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(Article begins on next page)

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Abstract

The role played by the Internet in young people's political lives has received great research attention. However, two gaps in the literature hinder the drawing of conclusions on how online political participation is related to its offline counterpart. First, although there are multiple hypotheses on the nature of the relationship, they have not been compared in any single study. Second, although the relation may differ according to developmental stage, age differences have not been examined. We address these gaps using longitudinal data from two samples of youth at different developmental stages, and test four hypotheses for each sample. It was found, among late adolescents, that online participation serves as a gateway to offline participation. However, among young adults, offline participation spills over into online participation. These findings indicate the positive potential of online political participation in youth's political lives, and highlight the need to focus on their developmental stages.

Wordcount: 7991 words

Today's youth spend more time online than ever before. Therefore, it is not surprising that, especially among youth, the Internet has increasingly become a place to express political opinions, to get informed about political issues, and, generally, to exert voice and influence on issues of public concern. For example, Smith (2013) reports that two-thirds of American 18-24 year-olds surveyed in 2012 by the Pew Research Center engaged in some sort of social-network-related political activity, whereas only 13% of individuals over 65 engaged in activity of this kind. The proportions were substantially different in 2008 when less than one-third of youth were engaged in political activities online (Smith et al., 2009). In sum, youth are much more likely to be politically active online than older adults, and to be politically active online today than in the past.

However, the roles online political activities play in relation to more conventional modes of political participation among youth are not yet clear. For example, some scholars have maintained that, given its cost-effective and convenient nature, online political participation may serve as a training ground for subsequent offline participation (Brunsting and Postemes, 2002; Hirzalla and Van Zoonen, 2011). By contrast, some others have conceived online participation as an appendage to more conventional offline political action (Best and Krueger, 2005; Norris, 2001). In general, there are multiple, yet competing, hypotheses on the relation between online and offline political participation in the literature. However, for two main reasons, it is difficult to date to draw any convincing conclusions on how young people relate their online

political actions to their offline ones. First, the different hypotheses have been tested separately across different studies. Second, although young people at different stages of development are likely to be distinct in relating their online to their offline political participation, potential differences related to developmental stage have not yet been taken seriously.

In this study, we aim to address the two gaps in the literature just referred to. We compare multiple hypotheses on the relation between online and offline political participation over time in order to specify models that most accurately depicts youth participation. In addition, by using two samples of youth at different developmental stages (late adolescence and early adulthood), we aim to establish whether the ways in which youth relate their online to their offline participation differs according to their level of political development.

The relation between online and offline political participation

The literature offers many plausible hypotheses on the relation between online and offline political participation. Each of these hypotheses has a reasonable conceptual grounding, and has been supported by some empirical evidence. This suggests that a confirmatory approach, focusing on a single preferred hypothesis is essentially limited in drawing any convincing conclusion concerning the superiority of that one hypothesis to other plausible hypotheses. Accordingly, the relation between online and offline political participation is in need of an investigation that is capable of including and

comparing multiple competing models. In the current study, we present such an investigation by introducing and comparing four competing hypotheses (see Figure 1).

The independence hypothesis. The *independence hypothesis* hinges on the argument that online and offline spheres work independently of each other (Emmer et al., 2012). On this view, online and offline political behaviors develop separately. Some studies that have examined whether the behaviors traverse the border between the online and offline spheres support this view. For example, one study examined the role played by the political use of social networking sites in fostering political participation among college students (Baumgartner and Morris, 2010). It was found that the young adults who read the news on social networking sites were also the ones who participated in online political activities. However, such a pattern did not appear with regard to offline political activities. Another experimental study examined the possible differential effects of mobilizing politically online or offline (Vissers et al., 2012). It was found that the young people who received information via online channels participated in online activities, while those who received information via offline channels participated in offline activities. Finally, Emmer et al. (2012) examined three types of activities – information-seeking, communication, and participation – both online and offline. They found that activities in the one sphere were only weakly related to the same activities in the other. On the basis of these studies, we should expect online and offline participation to develop quite separately.

The spillover hypothesis. The *spillover hypothesis* is derived from the proposition that offline political actors utilize online tools to further their influence. Indeed, many scholars have argued that political reality in the offline world is reproduced in the online world (Delli Carpini and Keeter, 2002; Norris, 2001). That is, the individuals who are already politically interested, knowledgeable, and active offline would also be the ones who use the Internet for political purpose. This perspective puts offline political participation before online participation. For example, it suggests that online participation is an imitation of offline participation (Krueger, 2002, 2006). Similarly, already-offline activists are described as willing to exploit the political potential that the Internet provides. Accordingly, on this view, young people's offline political participation should lead to online political participation.

