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Article

## Mobile News Consumption and Its Relation to Young Adults' Knowledge About and Participation in Referendums

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### Abstract

The news media are among the most important sources of information about political events, such as referendums. For young adults, the smartphone has become the main device for accessing news. However, we know little about the factors influencing mobile news consumption and how this consumption is related to political knowledge and political participation. This study investigates the antecedents of young individuals' smartphone news consumption and how it is correlated with their knowledge about and participation in two referendums in Switzerland. We record the mobile internet usage of 309 young adults and link their digital trace data to survey data. We show that trust in news media and the use of broadcast media are positively correlated with the duration of mobile news consumption. The use of social media leads to more news source diversity. However, we find that the duration of mobile news consumption and news source diversity are not correlated with political knowledge about or participation in the referendum. As interest in politics is also positively correlated with the diversity of news sources used by individual participants, our study supports the idea that attentive audiences use a broader range of news sources to inform themselves about referendums.

### Keywords

mobile news consumption; news media; referendum; political knowledge; political participation; young adults

### Issue

This article is part of the issue "Referendum Campaigns in the Digital Age" edited by Linards Udris (University of Zurich) and Mark Eisenegger (University of Zurich).

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### 1. Introduction

In democratic societies, news media play an essential role in informing citizens about current political affairs (Andersen et al., 2021; Renwick et al., 2020; Strömbäck, 2008). A well-informed citizenry is considered vital for the political process (Bode et al., 2013; Van Aelst et al., 2017), particularly in direct democratic systems, such as in Switzerland (Linder & Müller, 2021). Information is even more pivotal in the run-up to referendums, in which people often need to vote on complex policy issues, such as energy policy (Rinscheid & Udris, 2022),

fiscal policy (Bonfadelli & Friemel, 2011), and insurance reforms (Lupia, 1994). In these direct votes, informed decisions require a substantial amount of information and understanding, lest citizens resort to intuition and affective judgments.

Similar to elections, referendum campaigns are considered special phases in the political process in which political actors increase their activities and attempt to reach the electorate with their messages (Hänggli et al., 2011; Strömbäck & Nord, 2006; Tresch, 2009). The news media have traditionally been the channels through which political actors reach a broad audience (Gerth

et al., 2011). How the news media covers referendum campaigns has therefore received considerable scholarly attention (e.g., Bonfadelli & Friemel, 2011; Dekavalla, 2018; de Vreese & Semetko, 2002; Elenbaas & de Vreese, 2008; Gerth & Siegert, 2012; Jenkins & Mendelsohn, 2001; Udris et al., 2020; Walter, 2019; Wettstein, 2012). The special role of the media during referendum campaigns is reflected in special regulations for media coverage and specific editorial guidelines (Udris & Eisenegger, 2021), as well as normative affordances, such as fairness and diversity in reporting (Cushion & Lewis, 2017; Marquis et al., 2011). Referendums are also phases in which the interest of the electorate in the policy at stake is often high, sometimes even more pronounced than that during elections (Renwick et al., 2020). At least in some cases, we could therefore expect an increase in the supply and demand sides of political communication in the news media during referendum campaigns.

News media are considered the central source of information about politics (Beckers et al., 2021), with studies showing that news consumption positively affects political knowledge (Moeller & de Vreese, 2019) and can influence participation in referendums (Schuck & de Vreese, 2009), attitudes toward referendums (de Vreese & Semetko, 2002; Wettstein, 2012), and even voting decisions (Elenbaas & de Vreese, 2008; Rinscheid & Udris, 2022). However, digitalization has changed the way people consume news. Young people, in particular, primarily rely on smartphones to receive news via specific news usage habits (Chan-Olmsted et al., 2013; Oeldorf-Hirsch & Srinivasan, 2021; Schwaiger et al., 2022; Westlund, 2015). This has led to widespread concerns that young people are undersupplied with political news, which has negative consequences for political knowledge and political participation (Andersen & Strömbäck, 2021; Ohme, 2020; Schneider & Eisenegger, 2018; Van Aelst et al., 2017).

