

A Digital Divide in Political Participation

Exploring Antecedents and Effects of Online Political Participation

Abstract

Early on, optimistic observers speculated that the Internet might bolster political participation, as it provides access to a wealth of information and facilitates political conversation and association. Yet, digital divide research was able to show that not all citizens benefit equally from the opportunities provided by new media. A divide in Internet use and engagement might therefore propound pre-existing inequalities in political participation. Based on a survey conducted among Internet users in Germany, we analyze the effect of Internet use on online and offline political participation. We test for socio-demographic antecedents of participation. Finally, based on social cognitive theory, we analyze the scope and form of the digital divide in political participation. We find that Internet use simultaneously amplifies and mitigates pre-existing participation divides, depending on the socio-demographic group under consideration.

Key Words: Internet, Political Participation, Digital Divide, Survey

1 Introduction

The effect of online media on political participation has received ample attention in current research (Boulianne, 2009; Anduiza et al., 2009). As soon as significant numbers of citizens started using the Internet, observers began to wonder if and how the new medium would affect citizens' options of engaging in the political process. Optimistic observers associate a number of positive effects with online media: new media provide easy access to an unprecedented wealth of information, they facilitate the association with like-minded citizens, support the organization and coordination of interest groups (Wilson & Peterson, 2002; Woodly, 2007; Steinfield et al., 2008; Zúñiga et al., 2010). Social media, particularly, reduce barriers to public self-expression and provide access to the public agenda for non-elite citizens (Pasek et al., 2009; Foot & Schneider, 2002; Towner & Dulio, 2011; Wattal et al., 2010).

Of course, digital divide research was quick to point out that not all citizens equally benefit from the opportunities created by new media (Van Deursen & van Dijk, 2010; Correia & Teixeira, 2002; Hargittai, 2010). Socio-demographics have been shown to affect Internet use, with low SES, female and older citizens being less engaged online (DiMaggio, Hargittai, Celeste, & Shafer, 2003; Van Dijk, 2006; Hargittai, 2002). More recently, attention has been directed at creative and participatory internet uses, in particular, i.e., the "participation divide". Again, empirical studies have found that low SES, older and female citizens tend to use the Internet in less expressive or participatory ways (Hargittai & Walejko, 2008; Schradie, 2011; Correa, 2010).

Some authors have suggested that the Internet, today, can be considered a conventional mass medium, replicating rather than challenging established asymmetries in political engagement and decision making (Bimber, 2001; Davis, 1999; Margolis & Resnick, 2000). Even worse, since low SES citizens tend to be less engaged politically, the Internet could even serve to bolster pre-

existing inequalities. Our study sets out to analyze the extent and form of a digital divide in political participation. We will explore the effect of Internet use on both online and offline political participation and test for the influence of age, gender and education on both Internet use and participation. In order to better explain identified “divides” in political participation, we will consider the mediating effects of online self-efficacy and privacy concerns, based on social cognitive theory.

Our analysis will be based on a large-scale survey conducted among German Internet users. We propose and – using structural equation modeling – test three theoretical models of political participation, each extending the analysis by considering additional antecedents. Through this sequential approach, we will address the following three research questions:

RQ1: *Does Internet use contribute to political participation?*

RQ2: *What are socio-demographic antecedents of on- and offline political participation?*

RQ3: *Is there a “digital divide” in political participation?*

2 Theoretical Background

2.1 The Effect of Internet Use on Participation

Scholars have debated whether the Internet mitigates or reinforces citizen’s political and civic participation (De Zúñiga et al., 2012; De Zúñiga et al., 2009; Wellman et al., 2001). In this debate, three perspectives can be distinguished: A *utopian* perspective claims that the web will increase citizens’ propensity to engage both civically and politically (see Wellman et al., 2001 for a short discussion). It argues that the Internet enables political engagement: Internet use reduces the time and effort needed to access political information, and makes political engagement more

convenient (e. g. online petitions) (Bimber, 2001; Boulianne, 2009). This new opportunity may foster the political engagement of already interested citizens, on the one hand, and mobilize previously inactive citizens, on the other hand.

Conversely, the *dystopian* view – sometimes also termed the “displacement hypothesis” – suggests that time spent online would simply displace time formerly devoted to social and political purposes (Putnam, 1995). As a result, Internet use is expected to weaken citizen’s civic and political engagement. Finally, according to the *normalization thesis*, the Internet would not impact participation patterns either way (Jennings & Zeitner, 2003; Krueger, 2002). Since the Internet has turned into just another mass medium, it would reinforce preexisting structures of engagement and influence, rather than challenge them (Bimber, 2001; Davis, 1999; Margolis & Resnick, 2000).

A number of studies addressed these propositions based on empirical evidence and tested for effects of Internet use on political and civic participation. Various researchers found that Internet use positively influences both political (Bakker & De Vreese, 2011; Di Gennaro & Dutton, 2006; Moy et al., 2005) and civic engagement (Stern & Dillman, 2006). These effects proved robust across different cultural contexts (Hwang et al., 2006; Kwak et al., 2006; Wang, 2007). A meta-analysis by Boulianne (2009) examined 38 studies dealing with the impact of Internet use on political and civic engagement. Although the analysis found barely any negative effects, the data doesn’t suggest a strong positive effect, either, lending support to the normalization hypothesis. Then again, a similar literature overview by Anduiza et al. (2009) shows that Internet use is more strongly associated with online political participation than offline political participation – indicating that a differentiation of these forms of participation is necessary.

Researchers were quick to extend the analysis to evolving new forms of online communication, including social media (De Zúñiga et al., 2009; De Zúñiga et al., 2010). Some authors expected social media to change the dynamic of online and offline participation, since they are specifically geared towards self-expression, the creation of content – and thereby the facilitation of user participation (Bichard, 2006; Towner & Dulio, 2011). Others warned that social media will seduce users to engage in constant impression management or façade bottom-up engagement that would ultimately result in mere “slacktivism” instead of actual participation (Morozov, 2009). Zhang et al. (2009) find a significant impact of social networking site (SNS) use on civic, but not political participation. De Zúñiga et al. (2010) find that online political self-expression is strongly associated with offline participation.

