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RESEARCH

Self-reported health and democratic innovations: the case of the citizens' initiative in Finland

Henrik Serup Christensen[1] · **Maija Setälä**[2] · **Maija Jäske**[2]

Abstract This study examines the association between self-reported health and the propensity for supporting citizens' initiatives in Finland. Democratic innovations such as the citizens' initiative provide novel ways for citizens to express their preferences, but whether people in poor health make use of such possibilities remains unclear. The data come from the Finnish National Election Study (FNES2015), a cross-sectional representative sample of the Finnish population. The results suggest that self-reported health affects the propensity to sign citizens' initiatives, but the effect depends on age since it mobilizes young citizens in poor health, whereas the impact on older generations is negligible.

Keywords Health · Democratic innovations · Citizens' initiative · Political participation · Marginalization

Introduction

The link between self-reported health and political participation has gained increasing scholarly attention in recent years (Denny and Doyle 2007; Mattila et al. 2017; Söderlund and Rapeli 2015; Pacheco and Fletcher 2015; Schur et al. 2015; Burden et al. 2017). Non-participation due to health issues seems to be a problem from the perspective of democratic inclusion, which requires that all affected by a decision should be included in and have influence on decision-making (Young 2000: 5–6).

✉ Henrik Serup Christensen
henrik.christensen@abo.fi

[1] Samforsk, Åbo Akademi University, Fänriksgatan 3A, 20500 Turku, Finland

[2] Department of Philosophy, Contemporary History and Political Science, University of Turku, Turku, Finland

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Furthermore, health and political participation is likely to grow even more topical because of ageing populations all over the world. For this reason, it is a cause for concern that several studies show that people suffering from various health problems are less likely to vote (Denny and Doyle 2007; Mattila et al. 2013; Pacheco and Fletcher 2015; Schur et al. 2015; Burden et al. 2017). The participatory gap that exists between people suffering from serious health problems and the general population potentially constitutes a problem for democracy (Sonnicksen 2016).

The use of so-called democratic innovations offers a potential remedy by offering new avenues for citizen involvement (Smith 2009; Geissel and Newton 2012). Previous research on participatory inequalities has largely focused on inequalities related to socio-economic status (Verba et al. 1995; Lijphart 1997). At the same time, new forms of participation, especially deliberative processes such as citizens' juries, have been frequently applied in the resolution of health policy issues (Degeling et al. 2015; Parkinson 2006: 51–63). Nevertheless, there is little research on whether such participatory innovations help resolve democratic challenges created by health issues.

We contribute to this research agenda by examining the relationship between health status and propensity for supporting citizens' initiatives in Finland. The Finnish citizens' initiative is an interesting case since it provides a rare example of a recently introduced democratic innovation at the national level. It also provides an accessible tool for conveying specific political demands to decision makers, which may make it particularly appealing to people with health problems. We use data from the Finnish National Election Study from 2015 (FNES2015), which is a representative cross-sectional election study to examine the impact of self-reported health status on the propensity for supporting initiatives. Furthermore, we examine differences depending on age since previous studies suggest that age is an important moderator for the impact of health on other forms of political participation (Mattila et al. 2013; Pacheco and Fletcher 2015).

The results suggest that poor health is associated with a greater propensity for supporting initiatives, but this association is only valid for younger generation, whereas the impact is negligible for the old. While this shows that democratic innovations in the form of citizens' initiatives can contribute to putting health issues on the political agenda, there is a risk that they favour certain issues over others, and they may therefore inadvertently marginalize issues that mainly affect older generations.

The challenge of health to democratic inclusion and how to confront it

The one man, one vote-principle clearly reflects the idea of political equality as well as an aspiration for equal opportunities for citizens to influence political decision-making. However, citizens do not take advantage of this right equally. It has been a cause of concern that several studies show inequalities in political participation along socio-economic characteristics (Verba et al. 1995; Lijphart 1997). Unequal participation entails a risk that political outcomes disproportionately reflect the preferences of the privileged and may therefore perpetuate

and aggravate existing societal inequalities. From a democratic perspective, participation of people in poor health can also be seen as valuable in its own right, because it develops individuals and their capacities (Mansbridge 1999). Political participation thus has the potential to serve as means to alleviate social isolation that illness may cause (Couture and Breux 2017).

Whether or not non-participation constitutes a problem for democracy depends at least to some extent on the motives underlying the abstention. While political participation is necessary for any democracy, many consider a degree of passivity as a requirement for a stable democratic system (Almond and Verba 1963). Most empirical studies contend that people are less willing to participate since they have grown disenchanted with the political system and therefore find little reason to participate (Stoker 2006). However, abstention may also indicate satisfaction with the status quo or that most citizens prefer never to be involved in politics, as argued by Hibbing and Theiss-Morse (2002). Nevertheless, abstention is clearly a problem from the perspective of democratic inclusion if citizens are unable to participate even if they want to and, as a consequence, their preferences are neglected in decision-making (e.g. Young 2000). Because this problem is acute for people suffering from health problems, it is important to ensure that people with poor health have adequate possibilities for channelling their demands into political decision-making. Obviously, a number of health conditions, such as dementia (Sonnicksen 2016), may unavoidably weaken the possibility to exercise democratic rights. While studies show that only small minorities experience serious health problems at any given time (Mattila et al. 2013), most citizens at some point will suffer from health issues, meaning that they potentially affect all of us. With ageing populations, health issues will become more topical in most of the Western world (OECD 2011). As populations age, societies are faced with a growing problem of democratic exclusion of people in poor health, especially when negative economic effects may further marginalize those in need of assistance to exercise their democratic rights (Bloom et al. 2010).