The newly acquired news consumption habits on mobile devices have changed how people access and process information (Beckers et al., 2021). While many studies show a positive effect of using traditional news media (Van Erkel & Van Aelst, 2021), this positive correlation does not hold for mobile news consumption; reading news on mobile devices has been demonstrated to lead to a lower gain of information compared with reading news from offline sources (Andersen & Strömbäck, 2021) but also desktop computers (Ohme et al., 2021). However, despite these prominently articulated concerns, there is still a significant degree of uncertainty regarding the role of mobile news consumption by young adults for their political knowledge and participation.

Although the interactions between news consumption, political knowledge, and political participation have been extensively studied in political communication, empirical evidence for the case of referendums is scarce. One of the reasons for this is that referendums are rare events in many societies, with about half of all global referendums held in Switzerland (Serdült, 2014).

Consequently, Switzerland is particularly well suited to studying the antecedents of mobile media use and its effects on political knowledge and political participation in direct democratic voting.

To address the outlined research gaps, we conducted a mobile tracking study in the run-up to a referendum in Switzerland. This allowed us to identify the factors that influence young adults' mobile media use and how it is related to policy surveillance knowledge about the referendum and voting participation.

## 2. Conceptual Framework

In the following sections, we outline how digitalization affects news consumption and the consequences for political knowledge and political participation.

### 2.1. Changing News Consumption

Individuals are increasingly receiving a significant portion of news via their smartphones (Ohme, 2020; Westlund, 2015). However, we still know little about the factors that influence news consumption on mobile devices, although these factors are important preconditions for understanding the relationship between mobile news consumption and political knowledge. From the existing literature, we know that trust in news media, consumption of traditional media, and interest in politics determine news usage (Andersen & Strömbäck, 2021). However, we currently do not know whether these factors hold true for young adults' mobile news consumption. We, therefore, analyze the factors that correlate with the duration of news consumption:

RQ1.1: What factors are correlated with the duration of mobile news consumption?

In addition to a certain quantity of news consumption, a certain diversity of news sources is considered desirable (Joris et al., 2020). When it comes to news source diversity, special attention has been given to the role of social media. The use of social media has been shown to lead to incidental news exposure (Fletcher & Nielsen, 2018; Goyanes & Demeter, 2022). Instead of accessing a specific website for a news consumption session, users receive an algorithmically curated news menu from different sources on their social media feeds. This pattern has been shown to lead to more diverse news consumption, meaning that individuals encounter more different sources (Fletcher & Nielsen, 2018; Scharkow et al., 2020). Thus, we investigate the factors that correlate with the diversity of news consumption and assume that higher social media usage leads to more diverse news consumption:

RQ1.2: What factors are correlated with the source diversity of mobile news consumption?

H1: Social media consumption is positively correlated with the source diversity of mobile news consumption.

## 2.2. News Consumption and Political Knowledge

Extant research seems to present a clear picture of a positive relationship between offline and online news consumption and political knowledge (e.g., Kenski & Stroud, 2006; Ohme, 2020; Van Erkel & Van Aelst, 2021; Wei & Lo, 2008). However, these results are being challenged by recent empirical findings indicating that higher news use does not always lead to greater knowledge about current political events (e.g., Castro et al., 2021; Dimitrova et al., 2011; Moeller & de Vreese, 2019; Strömbäck et al., 2018). While research on direct democratic referendum campaigns has intensified in recent years, most of these studies have focused on citizens' opinion formation processes (for an overview, see Kriesi, 2011), whereas research on media use and knowledge about, and participation in, referendums remains very scarce. The results of a study by Bonfadelli and Friemel (2011) on three referendums in Switzerland reported rather limited effects of news media as information sources for knowledge acquisition.

Mobile news consumption has been evaluated as ambiguous when it comes to acquiring political information. It has been shown to have less beneficial effects on information gain compared with reading news from offline sources (Andersen & Strömbäck, 2021). Ohme et al. (2021) reported that people learn less when consuming news on their smartphones than when doing so on desktop computers. This has been traced back to different habits when accessing news through mobile devices. On a smartphone, the news is consumed in shorter sessions, so-called "snacking," often on the go and only via headlines (Molyneux, 2018).