Some contradictory findings may stem from differences in the measures employed in empirical studies (Moy et al. 2005). Internet use is often assessed by the frequency of Internet use, measured by the hours spent online, or by experience with the Internet (e.g., years of use). Yet, Pasek et al. (2009) stress the importance of distinguishing different types of Internet use when assessing effects on participation. In their study, the use of different kinds of SNS led to different outcomes in civic engagement. Similarly, Moy et al. (2005) show that different dimensions of Internet use (Information, E-mail, Household, Political, Consumer, Social, and Community) result in different effects on community involvement and political activities.

In a first step, we are going to address the research question of whether Internet use is associated with political participation, based on data collected among German Internet users. We will test for both a direct effect of Internet use (i.e., frequency of Internet use) on offline political participation, and an indirect effect mediated through online political participation. Figure 1 shows this first research model. We conceptualize online political participation in a manner appropriate to the current online environment, i.e., by capturing political self-expression on the

Internet (see chapter 3). Given the current state of research, we expect Internet use to be positively associated with online political participation, which in turn will positively affect offline political participation.

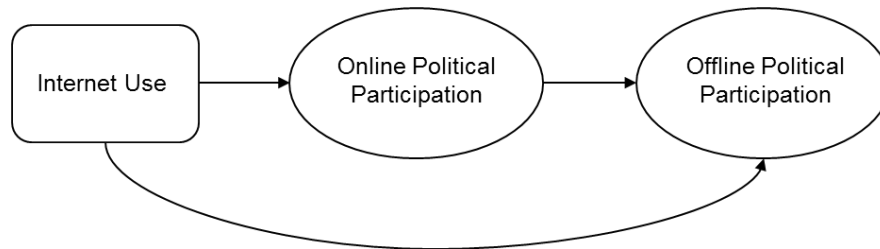


Figure 1. Research Model 1: Internet use and political participation

2.2 Antecedents of Online Political Participation

Assuming that Internet use is in fact associated with online and offline political participation – what does that mean for citizens’ engagement in the political process? Will the Internet actually create access for non-elite citizens (cf., Zhang et al., 2009; Vitak et al., 2011)? Will Internet use encourage and motivate younger, Internet-savvy citizens to become more engaged politically? Current findings on the “digital divide” should help clarify our expectations. A number of studies have shown that citizens are not equally likely to participate in the digital sphere (Van Deursen & Van Dijk, 2010; Brandtweiner et al., 2010). Online participation requires the adaptation of existing knowledge to a new context, and the development of new skills (Correia & Teixeira, 2002). According to Hargittai (2010), these elements strongly depend on socio-economic status, and the individuals’ social and technological context.

Socio-economic status (SES), measured by income or education, is a key construct in the digital divide literature. Those with high SES are held to more easily take advantage of the Internet, because they command the necessary resources (DiMaggio, Hargittai, Celeste, & Shafer, 2003; Van Dijk, 2006) as well as skills to actively use online media (Gui & Argentin, 2011; Hargittai,

2002, 2010; Hargittai & Shafer, 2006; Van Deursen & Van Dijk, 2010). High SES citizens are therefore expected to use the Internet in a more productive, social capital-enhancing way (Hargittai & Hinnant, 2008; Zillien & Hargittai, 2009). Since, according to resource theory, political participation also requires a specific set of resources – such as time, money, and civic skills (Brady, Verba, and Schlozman, 1995) – a divide in productive Internet use may serve to increase the social stratification of political engagement: high SES citizens, who are already more likely to participate politically, will also be more likely to engage in *online* political participation, which further stimulates offline political participation. In fact, education and income both have been shown to positively impact online participation (Best & Krueger, 2005; Gibson, Lusoli, & Ward, 2005; Kwak et al., 2006).

Apart from SES, demographic variables have also been shown to affect online participation (Best & Krueger, 2005). Looking at gender differences, most studies found that men are more active and eager to participate politically than women (Kaufhold et al., 2010). Calenda & Meijer (2009) showed that among students in three European countries (Italy, Spain and the Netherlands), males were significantly more likely than females to participate offline, both in traditional (e.g. parties) and new forms (e.g. cause-related NGOs). The same holds true for online participation (Albrecht, 2006; di Gennaro & Dutton, 2006; Gibson et al., 2005). Of course the effect of gender on online participation may well be moderated by political interest, as studies indicate that males score higher in this regard (Gibson et al., 2005; Wang, 2007).

Age is another important demographic predictor of both online and offline participation (Bridges, Appel, & Grossklags, 2012; Burwell, 2010; Dahlgren, 2011; Jugert, Eckstein, Noack, Kuhn, & Benbow, 2013; Kissau & Hunger, 2008; Macafee & De Simone, 2012; Theocharis, 2011; Vromen, 2008). While age has been shown to positively impact offline political participation (Wang, 2007; Gibson et al., 2005), it commonly impacts Internet use negatively. Therefore, the

overall effect of age on online political participation is ambivalent. DiGennaro and Dutton (2006) find that younger citizens rely more heavily on online participation than on offline participation. Similarly, Oser et al. (2013) show that among politically active citizens, those using the Internet for participation purposes are younger. Collin (2008) demonstrates that young people's political engagement is very much driven by the web and its affordances. Still, even among youth, male and highly educated citizens are most likely to be politically engaged online (Livingstone, Bober, & Helsper, 2005).

In order to explore the socio-demographic antecedents of online and offline political participation, and address our second research question, we will extend our initial research model. The second research model will take socio-demographic user characteristics into account and test their effects on Internet use, online and offline political participation (see Figure 2). In particular, we will test for an effect of age, gender and education on these three constructs. We expect female gender to be negatively and education to be positively associated with both Internet use and participation. While age is commonly negatively related to Internet use and online engagement, it has been shown to positively affect offline political participation.