Previous studies give somewhat different answers to the question whether poor health leads to marginalization in politics (Mattila et al. 2013; Pacheco and Fletcher 2015; Ojeda 2015; Söderlund and Rapeli 2015; Burden et al. 2017; Couture and Breux 2017). When it comes to electoral turnout, most studies find that people in poor physical and mental health are less likely to vote in elections (Mattila et al. 2013; Pacheco and Fletcher 2015; Ojeda 2015; Burden et al. 2017), but there are also studies suggesting that the relationship between health and political participation is not always clear-cut. First, the impact of health on political participation may depend on the type of political participation under scrutiny (Söderlund and Rapeli 2015; Pacheco and Fletcher 2015; Burden et al. 2017). In a study on the Nordic countries, Söderlund and Rapeli (2015) find that poor health has a mobilizing effect for political activities such as contacting public officials and taking part in public demonstrations. A study from Canada also finds that people with poor mental health are more likely to sign online petitions than others (Couture and Breux 2017). These findings indicate that people in poor health are not necessarily uninterested or unwilling to take part. Instead, their abstention may be due to other factors such as inability to vote due to obstacles at polling stations (Schur et al. 2015).

Second, previous studies have relied on slightly different measures of health, which may also affect their results. The most commonly used measure of health status is self-reported health, where individuals are asked to evaluate their own health status in surveys (Denny and Doyle 2007; Jylhä 2009; Mattila et al. 2013; Söderlund and Rapeli 2015; Pacheco and Fletcher 2015). Self-reported health functions as a better predictor of subsequent mortality than more objective measures of physical health (Jylhä 2009), and a superior indicator when it comes to assessing the impact on political participation (Pacheco and Fletcher 2015: 105). Other studies have used objective indicators such as smoking, alcohol consumption, cognitive functioning, Health Utilities Index and walking speed to assess the link between health and political participation (Denny and Doyle 2007; Burden et al. 2017). All of these measures except alcohol consumption increased the probability of voting (Denny and Doyle 2007; Burden et al. 2017), but the effects were less clear-cut for campaign contributions that were only influenced by cognitive functioning (Burden et al. 2017). It is, however, noteworthy that most effects are in line with what has been found for self-reported health, which supports the notion that this measure captures the most relevant dimensions of health status. We here rely on self-reported health to measure the health status of the respondents as the best available indicator, despite its disadvantages (Pacheco and Fletcher 2015: 106).

Finally, the effect of self-reported health is linked to other individual characteristics. Under certain individual circumstances, health may act as a mobilizing factor, while it in other situations reduces the likelihood of becoming politically active. For example, Mattila and Papageorgiou (2017) find that the effect of disabilities on political participation at least to some extent depends on perceptions of discrimination. A more pertinent example for the present purposes concerns the documented moderating impact of age (Mattila et al. 2013; Pacheco and Fletcher 2015). While it is unsurprising that older people tend to be in worse health, this does not explain why the effect of being in poor health differs depending on age. A possible explanation is differences in the underlying causes of health status since older generation are susceptible to a range of chronic diseases that may render them incapable of participating (Sonnicksen 2016), while younger citizens are more likely to suffer from temporary disorders where the participatory gap can be closed through assistance (Schur et al. 2015). This suggests that it is important to be aware of the potential differences across age groups to understand the link between health and political behaviour.

While the studies discussed above show that health may have important implications for how active citizens are, there is still a need to explore ways in which the voices of those in poor health can be heard in decision-making. Democratic innovations could potentially provide a solution to this problem by offering people in poor health alternative possibilities for influencing decisions (Smith 2009; Geissel and Newton 2012). Democratic innovations include a wide range of institutions specifically designed to increase and deepen citizen participation in the political decision-making process (Smith 2009: 1). Hence, democratic innovations are not necessarily entirely novel institutional mechanisms as such, instead these "innovations" are institutional modifications purposefully introduced to increase popular involvement in a political system, often inspired by other political systems (cf. Geissel 2009, 53).

There are several different kinds of democratic innovations, and their use differs from small-scale citizen involvement mechanisms to transnational direct democracy (Newton 2012: 5).

There seems to be at least three reasons why democratic innovations may appeal to people suffering from health issues to voice their demands. First, since democratic innovations are often issue oriented, they make it possible to draw attention to problems faced by people in failing health that the healthy majority overlooks or ignores. Second, the use of technology, and in particular the possibilities provided by the Internet, allow democratic innovations to overcome physical hindrances involved in traditional participatory activities requiring physical presence. Third, compared to political activities such as contacting politicians and boycotting products (Söderlund and Rapeli 2015), democratic innovations provide a formal link to political decision-making. All of this suggests that democratic innovations may appeal to people suffering from various ailments and thereby alleviate the potential problems of political marginalization that these people face.

We focus on a specific type of democratic innovation, namely citizens' initiatives, which allow citizens to bring new issues to the political agenda by collecting a certain number of signatures in support for a policy proposal (Braunstein 2004; Qvortrup 2013).[1] In this way, they allow others than established political actors to influence the decision-making agenda as well as public discussion. To our knowledge, no studies have previously examined the extent to which citizens' initiatives can help ensure the inclusion of people in poor health in the democratic process.

A basic distinction exists between full-scale initiatives, which are decided upon by a ballot vote, and agenda initiatives that are dealt with by representative bodies (Schiller and Setälä 2012a: 1). Unlike full-scale initiatives, agenda initiatives only give citizens agenda-setting powers, while the final decision remains in the hands of elected representatives. Agenda initiatives can thus be regarded as "soft" direct-democratic institutions (Jäske 2017). However, there are good reasons to give the contribution of citizens' initiatives serious consideration. Agenda initiatives exist in several countries at both national and local levels of government, and therefore, they are frequently used to promote issues of more immediate concern to the everyday life of citizens (Setälä and Schiller 2012; Qvortrup 2013; Jäske 2017). Furthermore, although agenda initiatives only give citizens agenda-setting powers, they may be a more powerful tool for getting legislation enacted than full-scale initiatives (Qvortrup 2013: 71).