Many studies measure political knowledge with general questions about the political system (e.g., Moeller & de Vreese, 2019). As referendums are policy centred, they require the acquisition of novel and specific knowledge, even by politically highly educated people. Therefore, the results on the effects of news consumption on general political knowledge might not be true for knowledge about referendums. In the Swiss political system, with referendums being held every few months, people are continuously engaged with political information if they participate in the political process. Therefore, we focus on the concept of policy surveillance knowledge (Barabas et al., 2014; Van Erkel & Van Aelst, 2020). As defined by Barabas et al. (2014), policy surveillance knowledge includes any kind of policy information that is not older than 100 days. It is distinct from knowledge about static general facts on processes and institutions of politics, which are often acquired once, usually in school. We assume that specific knowledge about referendums is often obtained through news media. Dimitrova et al. (2011), for instance, showed that news

website use during campaign time predicts knowledge gains. Therefore, we assume a positive effect of the duration and source diversity of news consumption on policy surveillance knowledge:

H2.1: The duration of mobile news consumption is positively correlated with policy surveillance knowledge.

H2.2: The source diversity of mobile news consumption is positively correlated with policy surveillance knowledge.

In numerous studies, political interest has been shown to influence political knowledge (Barabas et al., 2014; Van Erkel & Van Aelst, 2021). It has also been shown to affect news consumption. Therefore, we test whether political interest is positively related to political knowledge:

H2.3: Political interest is positively correlated with policy surveillance knowledge.

## 2.3. News Consumption and Political Participation in Referendums

Media use is considered an important predictor of political participation, as it can raise awareness of political issues, foster conversations about politics, and increase individuals' political knowledge and participation (Andersen et al., 2016; Shah et al., 2005; Strömbäck et al., 2018). At the national level, the Swiss electorate can, on average, participate in more than nine referendums each year (Serdült, 2014). Therefore, Switzerland is an interesting case for studying the effects of mobile news consumption on political participation. The findings obtained in a context in which direct democratic means are regularly used, and are strongly established, are arguably more valid when direct democratic voting is not exceptional, and in turn, more dependent on contextual factors (Goldberg & Sciarini, 2021). The focus of empirical studies on the effects of media use on political participation has so far been predominantly the role of traditional journalistic mass media, especially television and print newspapers (Grill, 2020). Empirical meta-analyses in various Western democracies have found an overall positive correlation between different forms and types of media use and political participation (Boulianne, 2009, 2015, 2020; Boulianne & Theocharis, 2020; Kanervo et al., 2005). Although research to date shows that there are many nuances regarding the type and mix of media use (Strömbäck et al., 2018), the overall pattern is that media use is positively correlated with political participation (Boulianne, 2015; Kanervo et al., 2005). In an analysis of 24 studies based on survey data gathered in the US, the UK, the Netherlands, Denmark, and Belgium, Kanervo et al. (2005) found that print newspaper use is positively related to political participation,

whereas television entertainment viewing is negatively linked to political participation. Meta-analyses have shown a substantial positive relationship between digital media use and political engagement (Boulianne & Theocharis, 2020), as well as social media use and political participation (Boulianne, 2015, 2020). Despite the growing importance and use of referendums around the globe (Qvortrup, 2014), the influence of media use on participation in direct democratic votes has received little scholarly attention (Goldberg & Sciarini, 2021). Some studies have found mobilizing effects of news coverage for certain electorate subgroups. In their study of the 2005 Dutch EU Constitution referendum campaign, Schuck and de Vreese (2008) showed that exposure to referendum news has a mobilizing effect on those opposing the proposal. For a referendum on energy policy in Switzerland, Rinscheid and Udriș (2022) found (de)mobilizing effects of news coverage depending on its tonality and voters' party preferences. Regarding the effects of mobile news usage on political campaign participation, a recent study, that combined smartphone-based media diaries and panel survey data among Danish voters, showed divergent effects (Ohme, 2020). Whether the correlation between news consumption and political participation also holds true in the case of referendums and the use of news on mobile devices remains an open question. Focusing on digital media, Dimitrova et al. (2011) found that the use of some digital media forms, especially social media, during political campaigns has appreciable effects on offline participation, such as visiting campaign rallies and trying to convince others to vote for a specific party. In line with these findings, we assume that the intensity and source diversity of mobile news consumption is positively correlated with participation in the referendum:

H3.1: The duration of mobile news consumption is positively correlated with participation in the referendum.