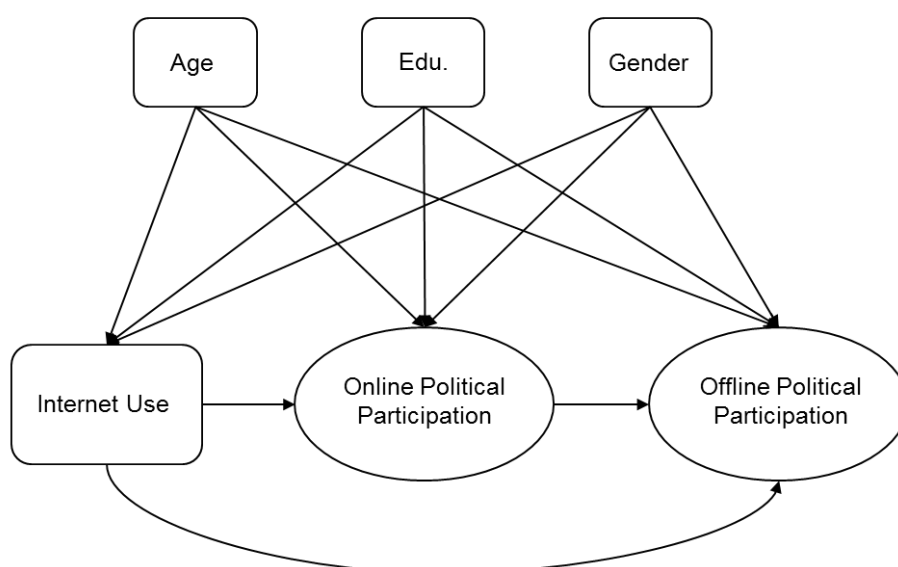


Figure 2. Research Model 2: Antecedents of political participation

2.3 A Digital Divide in Political Participation?

Given that not only access to online media, but also various forms of online engagement are differentiated by socio-demographic characteristics, the term “digital divide” has been extended to include productive Internet uses. Hargittai & Walejko (2008) find that those with higher social status tend to use the Internet more heavily for content production (e.g. writing a blog post or posting a video on YouTube). Schradie (2011) points out that the effect of SES is more pronounced on participatory than on consumptive Internet uses. Correa (2010) finds that among college students, gender, age and race (but not SES) affect the level of online content creation. In short, research has started to explore antecedents and effects of the so-called “participation divide” (Hargittai & Walejko, 2008).

Social cognitive theory (SCT) has been particularly helpful in exploring antecedents of online engagement. SCT proposes that environmental influences, personal dispositions and behavior form a causal model of „triadic reciprocity“. Within this model, environment factors influence personal dispositions (such as cognitions and affect), which in turn influences behavior. At the same time, behavior also affects personal dispositions and the environment (Bandura, 1977; 1986). This framework has been applied to information and communication technology (ICT) use, showing that social and environmental factors – such as training and ICT access – impact personal dispositions, which in turn affect use behavior (Ambrose & Chiravuri, 2010; Compeau & Higgins, 1995; Wei et al., 2011).

One element of SCT often considered in ICT acceptance and use studies is self-efficacy. Self-efficacy denotes users’ judgments of their own ability to perform a specific behavior (Bandura, 1977; Compeau & Higgins, 1995). Self-efficacy has variously been shown to drive users’ willingness and/or ability to use ICT (Compeau, Higgins, & Huff, 1999; Venkatesh & Bala, 2008;

Venkatesh, Morris, Davis, & Davis, 2003). The literature provides for a number of conceptualizations of self-efficacy, such as computer self-efficacy or Internet self-efficacy – depending on the ICT considered for use (Compeau & Higgins, 1995; Compeau et al., 1999). A cognitive element held to exert the opposite effect on use behavior is that of user anxiety or concerns. The more concerns regarding an ICT, the less willing individuals are to use it (Compeau et al., 1999; Venkatesh & Bala, 2008). One concern variously discussed in the literature and shown to inhibit Internet use is online privacy concern (Smith, Diven, & Xu, 2011).

Analyzing cognitive factors, based on SCT, has proven to be helpful in differentiating the effect of socio-demographics on ICT use behavior (Hsieh et al., 2011; Wei et al., 2011). Since socio-demographic variables can indicate a specific environmental influence on user dispositions, their effects on use behavior tends to be mediated by elements such as self-efficacy or concerns. Younger, male and higher SES users have variously been shown to report higher levels of self-efficacy and lower levels of ICT anxiety or concerns, indicating environmental influences favoring ICT use among these demographics (Gefen & Straub, 1997; Venkatesh & Morris, 2000; Wei et al., 2011). Self-efficacy, in turn, has been shown to facilitate online political participation (cf., Livingstone et al., 2005; Di Gennaro & Dutton, 2006; Best & Krueger, 2005). Controlling for SES, web experience also positively affects online political engagement (Gibson et al., 2005). Considering the effect of socio-demographics on those cognitive factors driving online engagement should therefore further add to our understanding of a digital divide in political participation.

In order to address our third research question, we will further extend our research model. The third and final proposed model will test for the mediation effects of self-efficacy and privacy concerns on Internet use and online political participation (see Figure 3). We expect self-efficacy to increase and user concerns to decrease Internet use and online engagement. Self-efficacy is

held to reduce privacy concerns. Based on previous findings, we would expect younger, highly educated and male users to report higher levels of self-efficacy and lower levels of privacy concerns, while the reverse should hold for their older, less educated and female counterparts. In summary, based on structural equation modeling, we will be able to test for both direct and mediated effects of socio-demographic variables on political participation, and thereby shed light on our research question regarding the existence of a digital divide in political participation.