Based on the literature review above, it seems likely that an association between health status and supporting initiatives exists, but the exact direction of the relationship is difficult to predict. The act of signing citizens' initiatives resembles issue-based participatory activities such as demonstrations since it has a specific policy

[1] The requirements and procedures for citizens' initiatives vary between countries. The most important requirement concerns the number of signatures required for submitting a citizens' initiative, which depends on the size of the population, but also the type of initiative since the thresholds are usually greater for full-scale initiatives. The percentages required vary from 50,000 (0.1% of the electorate) for an agenda initiative in Italy to 300,000 (11.4% of the electorate) for a full-scale initiative in Lithuania (Schiller and Setälä 2012b: 248–249).

goal, suggesting it could mobilize people in poor health. However, it also has similarities to the act of voting, which suggests that the pattern of mobilization may resemble the negative pattern found for turnout. Our first hypothesis is therefore that:

H1 Poor self-reported health decreases the likelihood of supporting proposals for citizens' initiatives.

However, as previous studies clearly show, it is imperative to examine the interaction with other factors to understand the link between health and participation. The work of Mattila et al. (2013) and Pacheco and Fletcher (2015) suggests that it is especially important to consider the interaction with age. This is also likely to be the case for the citizens' initiative, since it may in particular appeal the younger citizens (Christensen et al. 2017). Since older citizens in poor health may be less willing and able to take advantage of the new possibilities, there is a risk that certain demands associated with particular illnesses such as dementia are further marginalized (Sonnicksen 2016). In connection to this, it is important to recall lessons from attempts to boost turnout through electoral reforms (Berinsky 2005). While the aim is to mobilize resource-weak citizens, attempts often mainly succeed in mobilizing relatively resource-strong non-voters who resemble those already active more than other passive citizens. The unintended consequence is therefore often to enhance rather than decrease existing differences between voters and non-voters. Institutional reforms to boost the participation of people in poor health may also have similar perverse effects. Our second hypothesis pertains to how age and health are intertwined in shaping the propensity for supporting citizens' initiatives:

H2 Age moderates the association between self-reported health and supporting proposals for citizens' initiatives so the negative effect of poor health is weaker for younger citizens.

The Finnish citizens' initiative and health policy issues

Formal possibilities for involvement between elections have traditionally been limited in Finland until the citizens' initiative was introduced in 2012. The Finnish citizens' initiative is an agenda initiative since the Finnish Parliament makes the decision on the proposal. According to the constitution, when an initiative gathers support from at least 50,000 Finnish citizens within 6 months, the organizer can submit the initiative to the Finnish Parliament for consideration.[2] Parliament has to

[2] The 50,000 signatures equal 0.9% of the total population or 1.1% of those eligible to vote/support, which is in line with what we see on other countries (Schiller and Setälä 2012b, 248–249). The requirements depend on both the size of the population and type of initiative and vary from 50,000 (0.1% of the electorate) for an agenda initiative in Italy to 300,000 (11.4% of the electorate) for a full-scale initiative in Lithuania.

consider the content, but has free hands to decide whether to accept the proposal, possibly in an amended form, or reject it altogether.

To facilitate the collection of signatures in support of proposals for citizens' initiatives, the Finnish Ministry of Justice launched the official website www.kansalaisaloite.fi.[3] This site makes it possible to launch proposals and collect signatures online, and most signatures are today collected on the website. To use the website for launching or supporting initiatives, participants are required to verify their identity using strong e-identification to ensure that they are eligible to use the citizens' initiative. At least Finland, Latvia, Estonia and the UK have similar online platforms for making citizens' initiatives or petitions to the national parliament (e.g. Auers 2015). This possibility greatly increases the accessibility of this institution since it is much easier to collect support online compared to having to rely exclusively on collecting all signatures on paper. By enhancing the accessibility of the initiative instrument from the citizens' perspective and significantly reducing initiators' costs, the online collection system potentially makes it possible for smaller and more marginalized civic groups to reach the signature thresholds for their political and societal causes. This also entails that it is easier for people in poor health to participate since they can support initiatives from home if necessary.

The citizens' initiative instantly became a popular way for citizens to voice their political preferences in Finland. About one-third of all citizens have supported at least one initiative, and from the launch until the elections in April 2015, citizens have launched more than 300 initiatives that have collected over one million signatures in support (Christensen et al. 2017). Until May 2017, 18 initiatives have collected the required 50,000 initiatives within the stipulated time limit. So far, Parliament has only approved one citizens' initiative concerning gender-neutral marriage legislation, but also other initiatives have had policy impacts. Nevertheless, despite the limited legislative impact, about 83% of the general population agree that the initiative has had a positive impact on the functioning of Finnish democracy (Christensen et al. 2017: 421).

Health issues have been a popular topic for citizens' initiatives, suggesting that the initiative website may appeal to people with poor health. Of the initiatives launched before the 2015 elections, about 14% concerned health issues, and these compiled about 23% of the total number of signatures (own calculations from www.kansalaisaloite.fi). Figure 1 shows the types of health-related initiatives made on the governmental website and the percentagewise distribution of initiatives and signatures.

There is quite a lot of variation in terms of topics among the health-related initiatives. One-third of all health-related citizens' initiatives in Finland pertain to health services; for example, "Cover laser therapy in public health care". About one-fifth of the health initiatives have been proposals concerning bioethical questions, e.g. "Ban genetically modified foods", and the remaining share of the initiatives have concerned public health regulations such as smoking bans or decriminalizing cannabis.

[3] The signatures for the first initiative where Parliament made a decision, an initiative to ban fur farming in Finland, were mainly collected on paper since www.kansalaisaloite.fi was still not launched.