The gateway hypothesis. The *gateway hypothesis* is that online participation nurtures subsequent offline participation. It builds on the assumption that political experiences in the online sphere may 'preheat' subsequent offline political participation. Once people have opportunities to learn skills (Conroy et al., 2012; Livingstone et al., 2007), to build on their underlying qualities (Wang, 2007), and to be psychologically empowered (Velasquez and LaRose, 2015) to engage in politics in a less demanding environment (i.e. online), they are likely to make a similar attempt in a more demanding environment (i.e. offline).

Some empirical evidence supports the gateway hypothesis. For example, Conroy et al. (2012) examined how holding a political-group membership on a social networking site is linked to offline participation. In order to interpret the results, the authors relied on the idea that mastery experiences derived from holding political membership online may have been transformed into offline behaviors. Wang (2007) also showed that political use of the Internet promotes offline political activities by increasing users' feelings of trust and efficacy. Similarly, Harlow (2012) observed that online social movement is transferred into offline political movement; in line with the reasoning above, the authors referred to an increase in sense of community and efficacy as a potential mechanism that underlies the observed link. Based on such evidence, it should be expected that online political participation fosters offline political participation over time.

The reciprocity hypothesis. The *reciprocity hypothesis* suggests that online and offline political activities mutually affect each other. The reasoning behind this view stems from questioning whether it is actually meaningful to separate the online and offline spheres. Some suggest that online and offline activities are often inextricably woven, and that we should expect the co-development of activities in the two spheres. There are some studies that illustrate this line of reasoning. Nam (2012), for example, found that people who are politically active online are also the ones who are politically active offline, concluding that 'online and offline political activities reciprocally

strengthen each other' (Nam, 2012: S94). Similarly, Harlow and Harp (2012) reported that today's activists have the perception that online activism is translated into offline activism, and vice-versa. And a more straightforward finding is reported by Vissers and Stolle (2014) from their longitudinal examination of the relation between online and offline participation among college students. Specifically, after controlling for the effects of background and attitudinal factors, they found both that earlier online political participation predicted later offline participation and, at the same time, that previous offline political participation predicted later online participation. On this view, we should expect online and offline political actions reciprocally to affect each other over time.

Developmental stage: late adolescence vs. early adulthood

The increasing popularity of research into young people's online political participation is rooted in two phenomena: young people get less and less engaged in political affairs (Putnam, 2000), and they are more avid users of the Internet than members of any other age group (Smith, 2013). This has created an expectation that online political participation plays a particular role in improving participatory actions among young people (Delli Carpini, 2000; Quintellier and Vissers, 2008). However, while it is well accepted that young people are often politically active online, far less is known regarding whether and how their online political participation is connected to their more conventional participation, i.e., offline political participation (Boulianne,

2009). Accordingly, it is suggested that more detailed studies of young people are needed in order to reach more definite conclusions on this topic (Author, 2015). We suggest that one way of doing this is to focus on the different developmental stages of young people.

To start with, we need to operationalize the developmental stages. In the current study, we differentiate between adolescents and young adults. Although drawing lines between developmental stages is always arbitrary to some extent, the age of 18 is generally accepted in the field of human development as serving as a cut-off point between adolescence and adulthood (Berk, 2009). More specifically, before the age of 18, adolescents are considered to have achieved biological maturation, but not yet social maturation at the level of typical adults (Berk, 2009). Given that political participation has many essential features at societal level (further specified below), we believe that our differentiation is appropriate for the purpose of this study.

In the literature on the relation between online and offline political participation among youth, to our knowledge, there is no study available that focuses on the potential differences deriving from developmental stage. Many of the previous studies on this topic that have focused on youth groups have relied on either adolescent samples or early-adult samples only (e.g. Baumgartner and Morris, 2010; Conroy et al., 2012; Harlow, 2012; Quintelier and Vissers, 2008; Velasquez and LaRose, 2015; Vissers et al., 2012). Although some studies have covered both age groups (e.g. Bakker and De

Vreese, 2011; Hirzalla and Van Zoonen, 2011; Linaa Jensen, 2013), none of them have examined the differences between youth at distinct developmental stages.

There are, however, reasons to believe that age differences deserve examination. Adolescents and young adults differ in their political features in many ways (Finlay et al., 2010; Sears and Brown, 2013). For example, during adolescence, youth generally build up fundamental, underlying qualities for political participation, such as perspective-taking, communication skills, and political attitudes or norms (Sherrod et al., 2010). By contrast, during early adulthood, young people actually exercise their political influence in a public setting, which, according to McIntosh and Youniss (2010), is a decisively different experience from building underlying qualities. In addition, the opportunities for political participation are more open to young adults than to adolescents. By contrast with adolescents, young adults are not only in a diverse social network which is likely to mobilize them, but they are also given full legal rights for political participation (Finlay et al., 2010; Stepick et al., 2008). These factors indicate that the period between adolescence and early adulthood is a critical juncture in terms of political development (Sherrod et al., 2010), and overall, young adults are expected to be more politically capable and experienced than adolescents.