H3.2: The source diversity of mobile news consumption is positively correlated with participation in the referendum.

In the literature, different predictors of political voting participation can be identified at the individual level. As for numerous other political behaviours, such as voting in elections (Prior, 2010), political interest has been shown to be the strongest predictor of participation in direct democratic voting (Linder & Müller, 2021). Therefore, we postulate that political interest positively correlates with referendum participation:

H3.3: Political interest is positively correlated with participation in the referendum.

Furthermore, panel study findings from the US (e.g., Cho et al., 2009), as well as from the Netherlands and

Denmark (Andersen et al., 2016), show that in the context of elections, and in routine political periods, the effects of online media use on political participation are mediated by individuals' political knowledge. Therefore, we assume that policy surveillance knowledge is positively correlated with participation in referendums:

H3.4: Policy surveillance knowledge is positively correlated with participation in the referendum.

### 3. Methods

The study combines digital trace data on mobile media consumption with participant surveys. Young adults between 18- and 24-years-old living in Switzerland were eligible to participate. The study was conducted from September 13, 2021, to October 4, 2021. As a reward for joining the study, the participants could choose between 50 francs in cash or a voucher for 60 francs from various online stores.

#### 3.1. Recruiting

The participants were recruited primarily via paid social media ads on Instagram (73% of the participants) and Facebook (3% of the participants). The remaining 24% were recruited via mailing lists. In total, 1,029 people clicked on the recruitment advertisement and began the sign-up process. The installation process was quite complex, involving the installation of a virtual private network (VPN) app, a certification authority certificate, and a connection key to our VPN servers—a process that not all participants were able or willing to perform. Only 772 participants set up the connection to our server and sent at least one line of tracking data. The study required the respondents to keep their VPNs on for the three weeks of the study. However, many were not able to complete this requirement. In total, 309 met the study requirements, submitting at least 13 days' worth of data and completing the surveys at the beginning and end of the tracking period. As data on age and native language were collected at the beginning of the study, we can estimate how representative the dropouts were of the potential participant population as a whole. While the dropout rate by language was approximately proportional, all 18-year-olds dropped out of the study. Other ages remained approximately proportional.

The panel of participants is not fully representative of the population of young adults in Switzerland. The participants were 66% female and 34% male, and their average age was 21.3 years. Students were overrepresented in the panel at 75%. Twenty per cent of the participants were completing an apprenticeship or had permanent jobs, and 5% were pupils. Of the respondents, 77% lived in German-speaking Switzerland, whereas 23% lived in the French-speaking region. Despite some skew, the sample represented a significant amount of variation across socio-demographic and regional variables

and should support robust regression analyses, especially with controls.

### 3.2. Mobile Tracking

The study participants agreed to connect their smartphones to an encrypted connection—a VPN created specifically for the study. To do so, they had to complete a multistep installation process. Once the respondents were connected, all traffic was routed through our research servers. Personal identifying information was pruned before storage. We stored the URLs and the access times and dates, and then we assigned these to anonymous user IDs. For the study, only the websites' domains and not the full URLs were recorded. To link the digital trace data to the survey data in an anonymized manner, we followed the procedure of Jürgens et al. (2020). The entire procedure was reviewed and approved by the ethics committee of the University of Zurich.

The tracking resulted in a dataset of 10.4 million views attributed to approximately 57,000 individual domains. The domains of news media websites were then identified automatically by comparing the captured domains with a comprehensive list ( $n = 3,778$ ) of news media websites retrieved from Media Cloud. We checked the list manually and added missing Swiss outlets. The domains of social media platforms were also identified with a list ( $n = 13$ ). Minutes per domain were defined as the main measure. Thus, we were able to determine the number of minutes a user spent on news media websites (duration of news usage) or social media platforms (duration of social media usage), as well as how many different news outlets a user visited over the entire period of the study, which we defined as the source diversity of news usage (sometimes also referred to as "richness").