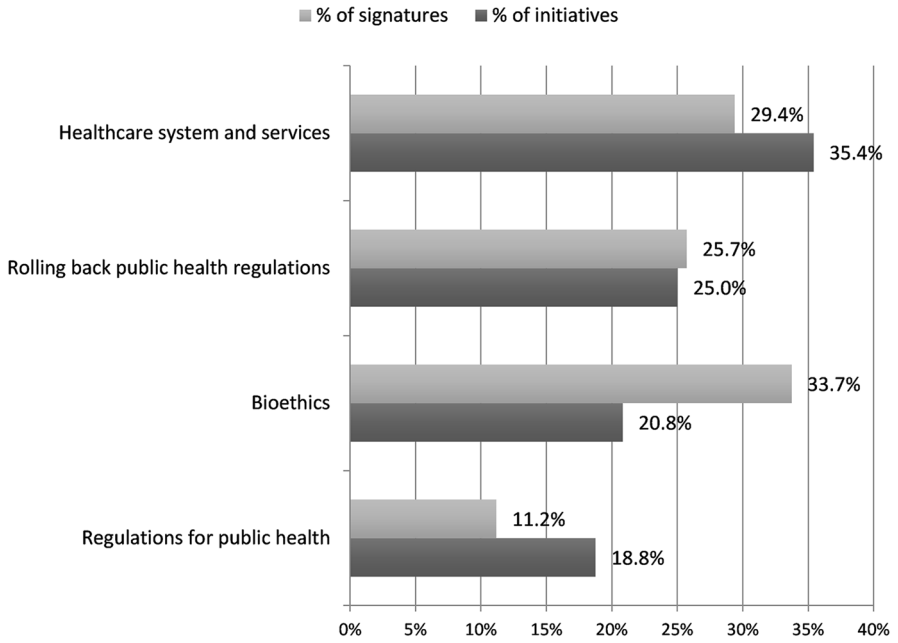

Fig. 1 Initiatives and signatures by sub-categories of health ($n = 48$ initiatives ended by August 2015). *Source*: Own calculations from www.kansalaialoite.fi

As of May 2017, four health-related initiatives have reached the quorum and have been or are being handled by the parliament. These initiatives concerned euthanasia, healthcare personnel's right to refuse conducting abortions, maternity clinics and linguistic rights in emergency care in public hospitals. Questions linked to ethics and public health services have clearly been more popular among the citizens than other proposals, e.g. those aiming to increase public health or to roll back health regulations.

Data and variables

The data for the study come from the Finnish National Election Study (FNES2015), which is a cross-sectional representative survey conducted in April–June 2015 following the 2015 parliamentary elections. FNES2015 provides a suitable source of data for the current purposes since it contains 1587 interviews and includes indicators on the central variables of interest here. The data have been weighted to ensure that the sample matches the general population in terms of mother tongue, age, gender, electoral district distributions and the vote share of parties in the elections.[4]

[4] For more information on FNES2015, see: https://services.fsd.uta.fi/catalogue/FSD3067?study_language=en.

Finland provides an interesting case since the citizens' initiative is a relatively rare example of a direct-democratic innovation recently introduced at the national level, and the Finnish case thereby offers the possibility to examine how citizens' state of health affects their use of such participatory measures. Furthermore, the website www.kansalaisaloite.fi makes the Finnish citizens' initiative accessible even for people who are incapable of performing physical political activities. In this sense, the Finnish citizens' initiative is a most-likely case study (Eckstein 1975) for examining the link between health status and use of citizens' initiatives since it provides an example of a direct-democratic innovation that would seem to be catering to the needs of those in poor health.

Dependent variable

To measure involvement in the form of supporting citizens' initiatives, a question in FNES2015 asks respondents whether they signed any state-level citizens' initiatives (to avoid confusion with a similar institution at the local level in Finland). The answers were given in four categories: 1. "Have not and will not"; 2. "Have not, but might do"; 3. "Have signed 1–2 initiatives" and 4. "Have signed at least 3 initiatives". In other words, the question does not specify the issues dealt with in the initiatives, but only gauges the overall level of involvement in signing citizens' initiatives. Since the interest here lies in examining actual participation rather than attitudes towards the citizens' initiative or the extent of participation, the answers were subsequently recoded to a dichotomy: "Did not sign" (coded 0) and "Signed at least 1 citizens' initiative" (coded 1).

Independent variable

As mentioned, we rely on self-reported health to establish the health status of respondents. FNES2015 includes a standard measure of self-reported health (Jylhä 2009), whereby respondents are asked the following question: *How would you describe your health in general?* The answers were given on a five-point scale ranging from *Very good* to *Very poor*. In line with Pacheco and Fletcher (2015), health is coded linearly,[5] but the variable is coded so that a higher score indicates *worse health* since the interest here lies in examining the impact of health problems.[6]

[5] We replicated the results with a three-fold categorical variable measuring health with similar substantive results. The main difference was that the interaction effect between age and health was not significant at a 0.05 threshold, but plotting the results showed that the substantive implications were similar.

[6] We also tested a dummy coding of this variable where respondents were grouped into good health and bad health. Since the substantive implications were similar we do not report these results.

Table 1 Descriptive statistics. *Source*: FNES2015, unweighted data

	n	Mean	SD	Min	Max	VIF
Signed citizens' initiatives	1569	0.34	0.47	0.00	1.00	N/A
Self-reported health	1586	0.27	0.21	0.00	1.00	1.43
Age	1587	0.51	0.20	0.18	0.94	1.89
Gender	1587	0.50	0.50	0.00	1.00	1.05
Degree of urbanization	1535	0.57	0.29	0.00	1.00	1.07
Education	1583	0.47	0.26	0.00	1.00	1.39
Internal efficacy	1553	0.36	0.32	0.00	1.00	1.21
Political interest	1587	0.61	0.29	0.00	1.00	1.25
Employment	1587	0.32	0.46	0.00	1.00	1.15
Internet use	1586	0.71	0.36	0.00	1.00	1.75