We argue that youth with different levels of political capabilities and experiences are likely to relate their online political participation to offline political participation distinctively. As mentioned above, online political activities have some

attractive features for potential (and actual) participants, such as low levels of required skills and resources for participation (Bakker and De Vreese, 2011; Hirzalla and Van Zoonen, 2011), and great potential for expanding influence and networks (Harlow and Harp, 2012). In the case of young people, which of these features are most appealing, we argue, depends on their levels of political capabilities and experiences, which will subsequently influence the direction they take between online and offline political participation. For example, the easiness of online political participation is likely to appeal more to adolescents who are politically less skillful and experienced. If 'online activism is likely to be an easy entry point for participants who are relatively new to the game' (Brunsting and Postmes, 2002: 550), adolescents' online political participation will serve as a gateway to offline political participation. By contrast, young adults who have already accumulated political skills and established habits of offline participation are more likely to use the online sphere to expand their political repertoire. Therefore, it seems reasonable to expect the path from offline to online political participation to be taken. In sum, the direction between online and offline political participation is likely to differ between youth at different developmental stages, such as adolescence and early adulthood.

The current study

Given the increasing significance of online political participation among young people, it is important to obtain a precise understanding of how they relate their online

political participation to more conventional types of political participation (i.e. offline participation). Also, although whether the relation differs according to developmental stage is unexplored, it remains fairly plausible. In the current study, we compare four hypotheses on the relation between online and offline participation over a two-year time span, separately for adolescents (from 16 to 18 years-old) and young adults (from 22 to 24 years-old). The independence hypothesis is that there is no interrelation between online and offline political participation, and serves as the null hypothesis. We then proceed sequentially to hypotheses that assume more complex interrelations between online and offline political participation (i.e., to the spillover and gateway hypotheses, and finally to the reciprocity hypothesis). On the basis of levels of political capabilities and experiences, among adolescents, we would expect the governing pattern of the relation to be founded in a path from online to offline political participation. Hence, the gateway hypothesis would be supported as the best model for adolescents. By contrast, among young adults, we would reasonably expect a path from offline to online political participation. Hence, we would expect that the best model for young adults would be founded in one of the hypotheses that assume such a path, i.e. the spillover and reciprocity hypotheses.

Method

Participants and procedure

We relied on longitudinal survey data acquired in Sweden on a sample of

adolescents and a sample of young adults living in a city of about 130,000 inhabitants, which is similar to the country as a whole regarding its immigration rate, income level, and unemployment rate. One cohort of 16 year-olds and one cohort of 22 year-olds (at the time of the first survey) were surveyed twice, at a two year interval.

The target sample of adolescents consisted of 16 year-olds in the 1st grade of 3 high schools in Örebro municipality. They completed the first survey during regular school hours in sessions with trained test leaders. Parents were informed of the study ahead of time and could say no to their children's participation by returning a note in a pre-paid envelope. A contribution of about 110 € was made to class funds. The first data collection took place between April and May 2010, with 864 students participating in the study; the second took place between March and May 2012, with 717 participants.

The target sample of young adults consisted of 1000 22 year-olds randomly extracted from the total population of the same age living in Örebro in 2010. The questionnaire was sent by regular mail to the target sample, together with information about the study and a personalized link to the online version of the questionnaire. Participants received a gift card of approximately 28 € for their participation. The first data collection took place between November 2010 and February 2011, with 532 participants; the second took place between November 2012 and February 2013, with 575 participants. All the procedures were approved by the Regional Ethics Board in Uppsala.

In the following analyses, we treated missing cases using the Mplus default option which estimates a model using all available data according to missing-data theory. This means that we included all our participants in the analyses, including those who participated at only one wave of collection. Taken as a whole, the samples included 964 adolescents and 698 young adults. Table 1 gives information about the target samples and the national population of corresponding age, including their socio-demographic characteristics.

Measures

In the current study, we adopted the definition of political participation by Verba and Nie (1972) as comprising: 'those activities by private citizens that are more or less directly aimed at influencing the selection of governmental personnel and/or the actions they take' (Verba and Nie, 1972: 2). At each wave we asked participants if they have been engaged in seven offline activities in the last 12 months and six online different political activities in the last two months (with the following response options: 1 'No', 2 'Yes, occasionally', and 3 'Yes, several times'). Table 2 gives the full texts of the items and descriptive statistics for all the waves included in the study.

As a first step, given the argument that online and offline political behaviors may not be separable among contemporary young people (Gibson and Cantijoch, 2013), we tested whether online and offline participation can be considered as distinct constructs or whether they tap one single and general dimension of political engagement. For this

and for all the subsequent analyses, we used Mplus, version 6 (Muthén and Muthén, 1998-2012), using the Weighted Least Squares Means and Variance Adjusted (WLSMV) estimator for ordered categorical variables. Results from two confirmatory factor analyses (two-dimension vs single dimension model) indicated that, both among the adolescents and the young adults, the two-dimension solution should be preferred to the single-dimension model.