### 3.3. Survey

The participants had to complete an online questionnaire before and after the tracking study. In addition to sociodemographic variables, such as age, gender, and education, we asked the respondents about their interest in politics (national and international), sports, and soft news. We asked them about their use of offline newspapers and broadcast media (TV and radio), their trust in the news media, and the extent to which they used social media to inform themselves. Using a binary variable, we also captured whether the participants joined the referendums.

The study was conducted in the run-up to a voting weekend. Voters had to decide on referendums on higher taxes for companies (the 99% initiative) and the legalization of same-sex marriages. We followed Moeller and de Vreese (2019) in measuring political knowledge, and we provided the participants with five statements per referendum in the survey after the referendum took

place. We developed statements based on referendum-related events covered in the news media, websites from official committees supporting or opposing the referendum, and the official information brochure of the Federal Council, which was sent to all voters. The statements referred to the content and claims of the referendum, as well as to the positioning of actors (e.g., "The Federal Council recommends voting 'yes' for the 99% initiative"). This allowed us to capture policy surveillance knowledge (Barabas et al., 2014), which differs from knowledge about political processes and institutions in Switzerland. Six of the statements on the referendum used in the questionnaire were correct, and four were incorrect. The participants had to decide whether the statements were true or false. They could indicate whether they were certain, presumably certain, or undecided. We scored the correctly answered items with one point. Correct answers included all cases in which the participants chose the correct answer and indicated that they were certain or presumably certain about it. We then identified the respondents' knowledge level by estimating a Bayesian two-parameter logistic IRT model with the R package *brms* (Bürkner, 2019). Typically used in education science, this model considers both the difficulty and the discrimination power of each item and allows us to estimate a more nuanced ability level.

All variables were calculated at the user level ( $n = 309$ ). To test our hypotheses, we used different types of regression models, all estimated as Bayesian regression models with *brms* in R. For all models, we used four chains with 4,000 iterations in total and 1,000 warm-up iterations. All chains converged, and the Rhat values were all 1. All predictor variables were scaled where appropriate.

## 4. Results

Using a linear regression model, we showed that neither the duration of social media use ( $\beta = .07$ , 95% CI  $[-.04, .18]$ ) nor self-reported social media use for information purposes ( $\beta = -.07$ , 95% CI  $[-.18, .04]$ ) is correlated with the duration of mobile news usage (see Table 1). The same is true for political interest ( $\beta = .06$ , 95% CI  $[-.05, .17]$ ). However, a high interest in sports is positively correlated with the duration of mobile news consumption ( $\beta = .13$ , 95% CI  $[.02, .24]$ ). Individuals with higher trust in news media use news more frequently ( $\beta = .19$ , 95% CI  $[.08, .30]$ ). The self-reported intensity of radio and television use ( $\beta = .15$ , 95% CI  $[.04, .26]$ ) is also correlated with higher news consumption. The usage duration is higher for men than for women ( $\beta = .54$ , 95% CI  $[.30, .78]$ ). No effects on usage duration are shown for education ( $\beta = .13$ , 95% CI  $[-.12, .37]$ ) and age ( $\beta = .09$ , 95% CI  $[-.02, .20]$ ).

Social media usage is positively correlated with the source diversity of news usage, which we define as the number of sources an individual visited during the study (incidence rate ratio [IRR] = 1.14, 95% CI  $[1.06, 1.24]$ ),

**Table 1.** Regression models for the duration and source diversity of news consumption.

	Duration of news consumption		Source diversity of news consumption	
	Estimates ( $\beta$ )	CI (95%)	Incidence rate ratios (IRR)	CI (95%)
Intercept	-0.28	-0.52 to -0.05	12.52	10.71–14.72
Gender: male	0.54	0.30 to 0.78	1.34	1.14–1.58
Higher education: yes	0.13	-0.12 to 0.37	0.99	0.84–1.18
Age at survey	0.09	-0.02 to 0.20	1.07	1.00–1.15
Political interest	0.06	-0.05 to 0.17	1.11	1.03–1.20
Interest in sports	0.13	0.02 to 0.24	0.94	0.88–1.02
Interest in soft news	0.03	-0.08 to 0.15	1.03	0.95–1.11
Trust in news media	0.19	0.08 to 0.30	1.06	0.98–1.15
Newspaper usage	-0.03	-0.13 to 0.08	1.04	0.97–1.12
Broadcast usage	0.15	0.04 to 0.26	1.03	0.95–1.11
Duration of social media consumption	0.07	-0.04 to 0.18	1.14	1.06–1.24
Use of social media for information	-0.07	-0.18 to 0.04	0.99	0.92–1.07
<i>n</i>	309		309	
$R^2$ Bayes	0.196		0.184	