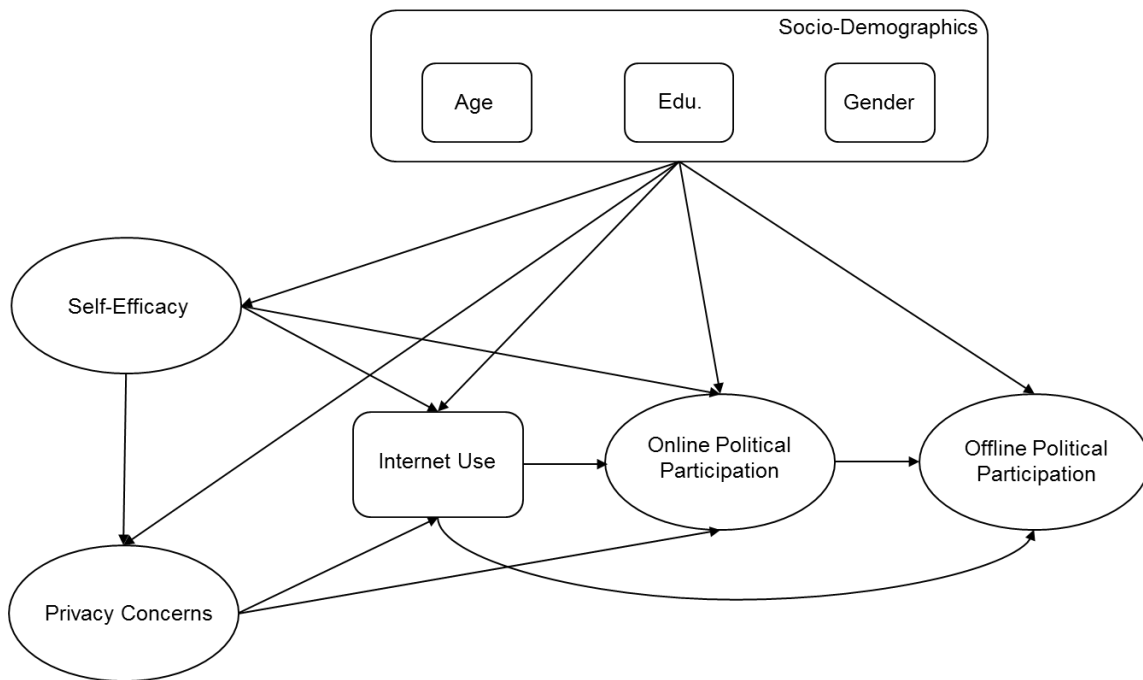


Figure 3. Research Model 3: Mediated model of political participation

3 DATA & MEASUREMENT

3.1 Sample and Measures

We address our research questions based on an online survey conducted among German Internet users. The survey sample was provided by a leading market research institute. A gender, age and regional distribution composition of the sample representative of the German general population was ensured by defining quotas for these attributes. We chose not to survey non-users since

among this, rather small, segment of the population, key constructs such as Internet use or online participation could for obvious reasons not be measured. During August 2013, 4'089 users were invited to participate in the survey by e-mail, 1'488 users responded (response rate 36%). Participants were offered a small monetary incentive. The overall sample composition is summarized in Table 1. We find that highly educated users are slightly overrepresented in our sample.

Table 1: Profile of Respondents (N=1488)

Measure	Item	N	Percent	Missings
Age	18-29 years	231	16.9	
	30-39 years	201	14.1	
	40-49 years	301	19.8	
	50-59 years	271	17.7	
	60 years and above	484	31.5	
	<i>Total</i>	1488	100	0
Gender	Female	746	51.1	
	Male	742	48.9	
	<i>Total</i>	1488	100	0
Education	Low	195	13.2	
	Middle	797	53.8	
	High	490	33.0	
	<i>Total</i>	1482	100	6

The questionnaire surveyed participants on their overall media usage, Internet use experience and frequency, socio-demographics, self-efficacy, privacy concerns, and online and offline political participation. The self-efficacy measure was derived from established measures and slightly adapted to focus on active online engagement (cf., Compeau et al., 1999; Venkatesh et al., 2003; Venkatesh & Bala, 2008). Privacy concerns were measured with three items from Malhotra, Kim and Agarwal's (2004) global information privacy concern measure. Internet use was assessed based on a summative index including nine items that measure the frequency of use of online applications (blogs, social networks, microblogs, media platforms, search engines, online games,

online newspapers, apps, and online shopping/online banking). Participants could evaluate their usage of each application on a six-point Likert-scale from 1 ("never") to 6 ("several times a day").

The measure for online political participation was derived from previous studies (Calenda & Meijer, 2009; Collin, 2008; Conroy et al., 2012) and asked participants to rate the frequency of four political online uses on a five-point Likert-scale. Finally, the offline political participation measure covered four political activities, again rated on a five-point Likert-scale (De Zúñiga et al., 2010; Moy et al., 2005; Zhang et al., 2010; Smith et al. 2009). The wording of all items used is shown in Appendix A.

3.2 Measurement Model

We used structural equation modeling (SEM) to include latent variables and to test the effects of the socio-demographic variables as well as the mediating cognitive variables on Internet use, online and offline political participation. SEM combines confirmatory factor analysis (CFA) and regression models, and allows the testing of hypothesis systems. To conduct the analyses we used MPlus (Version 7) Statistical Software, relying on robust Maximum Likelihood Estimation (MLR), so as to account for non-normality and other sources of distortion, such as heteroscedasticity and non-normal distribution of error terms (Byrne, 2012). The complete measurement model of all latent constructs can be found in Appendix B. It satisfies the necessary conditions (Bollen, 1989; Netemeyer et al., 2003), i. e. has convergent and discriminant validity (Fornell & Larcker, 1981; see Appendix C), allowing us to compute the SEM. We found comparatively low factor loadings for one of the privacy concerns items, yet, since the measure was based on an established and overall reliable scale, we chose to include it in the analysis.

4 RESULTS AND DISCUSSION

4.1 Internet Use and Participation

We find that the survey participants are avid Internet users, although use frequency differs by online application (see Appendix D). Search engines are by far the most frequently used application; 62 percent use them daily (mean=4.89). Social network sites are popular as well, as 34 percent spend time on such websites on a daily basis (mean=3.18). However, another 34 percent never spend time on social networks. Participants rarely use microblog (87 percent less than several times a month; mean=1.52), blogs (78 percent less than several times a month; mean=1.88) and online games (65 percent less than several times a month; mean=2.36). Online shopping/banking and online newspapers achieved higher means: 3.60 for online shopping/banking and 3.20 for online newspapers. Finally, users tend to use media platforms regularly but not very frequently (mean=2.67). Only 2 percent of participants use all of the nine applications daily, 13 percent use all the applications at least on a weekly basis and finally 32 percent use all applications at least several times a month.