As a second step, we checked whether our measurement model was invariant over time by comparing the models in which the factor loadings of offline and online participation items were free to differ over time with the models in which factor loadings were constrained to be equal at each time point. The comparison of the models confirmed the invariance of the measurement model over time.[1]

Also, three socio-demographic characteristics were included as control variables: gender (1 = girls), immigration status (1 = born outside Sweden), and perceived socio-economic status (SES). To assess adolescents' SES we asked them five questions about their family economic situation (e.g., to indicate whether their parents can afford to buy things that cost a lot of money, Cronbach's α = .79). To assess young adults' SES we asked them if it happened that they had difficulty in handling ongoing expenses, for food, rent, household items, etc. (1 'yes', 0 'no').

Results

Preliminary analyses

As a first step, we established whether adolescents and young adults differ in how often they participate in political activities online and offline. A set of t-tests showed that young adults are politically more active offline ($M = 1.32$, $SD = .30$) than adolescents ($M = 1.22$, $SD = .34$), $t(1387) = 5.64$, $p < .001$, $d = .32$; however, the frequency of political participation online was not statistically different between the two age groups (adolescents $M = 1.26$, $SD = .35$; young adults $M = 1.23$, $SD = .32$, $t(1393) = 1.67$, $p = .09$). Within the adolescent group, online political participation ($M = 1.26$, $SD = .35$) was more popular than offline participation ($M = 1.22$, $SD = .34$), $t(859) = 3.39$, $p < .01$, $d = .12$. To the contrary, among young adults, offline political participation ($M = 1.32$, $SD = .30$) was more popular than online participation ($M = 1.23$, $SD = .32$), $t(528) = 6.82$, $p < .001$, $d = .29$.

Tests of the hypotheses

In order to test our hypotheses, we compared four autoregressive cross-lagged models. These models represent bivariate extensions of the autoregressive models that are based on the assumption that each latent construct is a function of its former value at the previous time point, but with a random error. Thus, the autoregressive components of the models are described by stability coefficients that reflect the amount of change between the two points over time (Schlüter et al., 2006). In this case, the latent constructs of both online and offline participation are regressed on their lagged score, and also on the lagged score of the other type of participation as measured during the

previous wave. The cross-lagged coefficients and their magnitudes indicate how well variation in the one form of participation at the first wave predicts change in the other form of participation at the subsequent wave.

This analytic strategy enabled us to test and compare our four different models. The most restrictive model that serves as a null hypothesis is the independence model in which both paths from offline to online and from online to offline are constrained to be equal to 0. On a continuum from the most to the least restrictive model, we have the gateway model, in which only paths from online to offline participation are set free, and the spillover model, in which, to the contrary, only paths from offline to online participation are set free. Finally, the least restrictive model (the reciprocity model) includes, besides the stability coefficients, the reciprocal paths of influence between the two spheres of political participation.

We compared the models' fit indexes (CFI, TLI, and RMSEA) and the χ^2 difference. Results from this comparison are reported in Table 3. The indexes indicate that all the models fit the data well, but they are not substantially informative regarding which of the models fits best. However, in the sample of adolescents, the χ^2 difference test indicated that there is a significant increase in model fit when freeing the paths from online to offline participation (gateway vs. independence), while freeing the paths that go from offline to online do not significantly improve model fit (spillover vs. independence). Moreover, simultaneously freeing both the cross-lagged paths

(reciprocity model) does not improve the model when compared with the fit of the gateway model. Thus, the gateway model fits the data collected from 16 year-olds best.

Quite differently, in the sample of young adults, the χ^2 difference test indicated that there is a significant increase in model fit when freeing the paths from offline to online participation (spillover vs. independence), while freeing the paths that go from online to offline do not significantly improve model fit (gateway vs. independence). Moreover, simultaneously freeing both the cross-lagged paths (reciprocity model) does not improve the model when compared with the fit of the spillover model. Hence, the spillover model fits the data collected from 22 year-olds best.

The results from the gateway model for adolescents and from the spillover model for young adults are depicted in Figure 2. The stability coefficients for online participation are similar in the two age groups, whereas the stability coefficients for offline participation are of very different magnitudes (.15 for adolescents and .77 for young adults). This suggests that offline participation is an established habit among the older youth but is much more unstable among the younger. More interesting for our purpose are the cross-lagged paths between online and offline modes of engagement. Among adolescents, online participation at T_1 fosters offline participation at T_2, but the reverse is not true. Hence, during this age period, online participation is a gateway to offline participation. The picture is different for young adults. In this case, offline

participation at T_1 fosters online participation at T_2 (but the reverse is not true). During this age period, offline participation spills over into online action.[2]

Discussion

In the current study we analyzed the longitudinal relation between online and offline political participation among adolescents and young adults. We initially considered four hypotheses (independence, spillover, gateway and reciprocity). The independence hypothesis, the null hypothesis in our comparisons, was rejected for both cohorts, indicating that there is a certain interrelation between online and offline participation among these youth groups. To be more specific, during late adolescence, online political participation is a *gateway* to offline political participation, while, during early adulthood, offline political participation *spills over* into online political participation. We discuss these findings in relation to what it means to youth to be politically active online, and how developmental stage affects the nature of the relation between online and offline political participation. We also consider what these findings add to the earlier literature and to our understanding of the optimistic potential of online political participation among the young.