Other variables

Age in years is calculated by subtracting birth year from 2015. We subsequently divide age in years by 100 to make the magnitude of regression coefficients comparable to the other variables coded to vary between 0 and 1.[7]

To ascertain the validity of the results, we include control variables that according to the civic voluntarism model (Verba et al. 1995; Christensen et al. 2017) affect the propensity for political participation and may therefore lead to spurious results. This includes basic socio-demographic characteristics gender and degree of urbanization. Gender is a dichotomous variable (male = 1). Education is included as an indicator for civic skills and is a sevenfold scale with 1 indicating the highest level of education completed. Three variables probe attitudes to the political system, where political interest indicates level of political interest (fourfold scale, 1 = highest interest). Internal political efficacy is measured with answers to a question on the comprehension of political matters (Q: *Sometimes politics seems so complicated that I can't really understand what is going on*, answer on fourfold Likert scale, 1 = highest efficacy). Finally, we include internet use (Q: *How often do you use the Internet?*, 1 = more than 2 h per day) and full-time employment (dichotomy, 1 = full-time employment, 0 = anything else) as potential recruitment networks for signing citizens' initiatives.

The data are weighted to ensure that the results are representative of the Finnish population. Since the dependent variable is dichotomous, we use logistic regression analysis (logit) with robust standard errors to examine the associations between health and signing citizens' initiatives. Table 1 shows descriptive statistics on all variables.

[7] We tried to include age-squared to test whether the association between age and supporting citizens' initiatives is curvilinear (Mattila et al. 2013). The coefficient for the term was not significant ($B = -3.53$, $p = 0.172$), and the substantive interpretations were unaffected, and therefore, we do not report these results.

Table 2 Self-reported health and percentages signed citizens' initiatives. *Source*: FNES2015, weighted data

Self-reported health status (*n*)	(*n*)	% of total population	% signed at least 1 citizens' initiatives
Good or very good (1071)	1071	68.3	37.8
Average (431)	431	27.5	28.9
Poor or very poor (66)	66	4.2	21.0
Total (1568)	1568	100.0	35.0
Pearson uncorrected χ^2 (2 DF) =		21.1646***	
Design-based χ^2 F(2 DF, 3133.65) =		7.0340***	

Note: ***$p < 0.001$

It is worth noting that self-reported health has a relatively low mean score of 0.27, which indicates that most respondents are in good health (more below). Furthermore, the final column shows that VIF-scores are low for the independent variables, meaning that multicollinearity is unlikely to affect the results.

Empirical analysis

We in Table 2 start by showing percentages having signed citizens' initiatives depending on respondents' perceptions of their health status.

About 68% of the Finnish population report being in good or very good health, while only 66 respondents, constituting 4.2% of all respondents, report being in poor health, which is similar to what has been reported in previous studies for other countries (Pacheco and Fletcher 2015: 107; Söderlund and Rapeli 2015: 34). Nevertheless, even if relatively few are affected at any given point in time, health problems will affect most (if not all) citizens at some point in their life so the political marginalization due to poor health is a far-reaching problem. Of the respondents in good health, 37.8% have made use of the possibility to support citizens' initiatives compared to only 21.0% for those in poor health. The differences are statistically significant, which shows that healthy citizens are more likely to have supported a citizens' initiative, indicating that the citizens' initiative does not serve to mobilize people in poor health. However, this conclusion may be premature since self-reported health status is related to other factors that may also affect the propensity for signing citizens' initiatives (Mattila et al. 2013: 888). For this reason, we turn to multiple analyses of the relationship between health and signing citizens' initiatives. Figure 2 shows the differences in coefficients for bivariate and multiple logistic regression models (all models are included in the "Appendix").

The results show a strong association between health and the propensity to sign citizens' initiatives comparable to the effect of conventional predictors such as political interest and education, even after controlling for other factors. However, what is even more noteworthy is that the negative association between self-reported health and supporting citizens' initiatives in the bivariate analysis ($B = -.85$; $p < 0.01$) is reversed after including other factors in the multiple regression analysis ($B = 1.45$;

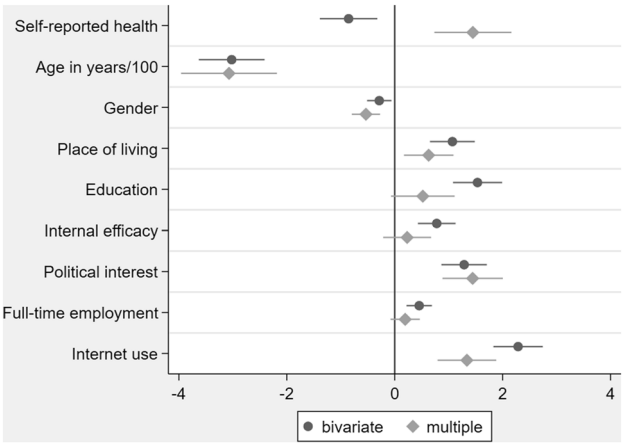

Fig. 2 Results from bivariate and multiple logistic regression analyses with 95% confidence intervals. *Source*: FNES2015, weighted data. *Note*: The plot shows logistic regression coefficients from bivariate and multiple analyses examining the link to supporting citizens' initiatives (M1 and M2 in "Appendix"). Each dot indicates the effect size, and the lines attached are the confidence intervals. When these lines cross the vertical line at 0 the effects are not significant at $p = .05$

$p < 0.000$).[8] Figure 3 shows what these differences entail for the predicted probabilities of signing citizens' initiatives as a function of self-reported health status.

Without taking into account other factors in a bivariate regression, people in good health have a predicted probability of signing a citizens' initiative of about 0.40, but this decreases to about 0.22 for those in very poor health. This is reversed when taking into account the impact of other factors in the multiple regression analysis, since people in good health have a predicted probability of signing an initiative of about 0.25, which increases to about 0.58 for those in very poor health.

