared to the original analyses. Only – for the consuming analysis – the link between extraversion and news consumption became insignificant. For the contributing analysis, the direct effect of extraversion on consuming participatory media disappeared but the indirect effect remained significant.

<sup>6</sup> It could be argued that there is conceptual overlap between political talk and participatory media use, given the fact that the latter includes forms of online discussion.

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However, the phrasing of the political talk question indicates that 'real life' (i.e., offline) political conversations with friends, family or colleagues is asked about.