Before discussing the main findings, we would like to point to two aspects that reflect fundamental issues regarding young people's online political participation. First, it has been suggested that online political participation is more ecologically friendly to adolescents (compared with older citizens), and less burdensome than offline

participation (Bakker and De Vreese, 2011; Bennett et al., 2009; Hirzalla and Van Zoonen, 2011). To some extent, our findings are in line with this suggestion in that adolescents' online political participation seems to be more popular than offline political participation. What is more noteworthy, however, is that, as for online political participation, adolescents seem to be equally as active as young adults. That adolescents are equally active as (or even more active than) young adults is generally known regarding their general, everyday internet use, and also some rudimentary forms of online political behavior (e.g., news consumption). However, our finding adds to the literature concerning young people's substantive, participatory political behaviors, about which much less is known (Linaa Jensen, 2013). We suggest that this finding is not consistent with the common idea that adolescents are in a disadvantageous position in their political participation due to constraints such as lacks of skills and resources. Rather, our finding implies that such constraints may be loosened in the online sphere. Required resources for participation are substantially fewer in the online sphere than in the offline sphere (Hirzalla and Van Zoonen, 2011), and adolescents are equally skillful as adults in their dealings with the Internet, if not better (Livingstone, 2007). This may have led to our adolescents and young adults having the same level of online political participation. Altogether, the level of adolescents' online political participation, in comparison with both their own offline participation and with their older counterparts'

online participation, implies that the online sphere offers very important and promising space for adolescents' political development.

Second, the stability of the forms of political participation over two years is of interest (Figure 2). Regarding offline political participation, stability was found to be distinctly higher among young adults than among adolescents. Not surprisingly, this is consistent with the long-standing idea that during adolescence and up until adulthood people are very open to change, but later their orientations become highly stable (for a theoretical framework, see Sears and Brown, 2013; for empirical findings, see Prior, 2010). By contrast, the stability of online political participation was almost the same in the two cohorts. There are two potential explanations. First, online political participation is characterized by looser commitment than offline political participation (Bennett et al., 2009). This may contribute to lower stability among young adults in their online participation than in their offline participation. Second, the features of online political participation have been evolving, continuously creating new types of actions, and expanding users' control and accessibility (Kim and Amnå, 2015; Emmer et al., 2012). Such evolving features of online political participation may preclude young adults from establishing a stable pattern of participation. It is not possible here to determine which of these potential interpretations explain our findings, although future studies with a cohort-sequential design may be able to provide more decisive information. However, irrespective of which is the case, our findings show that there is room for change in

online political actions, even among adults. The online sphere deserves continuous attention as an important participatory arena, especially for young people.

The gateway hypothesis during late adolescence

We found that, among adolescents, online political participation leads to their later offline political participation. This finding is largely consistent with many previous studies that have focused on the potential of the online sphere to act as a training ground for political development (Conroy et al., 2012; Livingstone et al., 2007; Velasquez and LaRose, 2015; Wang, 2007). The current study expands previous work in this area in several ways. First, we specifically focused on adolescents, who have received much less attention than older youth. Second, unlike many other studies which have relied on cross-sectional data, the current study had a longitudinal design. Third, while many previous studies have focused on informational and communicational behaviors online, we examined participatory behaviors that have recently emerged, but are highly relevant to understanding young people's political repertories (Bennett et al., 2010; Linaa Jensen, 2013). Fourth, we derived our final model after comparison with competing models. We believe that these differences add greater certainty to the proposition that online political participation among contemporary adolescents is capable of serving as a gateway to offline political participation.

Our finding is relevant to potential strategies for boosting political participation among adolescents. Given the popularity of online political participation among

adolescents and the boost it gives to offline participation later on, interventions should allocate resources for the encouragement of online political participation. In addition, if the online sphere serves as a training ground, the success of interventions may also depend on how to ensure that adolescents have substantive, specific, and hands-on experiences in their online political participation. That is, maximizing the mastery aspect of online political participation among adolescents may be a key to success in encouraging their subsequent offline political participation.

The spillover hypothesis during early adulthood

Among young adults, the spillover hypothesis best explained the relationship between online and offline political participation over time. The more young adults participated in offline politics early on, the more they participated in online politics later on. In a sense, this finding is in line with the idea that political realities offline mirror realities in the online sphere (Delli Carpini and Keeter, 2002; Norris, 2001).