Since there is little reason to expect multicollinearity to be the cause of this reversal (see Table 1), the developments most likely suggest that the coefficient of self-reported health is contingent on other factors, a situation known to cause this sort of reversals (Tu et al. 2008). Further examination reveals that the inclusion of age causes the reversal, which brings us to H2.[9]

To examine the moderating effect of age on the association between health status and supporting citizens' initiatives, we in M3 include an interaction effect between

[8] To see how the mobilizing effect of the citizens' initiative compares to other political activities, we ran models explaining other types of participation. The results how that the effect of health on signing citizens' initiative ($B = 1.45$, SE = .36, $p < 0.000$) is greater than for voting ($B = -.55$, SE = .46, $p = 0.234$), party activity ($B = -.06$, SE = .51, $p = 0.905$), contacting ($B = -.11$, SE = .41, $p = 0.781$), demonstrating ($B = -.65$, SE = .62, $p = 0.294$) and signing petitions ($B = .81$, SE = .34, $p = 0.016$). The only other activity to reach significance and with a similar magnitude to the one found for the citizens' initiative is signing petitions, which shares obvious similarities with the act of signing a citizens' initiative. This suggests that the citizens' initiative does success in mobilizing people not attracted to other forms of participation.

[9] No significant interaction effects existed between self-reported health and the other individual-level characteristics.

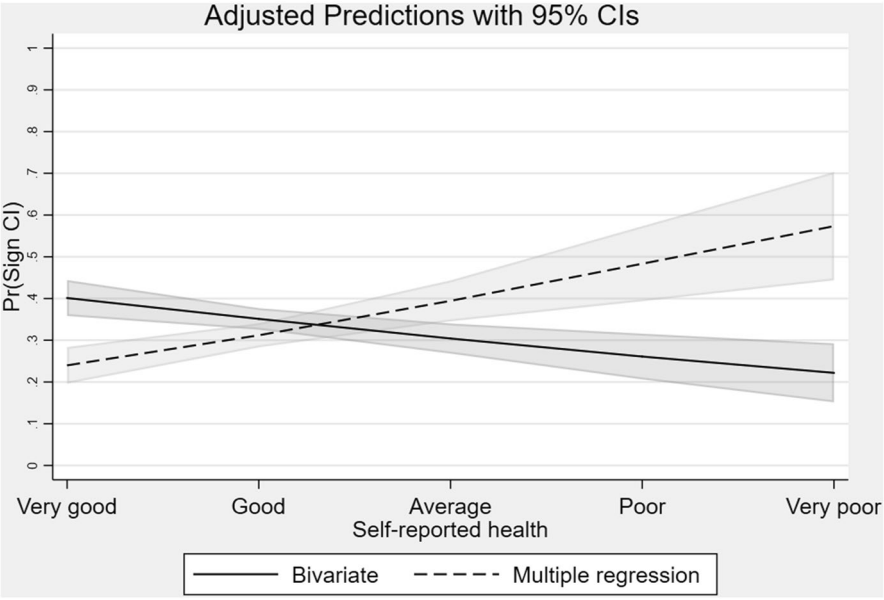

Fig. 3 Self-reported health and predicted probabilities for supporting citizens' initiatives. *Source*: FNES2015, weighted data. *Note*: The figure shows developments in predicted probabilities based on M1 and M2 in the "Appendix"

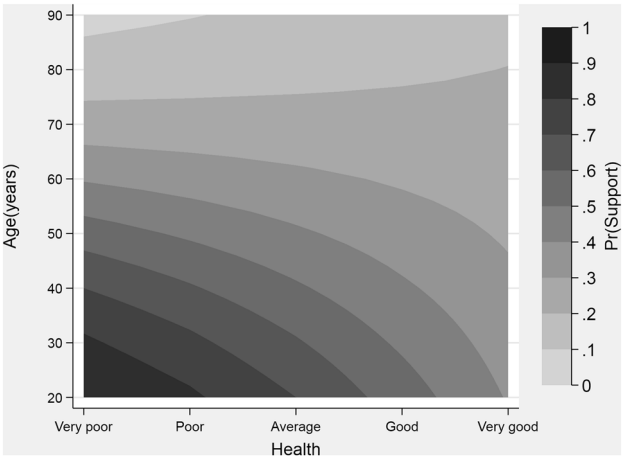

Fig. 4 Moderating effect of age on association between health and signing citizens' initiatives. *Source*: FNES2015, weighted data. *Note*: The plot shows developments in predicted probability of having signed at least one citizens' initiative as a function of age and self-reported health while holding all other factors constant at their mean values (based on M3 in the "Appendix")

self-reported health and age that turns out to be significant ($B = -5.58$, $p \leq 0.01$). This interconnectedness helps explain the divergent results in the bivariate and multiple regression analyses presented above. To see what this interaction effect entails for the

probability of supporting citizens' initiatives, Fig. 4 shows a contour plot highlighting developments in estimated probability of signing as a function of health and age.

This plot shows the quite drastic differences in the likelihood of supporting a citizens' initiative depending on age and health. The predicted probability is very high for younger citizens in below average health (lower-left corner). Here the estimated probability of having supported at least one initiative is between 0.6 and 0.9, which shows that the citizens' initiative has become an important channel for this group to voice their political demands. For people in the same age group, but in above average health (lower-right corner), the predicted probability of supporting is intermediate, whereas the estimated probability decreases with age regardless of health status.[10] For the older generations (upper half of the plot), the estimated level of activity is relatively low regardless of health situation, and here those in poorer health are slightly less likely to become active (upper-left corner).