Notes: For diversity, a negative binomial regression model is used;  $\beta$  and IRR are shown with 95% credible intervals.

supporting H1 (see Table 1). By contrast, no correlation is found between the self-reported use of social media for information purposes and news source diversity (IRR = .99, 95% CI [.92, 1.07]). The use of newspapers (IRR = 1.04, 95% CI [.97, 1.12]) or broadcast media (IRR = 1.03, 95% CI [.95, 1.11]), as well as trust in the news media (IRR = 1.06, 95% CI [.98, 1.15]), is also not correlated with the source diversity of mobile news usage. However, individuals with higher political interest show a higher news source diversity than individuals with lower political interest (IRR = 1.11, 95% CI [1.03, 1.20]). Interest in sports (IRR = .94, 95% CI [.88, 1.02]) or soft news (IRR = 1.03, 95% CI [.95, 1.11]) is not related to more diverse mobile news usage. Furthermore, news source diversity is higher for men than for women (IRR = 1.34,

95% CI [1.14, 1.58]). No correlation is found between age (IRR = 1.07, 95% CI [1.00, 1.15]) and education (IRR = .99, 95% CI [.84, 1.18]). Gender and trust in news media are the strongest predictors of the duration of news consumption. For the source diversity of news consumption, however, gender is the strongest predictor, followed by the duration of social media consumption.

A linear regression model shows that neither the duration ( $\beta$  = .00, 95% CI [-.12, .12]) nor the source diversity ( $\beta$  = .04, 95% CI [-.08, .16]) of news consumption is correlated with policy surveillance knowledge (see Table 2). Therefore, the data do not support H2.1 and 2.2. By contrast, the respondents with higher political interest have higher policy surveillance knowledge ( $\beta$  = .32, 95% CI [.21, .43]), thus supporting H2.3. The duration

**Table 2.** Regression model for policy surveillance knowledge.

	Policy surveillance knowledge	
	Estimates ( $\beta$ )	CI (95%)
Intercept	-0.28	-0.52 to -0.04
Gender: male	0.16	-0.09 to 0.40
Higher education: yes	0.30	0.05 to 0.55
Age at survey	-0.03	-0.13 to 0.08
Political interest	0.32	0.21 to 0.43
Interest in sports	-0.20	-0.31 to -0.09
Interest in soft news	0.05	-0.06 to 0.17
Duration of news consumption	0.00	-0.12 to 0.12
Source diversity of news consumption	0.04	-0.08 to 0.16
Newspaper usage	0.08	-0.03 to 0.18
Broadcast usage	0.08	-0.03 to 0.20
Duration of social media consumption	-0.09	-0.20 to 0.02
Use of social media for information	-0.05	-0.16 to 0.05
<i>n</i>	309	
$R^2$ Bayes	0.223	

Note:  $\beta$  is shown with 95% credible intervals.

of social media usage ( $\beta = -.09$ , 95% CI [-.20, .02]) and the self-reported social media usage for information purposes ( $\beta = .05$ , 95% CI [-.16, .05]) are not correlated with policy surveillance knowledge. Individuals who report often consuming offline news via printed newspapers ( $\beta = .08$ , 95% CI [-.03, .18]) and radio or television ( $\beta = .08$ , 95% CI [-.03, .20]) do not have higher policy surveillance knowledge. Interest in sports correlates negatively with policy surveillance knowledge ( $\beta = .20$ , 95% CI [-.31, -.09]). There is no such effect for interest in soft news ( $\beta = .05$ , 95% CI [-.06, .17]). Furthermore, educational attainment is positively correlated with policy surveillance knowledge ( $\beta = .30$ , 95% CI [.05, .55]). No correlation has been measured for gender ( $\beta = .16$ , 95% CI [-.09, .40]) and age ( $\beta = -.03$ , 95% CI [-.13, .08]). Educational attainment and political interest are clearly the strongest predictors of policy surveillance knowledge.