Nevertheless, we would like to highlight another aspect of the picture that has received less attention, namely what it means to today's young adults to be active online. The spillover hypothesis has mainly been discussed in terms of online political behaviors being copies of offline behaviors. Such a conception was relevant when the Internet first permeated people's lives as a new medium, and the range of actions that people could undertake online was limited. However, this is not the case for today's young adults, who have been in the Internet environment since they were children,

while the affordances of the Internet have radically expanded (Linaa Jensen, 2013; O'Reilly, 2007). Accordingly, it is likely that online behaviors are more than mere copies of offline behaviors. For example, Harlow and Harp (2012) describe how the online sphere enables individuals to build a collective identity and support networks at levels beyond those that each individual can reach offline. That is, it is also likely that the young adults of today who have developed a certain degree of political routine seem actively to use the Internet to supplement their offline efforts, or to further expand their influence. All in all, our study generally supports the idea that offline political behaviors spill over into the online sphere among young adults. And, it also calls for further reflection on what such spillover means to them in order to obtain a better picture of how young people construct their overall political portfolios.

Developmental stage and the nature of the relation between online and offline political participation

One particular issue that we aimed to highlight was that developmental stage may affect the way online and offline political participation are related to each other. Due to different levels of political capabilities and experiences (Finlay et al., 2010; Sears and Brown, 2013), we expected that late adolescents and young adults would present distinctly different patterns of political participation. Consistent with our expectation, different models were supported for each of youth groups in the current study. This implies that developmental stage should be carefully considered in future

studies that explore the relation between online and offline political participation, and may be especially important when study participants are expected to face an influx of politically new and challenging experiences. The age gap between the two cohorts of this study was six years. These six years may be only a small portion of a whole life, but, in terms of political development, they are regarded as one of the most critical periods (McIntosh and Youniss, 2010; Sherrod et al., 2010). Our study suggests that all-too inclusive approaches that place all young people in a homogenous group should be avoided whenever possible.

Limitations and future directions

Some limitations of the current study should be noted. First, the reference periods for online and offline political participation were not identical. Specifically, for online political participation, we measured participants' behaviors over the last two months, while, for offline political participation, over the last one year. This may have introduced a bias that overstates the causal relation between offline and online political participation. To be more specific, reports of offline political participation over the last year are likely to include more stable and established behaviors compared with reports of online participation over the last two months. As such, the stability over time of offline participation might have been inflated, thereby understating, to some extent, the effect of online on offline participation. However, if this is the case, the gateway effect for online participation that we found is even more compelling, given that it runs

counter to this bias. In other words, a stronger effect of online on offline participation may have been obtained if the same reference period had been used. Future studies that carefully match the reference periods of the two measures would provide more precise estimates, which would be free from the potential bias.

Second, we could not directly investigate the processes that explain the relationship between online and offline participation over time. For example, we found that online political experiences facilitate subsequent involvement in offline political actions among adolescents. We based our reasoning on empirical evidence showing that the online sphere might serve as a training ground (e.g. Conroy et al., 2012; Velasquez and LaRose, 2015, Wang, 2007), but we could not directly assess whether our respondents considered or perceived their involvement in online political activities as an exploration in democratic practice. The same applies to the findings on young adults. We did not test directly whether young adults engaged in politics online in order easily to expand their political influence over and above the level they could achieve offline. Future studies should consider this line of inquiry in depth by addressing the meanings associated with political use of the Internet among young people.

Finally, we relied on data collected in one town in one country, and the usual limitations in terms of generalizability apply. Our samples were very similar to the population of Sweden concerning gender distribution and nationality (see Table 2), even though girls were slightly overrepresented and youth born outside Sweden slightly

underrepresented in the 22 year-old group. Given the quasi-representative nature of our samples, we do not expect it to be problematic to generalize our findings to Sweden as a whole. However, we should be cautious about generalizing to contexts where different political scenarios are to be expected. For example, if a society is less democratized and freedom of speech/participation is restricted, although the anonymous nature of the online sphere may easily attract people, the connection between online actions and offline ones may be quite difficult to detect. Thus, we suggest for future studies that the nature of the political context is a good candidate factor to take into account as an influence on the relation between online and offline political participation.

Conclusion

The current study aimed better to understand what it means for today's youth to be politically active online, in relation to both their offline political participation and at different developmental stages. Overall, we conclude that online political participation has some positive roles to play in young people's political lives, but its specific role differs according to developmental stage. Online political participation enhances young people's political lives by facilitating adolescents' entry into more demanding forms of politics and by allowing young adults further to exert their influence. In an era where young people's online participation is becoming a more important part of their political lives, society will benefit if it is prepared wisely to utilize and realize the positive potential of online political participation among them.