Overall, we find quite low levels of political participation, both online and offline (see Appendix D). 59 percent never like or share political content on the Internet, 67 percent never publish commentaries about political topics on the Internet, and about 74 percent each never try to persuade others to become politically active, or actively participate in a political online group or online community. Regarding offline political participation, our data reveal a similar pattern: 78 percent never donate money to a political party or group, 71 percent never work for a political party or group, about 61 percent never attend meetings of a party or a candidate and 60 percent never attend political rallies. Thus, political engagement really appears to be a minority phenomenon among the German population. These findings are in line with previous studies in

Germany (Emmer et al., 2012; Köcher & Bruttel, 2011), they are also quite similar to recent findings from the US (Smith, 2013).

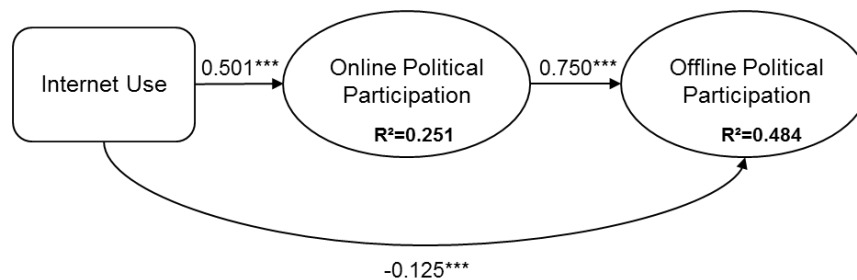


Figure 4. Internet use and political participation

Figure 4 presents the initial model of Internet use and political participation for the overall sample (N=1488). The analysis reveals a strong significant effect of Internet use on online political participation, and an even stronger effect of online on offline participation. Interestingly, there is a significant negative direct effect of Internet use on offline political participation. These findings underscore the importance of differentiating online and offline political participation: while both these constructs are clearly closely related, only by considering the mediation effect of online participation do we find that Internet use, if not mediated by online engagement, is negatively related to offline political participation. This finding may also help explain why the unmediated effect of Internet use on offline participation tends to be weak.

In order to explore this proposition, we employed linear regression analysis to test the unmediated effect of Internet use on offline political participation (see Appendix E), using a summative index that was created out of the four items of offline political participation as dependent variable. We indeed find a positive, but weaker direct effect. The initial analysis does, at first glance, yield some encouraging findings for the effect of Internet use on political participation – overall, we do find that Internet use does contribute to higher levels of online and offline participation. Yet, the analysis also reveals a need for further differentiation in order to

better explain under which conditions Internet use actually facilitates online and offline engagement.

4.2 Antecedents of Political Participation

Our second research model takes the effects of age, gender and education on Internet use and political participation into consideration (see Figure 5). Interestingly, we find that none of the socio-demographic variables directly affect online political participation, yet they do impact both Internet use and offline participation. Our analysis confirms that younger, more educated and male citizens more actively use the Internet. We also confirm that older, more educated and male citizens are more likely to be politically engaged offline. Most prominent among these findings is the strong negative effect of age on Internet use. Thereby, while we find that current findings in digital divide research do apply to the German population, this digital divide is caused predominantly by age differences. In Germany, at least, differences between Digital Natives and Digital Immigrants (Palfrey & Gasser, 2008; Prensky, 2001) appear alive and well.

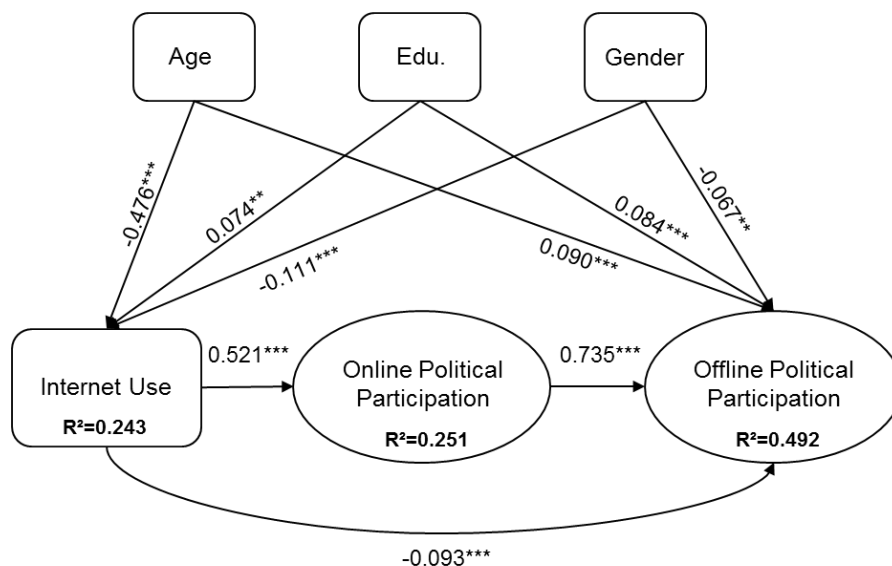


Figure 5. Antecedents of political participation (significant relationships only)

Interestingly, we find that when we take the socio-demographic variables into consideration, the negative effect of Internet use on offline participation decreases in strength, while, on the other hand, the positive impact of Internet use on online political participation becomes stronger. We would conclude that in model 1, Internet use indicated some socio-demographic effects, presumably age effects that are now incorporated into the model. In other words: some of the negative effect of Internet use on offline participation may have been an age effect since older citizens are less likely to use the Internet, but more likely to be politically active. The positive effect of Internet use on online participation may, in turn, be especially relevant for younger citizens, who are much more avid Internet users.