Discussion of results

Our results have a number of important implications on the question whether democratic innovations such as citizens' initiatives can enhance democratic inclusion of citizens with poor health. Our first research hypothesis concerned the link between health and supporting citizens' initiatives. All results indicated that a relationship exists between respondents' self-reported health status and the propensity for using the citizens' initiative to convey political demands to political decision makers. The exact nature of the relationship was, however, more difficult to settle. At first sight, simple comparisons of percentages and bivariate regression analysis showed that people in good health were more likely to have supported a citizens' initiative compared to those in average or poor health. This suggests that the citizens' initiative has not mobilized people in poor health since poor health is associated with a lower likelihood of participation, as has been found for turnout (Mattila et al. 2013; Pacheco and Fletcher 2015; Burden et al. 2017).

Nevertheless, this conclusion is premature, since the relationship is reversed after including other factors in multiple regression models. When discerning the impact of health, it is important to isolate how health status affects the propensity for political action by controlling for possible confounding factors. The relevant question is not just how active people in poor health are, but how active they are when controlling for other characteristics. The conclusion is therefore that poor health can have a mobilizing effect when it comes to signing citizens' initiatives. It appears as if the link between health and direct-democratic participation resembles the pattern found by Söderlund and Rapeli (2015) for activities such as contacting and demonstrations, where poor health also has a mobilizing effect. Our finding supports the interpretation that people with health issues are willing to be involved when possible; their abstention is more likely due to other factors inhibiting their participation (Schur et al. 2015). In this sense, the citizens' initiative seems to be an important tool for engaging people

[10] The marginal effects of health as a function of age show a positive effect for younger citizens, which deteriorates as people grow older. The effect becomes insignificant after the age of 57 and negative (not significant) after 72 years.

with health issues. Obviously, the mobilizing effects of the citizens' initiative can withstand only if the institution provides, not just accessible, but also consequential channels of political participation. In this respect, the evidence is inconclusive since initiatives have had a rather modest legislative impact so far.

Söderlund and Rapeli argue that their findings suggest that people with poor health are drawn to both easily accessible and time-consuming forms of participation such as contacting decision makers. The accessibility of signing citizens' initiatives is likely to be an important factor in this case. However, contacting and demonstrations, like signing citizens' initiatives are information-rich participatory activities that convey very specific demands to decision makers (Verba et al. 1995, 48). This suggests that people in poor health are willing to engage in activities that advance specific demands. They are less concerned about abstract ideological principles and more about changing concrete policies.

The second hypothesis on the moderating effect of age on the association between health and participation in signing citizens' initiatives sheds further light on the relationship between health and direct-democratic involvement in the form of supporting citizens' initiatives. The results, as expected based on previous research (Mattila et al. 2013; Pacheco and Fletcher 2015), show that age moderates the association between health status and involvement in signing citizens' initiatives. Most importantly, the results show that the mobilizing effect only pertains to younger citizens, among whom those in poor health were very likely to voice their concerns through the citizens' initiative, whereas the effect for older citizens was negligible or non-existent. This is a more pronounced difference compared to previous studies. For example, Pacheco and Fletcher (2015: 109) report significant interaction effects, while the main effects remain significant across age.

This also raises the need for a word of caution. The mobilizing effect for involvement in supporting citizens' initiatives may enhance political equality, but it seems that all sick people are not created equal. There is a risk that this "initiative activism" focuses on the demands of younger generations, while it neglects the interests of older generations. As is also often the case for reforms to boost electoral participation (Berinsky 2005), the citizens' initiative may unintentionally mobilize relatively resource-strong citizens in poor health, whereas those most in need, in this case the elderly, may become even more marginalized. It is therefore important to address any inequalities inadvertently created in the process.

Future research should take care to consider the variety of health conditions, both in terms of type of illness and the extent to which it affects citizens' social life. As previous research (Couture and Breux 2017) has shown, mental and physical illnesses affect political participation in different ways. An additional factor is likely to be the severity of the illness, because for example hospital care sets physical barriers to both offline and online participation.

The cross-sectional data used here do not make it possible to settle the causality conclusively, especially when it comes to differences across generations. While it seems unproblematic to assume that health status affects signing citizens' initiatives rather than vice versa, the interplay between age and health in doing so is more problematic (Pacheco and Fletcher 2015: 112). It is impossible to know whether the observed differences are due to generational differences, meaning young people will always be more

likely to use the citizens' initiative, or a cohort effect, meaning the current young generation will continue to become more involved even as they grow older (Wass 2007).

It seems likely that the citizens' initiative is particularly appealing for the youth of today who were among the first to be given the chance to take part in this manner, meaning it is unclear whether future generations are as eager to take advantage of this possibility. Research designs that involve studying developments over time are needed to settle these questions conclusively. Furthermore, we cannot be certain that these results are valid outside of Finland, for example in countries such as Switzerland where citizens' initiatives have been in place for a long time. However, the results suggest that the introduction of citizens' initiatives, in particular when combined with on online system for collecting signatures, provides a possibility for giving voice to younger citizens suffering from health problems. The recent introduction of a similar mechanism in Denmark provides a possibility for examining whether similar effects exist. Despite these caveats, the results show that the citizens' initiative in Finland provides people in poor health a channel for voicing their political demands. In this sense, it suggests that certain democratic innovations can help alleviate some of the challenges health issues pose for democracy.

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Appendix

See Table 3.

Table 3 Logistic regression models with robust standard errors

	M1			M2			M3		
	Coef.	SE	*p*	Coef.	SE	*p*	Coef.	SE	*p*
Self-reported health	− 0.85	0.27	0.002	1.45	0.36	0.000	4.05	0.98	0.000
Age				− 3.07	0.45	0.000	− 1.73	0.63	0.010
Self-reported health # age							− 5.60	1.91	0.003
Gender				− 0.53	0.13	0.000	− 0.53	0.13	0.000
Degree of urbanization				0.63	0.23	0.008	0.63	0.23	0.008
Education				0.52	0.30	0.075	0.53	0.30	0.075
Internal efficacy				0.23	0.23	0.298	0.23	0.23	0.296
Political interest				1.44	0.29	0.000	1.42	0.29	0.000
Employment				0.19	0.14	0.144	0.14	0.14	0.282
Internet use				1.34	0.28	0.000	1.25	0.28	0.000
Constant	− 0.40	0.09	0.0000	− 2.03	0.39	0.000	− 2.46	0.43	0.000
N		1568			1482			1482	
Cragg and Uhler's R^2		0.01			0.22			0.23	
AIC		1.303			1.152			1.147	

References

Almond, G.A., and S. Verba. 1963. *The Civic Culture: Political Attitudes and Democracy in Five Nations*. Princeton: Princeton University Press.