Footnotes

1. Results of these analyses are available upon request.

2. We ran parallel analyses introducing gender, nationality, and SES as control variables. We obtained similar results regarding both the model fit indexes, and the magnitude and statistical significance of the coefficients. We also replicated the analyses by using listwise deletion of missing data (N = 568 in the 16 year-old group, and N = 349 in the 22 year-old group). The results of the replication were substantially similar to the ones reported here.

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Table 1. Response rates and socio-demographic characteristics of the samples and of the national population of corresponding age.

	16 years cohort	22 years cohort*
Number of respondents at T_1	864	532
Number of respondents at T_2	717	575
Gender (female) – sample	49.8%	64.5%
Gender (female) – population	48.8%	48.8%
Nationality (born outside Sweden) – sample	7.0%	8.1%
Nationality (born outside Sweden) – population	8.8%	15.1%

Note. Descriptive statistics for gender and nationality refer to the final samples of respondents who participated at both waves. *Age group of reference in the national population is 20–24

Table 2. Item wordings and descriptive statistics.

	Age 16-18		Age 22-24	
	T$_1$	T$_2$	T$_1$	T$_2$
Offline participation	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*
1. Collected signatures	1.14 (.44)	1.11 (.38)	1.07 (.28)	1.04 (.23)
2. Contacted a politician or public official	1.14 (.43)	1.22 (.49)	1.19 (.46)	1.11 (.37)
3. Boycotted or bought certain products for political, ethical or environmental reasons	1.22 (.54)	1.38 (.66)	1.68 (.78)	1.64 (.77)
4. Taken part in a legal demonstration or strike	1.10 (.38)	1.10 (.35)	1.15 (.45)	1.07 (.31)
5. Attended a public meeting dealing with political or social issues	1.26 (.55)	1.26 (.53)	1.30 (.57)	1.20 (.49)
6. Taken part in concerts or a fundraising event with a political cause	1.13 (.41)	1.11 (.36)	1.14 (.39)	1.07 (.30)
7. Signed a petition	1.52 (.63)	1.66 (.64)	1.69 (.64)	1.45 (.61)

Online participation	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
1. Signed an online petition	1.24 (.53)	1.35 (.59)	1.24 (.49)	1.26 (.55)
2. Participated in an Internet-based protest	1.17 (.46)	1.21 (.49)	1.20 (.48)	1.21 (.49)
3. Wrote about politics or societal issues on my own blog or homepage	1.11 (.37)	1.08 (.33)	1.10 (.35)	1.08 (.34)
4. Linked video clips with a political content	1.15 (.43)	1.31 (.58)	1.18 (.48)	1.18 (.47)
5. Connected to a group on Facebook (or similar) that is concerned about societal issues	1.59 (.73)	1.38 (.62)	1.42 (.65)	1.32 (.58)
6. Sent music that I think has a good political and societal message	1.29 (.57)	1.24 (.55)	1.22 (.52)	1.20 (.50)

Table 3. Results of nested model comparisons between the four hypotheses.[a]

	χ^2	df	p	CFI	TLI	RMSEA	Model comparison	$\Delta\chi^2$	df	p
Age16-18 (N = 964)										
Independence	564.355	291	<.001	.958	.953	.031	-			
Spillover	566.058	290	<.001	.957	.952	.031	Vs. Independence	2.485	1	.115
Gateway	522.888	290	<.001	.964	.960	.029	Vs. Independence	17.757	1	<.001
Reciprocity	524.414	289	<.001	.964	.959	.029	Vs. Gateway	1.779	1	.183
							Vs. Spillover	18.072	1	<.001

Age 22-24 (N = 698)										
Independence	441.556	293	<.001	.962	.958	.027	-			
Spillover	436.352	292	<.001	.964	.959	.027	Vs. Independence	4.714	1	.030
Gateway	442.310	292	<.001	.962	.958	.027	Vs. Independence	1.314	1	.251
Reciprocity	436.956	291	<.001	.963	.959	.027	Vs. Gateway	6.084	1	.014
							Vs. Spillover	.030	1	.863