Considering the effects of socio-demographics on both Internet use and offline political engagement, we find evidence that the strong positive effect of online on offline participation may in fact compound existing divides for less educated and female users, since highly educated and male citizens are both more likely to use the Internet and be politically engaged. In the case of younger citizens, though, the Internet may in fact help bridge the participation divide, since these active Internet users may be motivated to engage politically online, which clearly drives offline political participation.

4.3 Mediated Model of Political Participation

Finally, in order to shed more light on the digital divide in political participation, and to address our third research question, we will turn to the third research model which, based on SCT, takes the mediating effects of cognitive factors into consideration. We find that the core relationship still holds: Internet use drives online participation which increases offline participation. Internet use still has a negative direct effect on offline participation. As suggested by SCT, we find that self-efficacy positively and privacy concerns negatively impact Internet use. Self-efficacy reduces

privacy concerns. Self-efficacy also increases online political participation. Surprisingly, privacy concerns also show a positive impact on online engagement. The latter effect might be explained by older users showing significantly higher levels of privacy concerns.

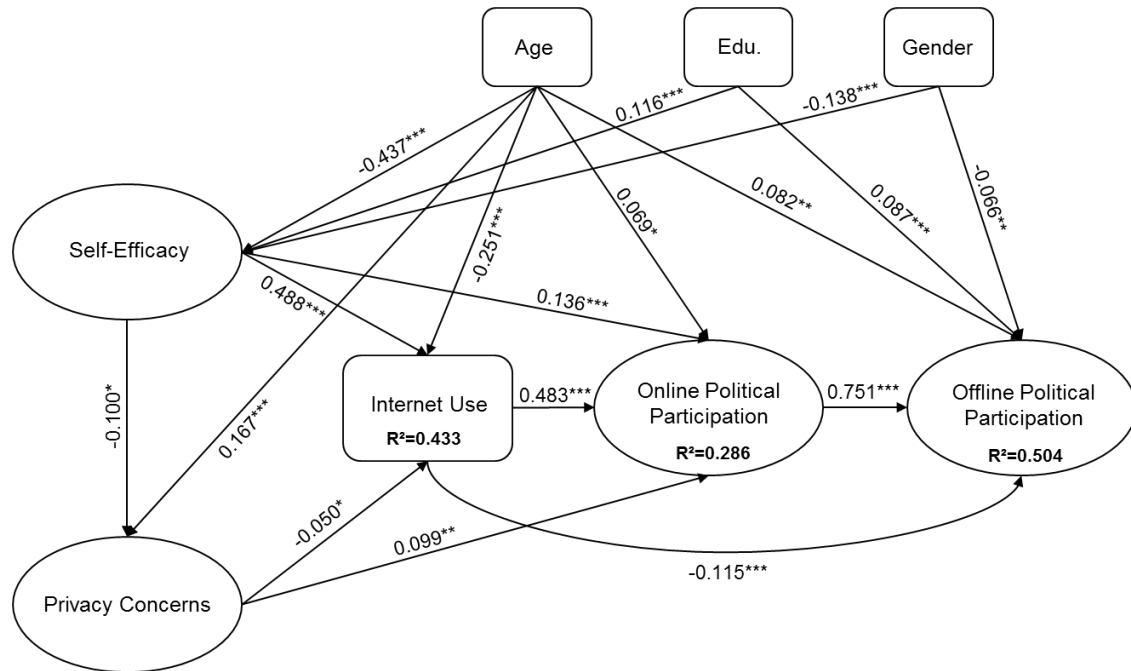


Figure 6. Mediated model of political participation (significant relationships only)

As expected, considering the cognitive mediators does differentiate our understanding of the digital divide in political participation: We find that the effects of education and gender are now fully mediated through self-efficacy. Only age directly and negatively impacts Internet use. When considering the impact of self-efficacy and privacy concerns, we suddenly also find a positive direct effect of age on online political participation. Still, age directly and indirectly (through self-efficacy and privacy concerns) reduces Internet use. The direct effects of the socio-demographic variables on offline participation remain largely unchanged.

In summary, two findings appear especially noteworthy: (1) The compounding negative effect of Internet use on offline political participation for less educated and female citizens may be offset by training these users and increasing their familiarity with the Internet. The negative effects of

(female) gender and lack of education on Internet use are fully mediated by self-efficacy (but not privacy concerns), a cognitive disposition that – according to SCT – can be affected by environmental influences such as training.

(2) We find that the dominant element of the digital divide in political participation is the effect of age. Younger users report much higher levels of self-efficacy and lower levels of privacy concerns. Thereby, age both directly and indirectly negatively affects Internet use. In the context of political participation, this can in fact be considered good news, as Internet use leads to online political participation, which strongly relates to offline engagement. The Internet, therefore may serve to bridge the offline participation gap created by older users being more able and/or willing to engage in the political process. Yet, when taking self-efficacy and use frequency into consideration, we do find a positive effect of age on online political engagement. So even online, the desire to get involved politically seems to increase with age.

Looking at the explained variances of the core constructs, unsurprisingly, we find that the third model performs best (see Table 2). While models 1 and 2 do not differ much in their explanatory power, the consideration of cognitive mediators in model three does appear to markedly contribute to the explained variance of Internet use. The high R^2 of offline political participation is largely due to the strong effect of online participation, clearly a closely related construct. It is all the more interesting the R^2 of online participation remains moderate, even after taking the cognitive factors into consideration. Clearly, aside from Internet use, age, education and gender, there are a number of other important drivers of online (and thereby offline) political participation not considered in our analysis.

Table 2. Explained Variances

	Model 1	Model 2	Model 3
R² Internet Use	-	0.243	0.433
R² Online Political Participation	0.251	0.251	0.286
R² Offline Political Participation	0.484	0.492	0.504

Finally, looking that the goodness of fit values of the three models (see Table 3), we find that model 3 performs best except for SRMR. Nonetheless, the model exceeds the threshold valued specified in the literature for SEM goodness of fit measures (Hu & Bentler, 1999). All fit indicators improve from model 1 to model 2 and also slightly advance from model 2 to model 3.