Neither the duration (odds ratio [OR] = .98, 95% CI [.95, 1.01]) nor the source diversity (OR = 1.01, 95% CI [.98, 1.04]) of news consumption is correlated with participation in the referendum (see Table 3). Therefore, the data do not support H3.1 and H3.2. In line with our assumptions for H3.3 and H3.4, political interest (OR = 1.36, 95% CI [1.02, 1.81]) and policy surveillance knowledge (OR = 1.57, 95% CI [1.19, 2.10]), which are the strongest predictors in our model, are positively correlated with participation in the vote. No correlation with the likelihood to vote is found for interest in sports (OR = 1.01, 95% CI [.77, 1.35]), interest in soft news (OR = 1.09, 95% CI [.83, 1.45]), the use of newspapers (OR = 1.06, 95% CI [.82, 1.38]) and broadcast media (OR = 1.09, 95% CI [.83, 1.44]), the duration of social media usage (OR = 1.24, 95% CI [.95, 1.66]), the self-reported usage of social media for information purposes

(OR = 1.03, 95% CI [.79, 1.33]), age (OR = 1.07, 95% CI [.82, 1.38]), gender (OR = .77, 95% CI [.42, 1.38]), and education (OR = 1.30, 95% CI [.72, 2.38]).

## 5. Discussion and Conclusion

This study has shown differentiated results on the duration and source diversity of mobile news usage among young adults in the run-up to two referendums in Switzerland. Duration of use is positively correlated with media trust and the use of broadcast media. The two factors show a correlation between mobile news consumption and the use of traditional media channels and a positive attitude toward media in general.

Social media usage is positively correlated with the source diversity of mobile news consumption. Thus, young individuals who frequently use social media on their smartphones have a more diverse news repertoire than those with lower social media consumption. An explanation for this finding can be found in the literature on incidental news exposure (Goyanes & Demeter, 2022). On social media, users are exposed to posts from a wide variety of sources on their feeds, which can also include news. Investigating the kinds of posts that are fed via these feeds and whether following the accounts of news outlets on social media makes a difference would be interesting future research directions.

The data also show that mobile news consumption depends on users' interests. People interested in politics do not necessarily inform themselves more frequently in the run-up to votes, but they do so via more different channels than people who are not very interested in politics. The opposite is true for interest in sports, which is positively associated with the duration of news consumption but not with the diversity of sources. We do not

**Table 3.** Binary logistic regression model for participation in the referendum.

	Voting in the referendum	
	Odds ratios (ORs)	CI (95%)
Intercept	1.66	0.85–3.19
Gender: male	0.77	0.42–1.38
Higher education: yes	1.30	0.72–2.38
Age at survey	1.07	0.82–1.38
Political interest	1.36	1.02–1.81
Interest in sports	1.01	0.77–1.34
Interest in soft news	1.09	0.83–1.45
Duration of news consumption	0.98	0.95–1.01
Source diversity of news consumption	1.01	0.98–1.04
Newspaper usage	1.06	0.82–1.38
Broadcast usage	1.09	0.83–1.44
Duration of social media consumption	1.24	0.95–1.66
Use of social media for information	1.03	0.79–1.33
Policy surveillance knowledge	1.57	1.19–2.10
<i>n</i>	309	
<i>R</i> <sup>2</sup> Bayes	0.122	

Note: Odds ratios are shown with 95% credible intervals.



know whether the participants interested in the topic mainly consumed sports news or a more diverse news repertoire, including political news. However, as sports play a substantial role in the output of most news outlets (Vogler, 2021), further studying the role of sports interest in news consumption would be worthwhile.

Our study finds no association between mobile news consumption and political surveillance knowledge about the two referendums. One possible explanation for this finding might be the very little time that the participants dedicate to reading the news. The seven minutes that young adults spend, on average, consuming news on their mobile phones might be too little to have an influence on their acquisition of political knowledge. These results also confirm scholarship, which takes a critical stance against the possibility of information acquisition through mobile devices (Andersen & Strömbäck, 2021; Ohme, 2020). Our study provides some evidence against the displacement model of legacy media by social media. The findings also echo a recent meta-study, which showed that research finds only small to nonexistent relations between social media usage and political knowledge (Amsalem & Zoizner, 2022). Thus, the authors conclude “that the contribution of social media toward a more politically informed citizenry is minimal” (Amsalem & Zoizner, 2022, p. 1).