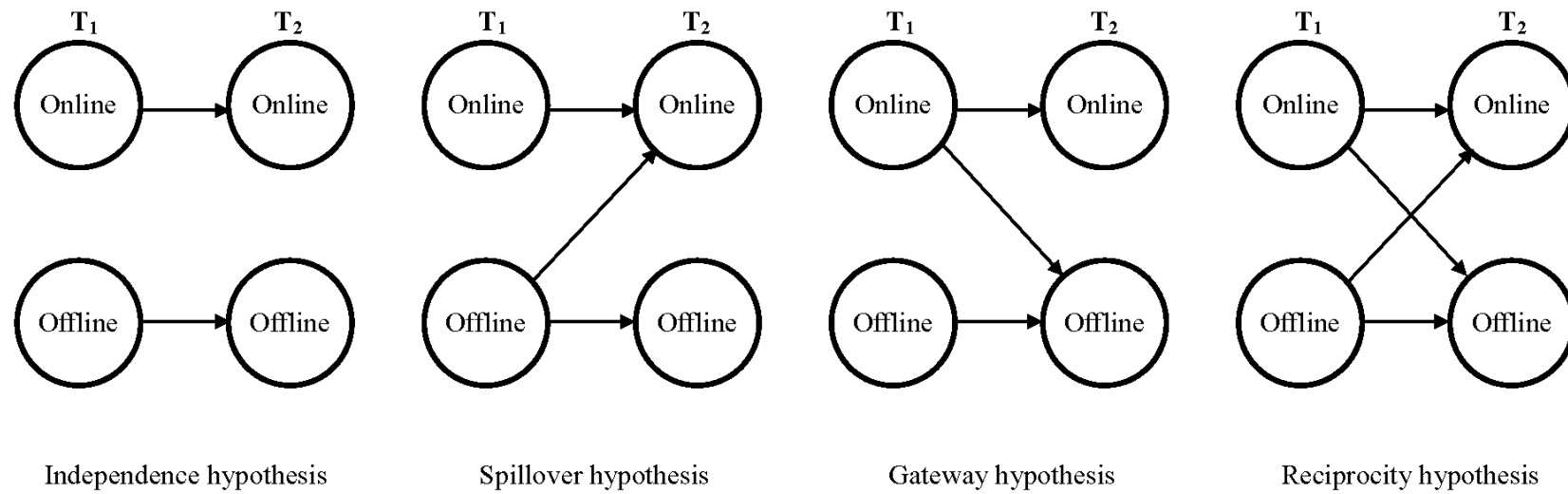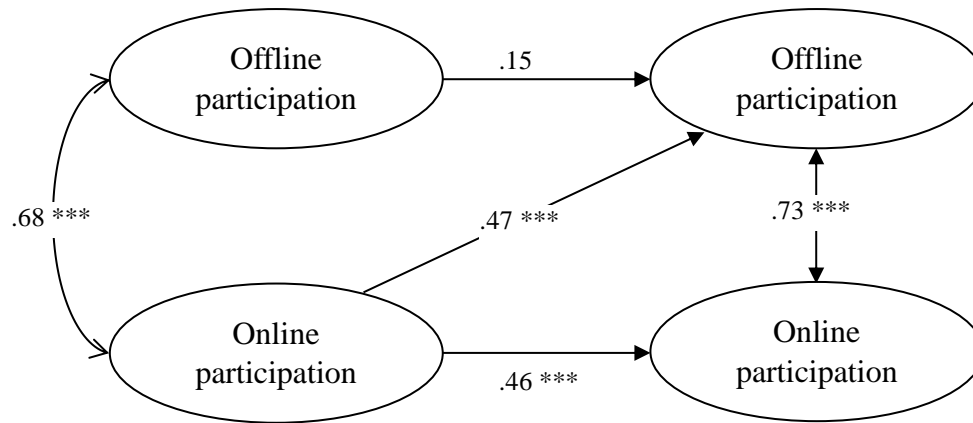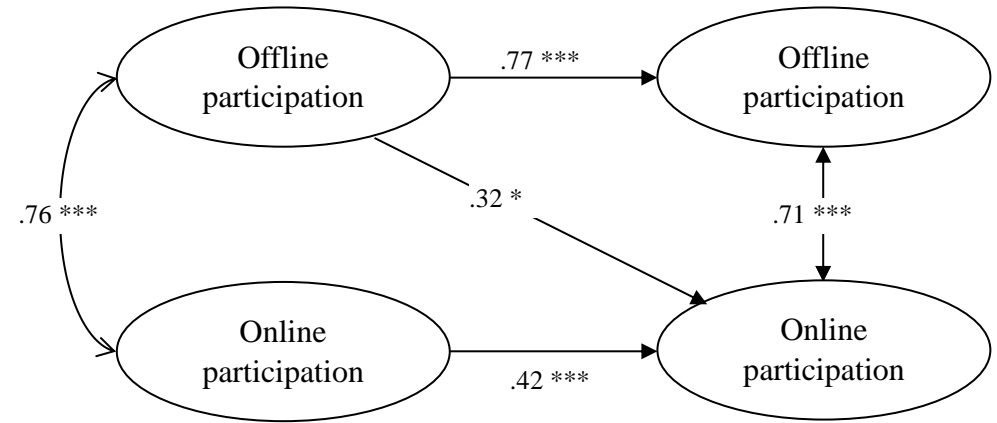[a] CFI, Comparative Fit Index; RMSEA, Root Mean Square Error of Approximation; TLI, Tucker–Lewis Index.

Figure 1. Four hypotheses on the longitudinal relation between online and offline political participation.

Figure 2. Selected model for each group of youth. Standardized coefficients: * $p < .05$, *** $p < .001$.