Table 3. Goodness of Fit Values

	Model 1	Model 2	Model 3
Chisquare	143.621	174.145	343.941
df	25	42	109
RMSEA	0.058	0.046	0.038
CFI	0.974	0.979	0.979
TLI	0.962	0.969	0.971
SRMR	0.024	0.020	0.029

5 CONCLUSION

Does the Internet facilitate political participation, and if yes, for whom? A number of studies have addressed the impact of online media on political participation, many found that Internet use does indeed contribute to offline political participation (Boulianne, 2009), others have pointed out that it is more directly associated with online forms of political participation (Anduiza et al.,

2009). Digital divide research has found that not all citizens are equally likely to take advantage of online media (Hargittai, 2010; DiMaggio et al., 2003; Van Dijk, 2006), socio-economic status, specifically, has been shown to limit Internet use and affect the level of online engagement (Hargittai & Walejko, 2008; Schradie, 2011). In order to judge whether the Internet will actually create access to the political process for a wider selection of citizens, we need to understand the scope and nature of a digital divide in political participation (cf., Zhang et al., 2009; Vitak et al., 2011).

Our analysis based on a representative survey of German Internet users finds that Internet use is strongly associated with online political engagement, which in turn, drives offline political participation. By considering the mediating effect of online participation, we find that Internet use has a direct negative effect on offline participation – an effect that is somewhat moderated when user age is taken into consideration. Looking at the influence of socio-demographic variables (age, education, gender), we confirm that younger, highly educated and male citizens are more likely to use the Internet, while older, highly educated and male citizens are more likely to participate politically offline. Thereby, when analyzing the role of Internet use in political participation, we find that two divide effects compound (cf., Di Genaro & Dutton, 2006): female citizens and those with lower educational attainment are both less likely to use the Internet and participate politically.

In order to better understand the nature of the digital divide in political participation, we consider the mediating effect of self-efficacy and privacy concerns, based on social cognitive theory (Bandura, 1977; 1986). While the direct effects of age, gender and education on offline participation remain intact, we find that the negative effects of (female) gender and lower educational attainment on Internet use are fully mediated by self-efficacy. We conclude, again based on insights from SCT, that training and targeted education could serve to facilitate Internet

use and thereby online political participation. At the least, the compounding effect of a digital and political participation divide among female and lower SES citizens could be ameliorated by such an approach.

A second key learning from our analysis is that the Internet may in fact serve to facilitate political participation for one demographic group, in particular: younger citizens. Although it might appear somewhat paradoxical, we find that when it comes to age effects, the digital divide may in fact help bridge the political participation divide: While older citizens tend to be more politically engaged offline, youth is both directly and indirectly associated with frequent Internet use. Since Internet use has a strong positive impact on online political participation, which in turn is strongly related to offline participation, the Internet could serve to close the political participation gap between older and younger citizens.

Yet, we do find a small direct positive effect of age on online political engagement. Thereby, even online, older citizens tend to be more politically active. If the divide between Digital Natives and Digital Immigrants was to be bridged, i.e., should older citizens start to use the Internet as actively as younger citizens do, then we would expect the facilitating effect of the Internet on youth participation to disappear.

We find that our model has strong explanatory power when it comes to offline political participation, which is largely due to the close association of online and offline participation. Online political participation, in turn, is only moderately well explained by our model. We also find some noticeable effects, such as the positive effect of age, or – even more strikingly – of privacy concerns on online participation. Therefore, future research would need to further explore antecedents of online political engagement beyond socio-demographics. We would suggest political interest or involvement as potential drivers. Political self-efficacy should also be

an important antecedent of political participation, so the cognitive model could be further extended.

A number of studies have differentiated Internet uses in order to better understand the effect of online media on political participation. It has been shown that informational Internet uses are especially helpful in facilitating political participation (Wang, 2007; Pasek et al. 2009; Shah et al., 2001). Also, social forms of using the web foster engagement and participation (Dutta-Bergman, 2006). Therefore, a differentiation of our Internet use construct into distinct uses could help shed further light on the digital divide in political participation. Finally, SCT is especially helpful in substantiating a dynamic perspective on use behavior: as environmental influences change, personal dispositions and use behavior adapt. The identified divides in Internet use and political participation, therefore, need to be closely monitored as new communication technologies emerge and the technological socialization of citizens evolves.

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Appendices

Appendix A Questionnaire

Construct	Item	Wording (Scale) ¹
Political Participation online	PPon1	<i>I like and share political content on the Internet.</i>
	PPon2	<i>I publish commentaries about political topics on the Internet.</i>
	PPon3	<i>I try to persuade others online to become politically active.</i>
	PPon4	<i>I actively participate in a political online group or online community</i>
Political Participation offline		<i>How often do you...</i>
	PPoff1	<i>...donate money to a political party or group?</i>
	PPoff2	<i>...work for a political party or group?</i>
	PPoff3	<i>...attend meetings of a party or a candidate?</i>
Privacy Concerns	PC1	<i>All things considered, the Internet would cause serious privacy problems.</i>
	PC2	<i>Compared to others, I am more sensitive about the way online companies handle my personal information.</i>
	PC3	<i>To me, it is the most important thing to keep my privacy intact from online companies.</i>
Online Self-efficacy		<i>Do you think you are able to...</i>
	OSE1	<i>...publish information on a blog or on Twitter?</i>
	OSE2	<i>...publish a video on the Internet (e.g. on Youtube)?</i>
	OSE3	<i>...create or add to an article on Wikipedia?</i>

¹ Likert Scale for Political Participation online and offline: 1 – never, 2 – rarely, 3 – sometimes, 4 – often, 5 – very often; Likert Scale for Privacy Concerns and Online Self-Efficacy: 1 - strongly disagree, 2 - disagree, 3 - neutral, 4 - agree, 5 - strongly agree