Furthermore, our findings suggest that factors other than mobile news usage are important for acquiring political knowledge. We found that interest in politics is positively correlated with policy surveillance knowledge about the two referendums, and participation in the referendum. As interest in politics is also positively correlated with the diversity of sources used by individual participants, our study supports the idea that attentive audiences use a broader range of news sources to inform themselves about referendums.

We also want to point out that our study design implicitly followed the assumption that people who simply consume higher quantities of news have higher political knowledge and are more likely to participate in the referendum. Although this assumption is supported by some studies (e.g., Van Erkel & Van Aelst, 2021), we must be aware that looking merely at the quantity of news media consumption on mobile phones will not make us grasp all information seeking, going on during referendum campaigns. Policy surveillance knowledge about a specific referendum must be acquired within a limited time during the campaign. Of course, frequent news users are also more likely to consume information about the referendum. However, we must admit that information about the vote can also be acquired within a short time and be very targeted by reading a few articles or social media posts on the referendum before deciding how to vote, especially when voters are used to routinely fulfilling the task of voting in referendums, such as in Switzerland. Thus, predispositions, such as political interest, political preferences, and attitudes, are most probably important intervening factors between news media

consumption or social media usage, and political knowledge or participation. This assumption is, to some extent, supported by existing research that also points at media effects only for subgroups of the electorate (Rinscheid & Udriș, 2022; Schuck & de Vreese, 2009).

Our findings seem difficult to generalize. Switzerland is a compelling case for studying referendums because of their frequent occurrence in the country. However, referendums are routinely dealt with by voters, and participation is rather low in most cases. For the analyzed cases of same-sex marriage (52.6%) and taxation (52.2%), about half of the population eligible to vote participated in the referendums. This raises the question of how special referendum campaigns in Switzerland really are. The frequent occurrence and routine handling by voters might also have effects on information-seeking patterns, including simple heuristics or shortcuts (Christin et al., 2002; Lupia, 1994). These patterns may be difficult to capture with quantitative studies, such as ours. In other countries, referendums are more likely to be special phases, and the turnout is usually significantly higher (e.g., the voter turnout in the Brexit referendum was 72.2%). Our study might be, to some extent, generalizable to countries where referendums also take place regularly, such as Denmark and Ireland.

### 5.1. Limitations

While this study was able to show an accurate picture of mobile news use, this focus is, at the same time, its greatest limitation. We measured only the relationship between mobile news consumption and political knowledge. Information on voting can possibly be obtained via other channels. Young adults also use online news via other devices, such as desktop computers or offline sources (e.g., newspapers and television). Furthermore, conversations with peers and family are central sources of information for young people (Schwaiger et al., 2022).

Another limitation concerns the granularity of the tracking data. For this study, we tracked only the domains, not the full URLs. Thus, we can determine which media outlets were visited by the participants but not which content they looked at. Thus, future studies on media consumption and policy surveillance knowledge could determine whether participants used content related to the referendums under investigation.

We also encourage future studies to focus on the indirect effects of smartphone usage on political participation. Past research has shown that personal-psychological variables, such as internal political efficacy, cognitive reflection, and political face-to-face discussion, can play an important role as mediators of the effect of news media use on political participation (Andersen et al., 2016; Jung et al., 2011). We did not account for such effects in our study.

We also did not gain any insight into the social media feeds of the participants. We knew whether and how long a social media platform was used but not which

content was consumed. Our tracking started when the participants clicked on a news item on their social media feed. However, we cannot determine the overall importance of news on the participants' feeds, for example, whether they follow news media accounts or read article headlines. Tracking social media content would require a more invasive method and would thus violate the terms of use of most platforms. Therefore, our study points once more to the importance of researchers' access to social media data.

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### Conflict of Interests

The authors declare no conflict of interests.

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