Appendix B Measurement Model of the Latent Constructs

Construct	Item	Standardized loading	t-values	R ²	α	C.R.	AVE
Self-efficacy	SE1	0.854	63.301***	0.73	0.88	0.88	0.71
	SE2	0.895	83.525***	0.801			
	SE3	0.774	49.444***	0.599			
Privacy concerns	PC1	0.519	18.979***	0.269	0.72	0.723	0.472
	PC2	0.75	24.097***	0.563			
	PC3	0.765	25.833***	0.585			
Political Participation Online	PPon1	0.778	49.667***	0.605	0.914	0.916	0.731
	PPon2	0.909	82.228***	0.826			
	PPon3	0.888	72.634***	0.788			
	PPon4	0.84	50.887***	0.705			
Political Participation offline	PPoff1	0.8	39.876***	0.64	0.906	0.899	0.690
	PPoff2	0.865	45.477***	0.748			
	PPoff3	0.849	42.291***	0.72			
	PPoff4	0.808	36.345***	0.653			
Criterion		≥ 0.5	min*	≥ 0.4	≥ 0.7	≥ 0.6	≥ 0.5

*** p < 0.001

Appendix C Fornell Larcker Criteria of the Latent Constructs (Discriminant Validity)

	Nr. of items	α	C.R.	AVE	SE	PC	PPon	PPoff
SE	3	0.88	0.88	0.71				
PC	3	0.72	0.723	0.472	0.03			
PPon	4	0.914	0.916	0.731	0.15	0.00		
PPoff	4	0.906	0.899	0.69	0.02	0.00	0.48	

Appendix D Construct Descriptives

Table D1: Political Participation online. Answers in percent (Absolute numbers in brackets)

	<i>PPon1</i> (Likes & Shares)	<i>PPon2</i> (Comments)	<i>PPon3</i> (Persuading)	<i>PPon4</i> (Groups & communities)
Never (1)	58.8 (875)	67.4 (990)	73.7 (1097)	74.7 (1112)
Rarely (2)	17.3 (257)	17.8 (261)	12.8 (191)	11.2 (166)
Sometimes (3)	15.1 (225)	9.8 (144)	7.6 (113)	7.6 (113)
Often (4)	5.0 (74)	2.9 (42)	2.9 (43)	3.1 (46)
Very often (5)	2.4 (36)	2.2 (32)	1.3 (20)	1.4 (21)
Missing	1.4 (21)	1.3 (19)	1.6 (24)	2.0 (30)
Total	100 (1488)	100 (1488)	100 (1488)	100 (1488)
Average Standard Deviation	1.73 1.049	1.55 0.937	1.43 0.860	1.42 0.873

Table D2: Political Participation offline. Answers in percent (Absolute numbers in brackets)

	<i>PPoff1</i> (donating)	<i>PPoff2</i> (work for political party)	<i>PPoff3</i> (attend political meetings)	<i>PPoff4</i> (attend rallies)
Never (1)	77.8 (1157)	70.5 (1049)	61.2 (910)	59.5 (886)
Rarely (2)	9.0 (134)	14.0 (209)	19.4 (288)	21.5 (320)
Sometimes (3)	6.9 (102)	7.7 (115)	12.6 (188)	12.4 (185)
Often (4)	3.4 (50)	4.0 (59)	3.8 (56)	3.5 (52)
Very often (5)	1.1 (16)	2.3 (34)	1.7 (25)	1.3 (20)
Missing	1.9 (29)	1.5 (22)	1.4 (21)	1.7 (25)
Total	100 (1488)	100 (1488)	100 (1488)	100 (1488)
Average Standard Deviation	1.38 0.844	1.51 0.963	1.64 0.960	1.63 0.929

Table D3.a: Internet Use – Applications 1 - 4. Answers in percent (Absolute numbers in brackets)

	Blogs	Social Networking Sites (e.g. Facebook, XING)	Microblogging (e.g. Twitter)	Media platforms (e.g. YouTube, Flickr)
Never (1)	54.1 (805)	34.4 (512)	73.6 (1095)	25.0 (372)
Less frequently (2)	23.5 (349)	11.8 (175)	13.6 (203)	25.3 (376)
Several times a month (3)	7.8 (116)	7.9 (117)	3.4 (51)	20.6 (306)
Several times a week (4)	6.6 (98)	10.8 (160)	3.6 (54)	17.3 (257)
Once a day (5)	4.1 (61)	14.3 (213)	2.0 (30)	6.2 (92)
Several times a day (6)	2.2 (32)	19.8 (294)	2.3 (34)	4.2 (63)
Missing	1.8 (27)	1.1 (17)	1.4 (21)	1.5 (22)
Total	100 (1488)	100 (1488)	100 (1488)	100 (1488)
Average	1.88	3.18	1.52	2.67
Standard Deviation	1.269	1.992	1.118	1.405

Table D3.b: Internet Use – Applications 5 - 9. Answers in percent (Absolute numbers in brackets)

	Search engine (e.g. Google)	Online Games	Online Newspapers	Apps	Online Shopping / Online Banking
Never (1)	1.2 (18)	46.9 (698)	21.2 (315)	40.7 (606)	3.7 (55)
Less frequently (2)	3.0 (44)	19.0 (282)	21.4 (319)	11.3 (168)	10.3 (153)
Several times a month (3)	8.5 (127)	7.3 (109)	13.0 (193)	7.5 (112)	33.9 (504)
Several times a week (4)	24.5 (364)	9.0 (134)	15.2 (226)	11.3 (168)	31.2 (464)
Once a day (5)	17.3 (257)	8.7 (130)	15.5 (230)	6.6 (98)	13.3 (198)
Several times a day (6)	44.4 (660)	7.6 (113)	12.6 (187)	21.2 (315)	6.5 (97)
Missing	1.2 (18)	1.5 (22)	1.2 (18)	1.4 (21)	1.1 (17)
Total	100 (1488)	100 (1488)	100 (1488)	100 (1488)	100 (1488)
Average	4.89	2.36	3.20	2.95	3.60
Standard Deviation	1.223	1.680	1.720	2.020	1.156

Appendix E Linear Regression Model: Internet Use on Offline Political Participation

Unstandardized Regression Coefficients (Standard Errors in Parentheses)

<i>Internet Use</i>	0.097*** (0.011)
Constant	3.599*** (0.290)
Adjusted R ²	0.058
N	1359

*** p < 0.001