Auers, D. 2015. *Comparative Politics and Government of the Baltic States: Estonia, Latvia and Lithuania in the 21st Century*. Basingstoke: Palgrave Macmillan.

Berinsky, A.J. 2005. The perverse consequences of electoral reform in the United States. *American Politics Research* 33(4): 471–491.

Bloom, D.E., D. Canning, and G. Fink. 2010. Implications of population aging for economic growth. *Oxford Review of Economic Policy* 26(4): 583–612.

Braunstein, R. 2004. *Initiative and Referendum Voting: Governing Through Direct Democracy in the United States*. New York: LFB Scholarly Publishing.

Burden, B.C., J.M. Fletcher, P. Herd, B.M. Jones, and D.P. Moynihan. 2017. How different forms of health matter to political participation. *The Journal of Politics* 79(1): 166–178.

Christensen, H.S., M. Jäske, M. Setälä, and E. Laitinen. 2017. The Finnish citizens' initiative: Towards inclusive agenda-setting? *Scandinavian Political Studies* 40(4): 411–433.

Couture, J., and S. Breux. 2017. The differentiated effects of health on political participation. *European Journal of Public Health* 27(4): 599–604.

Degeling, C., S.M. Carter, and L. Rychetnik. 2015. 'Which public and why deliberate? A scoping review of public deliberation in public health and health policy research. *Social Science & Medicine* 131: 114–121.

Denny, K.J., and O.M. Doyle. 2007. '…Take up thy bed, and vote' Measuring the relationship between voting behaviour and indicators of health. *European Journal of Public Health* 17(4): 400–401.

Eckstein, H. 1975. Case studies and theory in political science. In *Handbook of Political Science*, vol. 7, ed. F. Greenstein, and N. Polsby, 79–138. Reading: Addison-Wesley.

Geissel, B. 2009. How to improve the quality of democracy? Experiences with participatory innovations at the local level in Germany. *German Politics and Society* 27(4): 51–71.

Geissel, B., and K. Newton (eds.). 2012. *Evaluating Democratic Innovations: Curing the Democratic Malaise?*. Abingdon: Routledge.

Hibbing, J.R., and E. Theiss-Morse. 2002. *Stealth Democracy: Americans' Beliefs About How Government Should Work*. Cambridge: Cambridge University Press.

Jylhä, M. 2009. What is self-rated health and why does it predict mortality? Towards a unified conceptual model. *Social Science and Medicine* 69(3): 307–316.

Jäske, M. 2017. 'Soft' forms of direct democracy: Explaining the occurrence of referendum motions and advisory referendums in Finnish local government. *Swiss Political Science Review* 23(1): 50–76.

Lijphart, A. 1997. Unequal participation: Democracy's unresolved dilemma. *American Political Science Review* 91(1): 1–14.

Mansbridge, J.J. 1999. On the idea that participation makes better citizens. In *Citizen Competence and Democratic Institutions*, ed. S.L. Elkin, and K.E. Soltan, 291–328. University Park, PA: Pennsylvania State University Press.

Mattila, M., and A. Papageorgiou. 2017. Disability, perceived discrimination and political participation. *International Political Science Review*. https://doi.org/10.1177/0192512116655813.

Mattila, M., L. Rapeli, H. Wass, and P. Söderlund. 2017. *Health and Political Engagement*. Abingdon: Routledge.

Mattila, M., P. Söderlund, H. Wass, and L. Rapeli. 2013. Healthy voting: The effect of self-reported health on turnout in 30 countries. *Electoral Studies* 32(4): 886–891.

Newton, K. 2012. Curing the democratic malaise with democratic innovations. In *Evaluating Democratic Innovations: Curing the Democratic Malaise?*, ed. B. Geissel, and K. Newton, 3–20. Abingdon: Routledge.

OECD. 2011. *Health Reform: Meeting the Challenge of Ageing and Multiple Morbidities*. Paris: OECD Publishing. https://doi.org/10.1787/9789264122314-en.

Ojeda, C. 2015. Depression and political participation. *Social Science Quarterly* 96(5): 1226–1243.

Pacheco, J., and J. Fletcher. 2015. Incorporating health into studies of political behaviour—Evidence for turnout and partisanship. *Political Research Quarterly* 68(1): 104–116.

Parkinson, J. 2006. *Deliberating in the Real World: Problems of Legitimacy in Deliberative Democracy*. Oxford: Oxford University Press.

Qvortrup, M. 2013. *Direct Democracy: A Comparative Study of the Theory and Practice of Government by the People*. Manchester: Manchester University Press.
Schiller, T., and M. Setälä. 2012a. Introduction. In *Citizens' Initiatives in Europe*, ed. M. Setälä, and T. Schiller, 1–14. Basingstoke: Palgrave Macmillan.
Schiller, T., and M. Setälä. 2012b. Conclusions. In *Citizens' Initiatives in Europe*, ed. M. Setälä, and T. Schiller, 243–259. Basingstoke: Palgrave Macmillan.
Schur, L., A. Meera, and A. Mason. 2015. Accessible democracy: Reducing voting obstacles for people with disabilities. *Election Law Journal: Rules, Politics, and Policy* 14(1): 60–65.
Setälä, M., and T. Schiller (eds.). 2012. *Citizens' Initiatives in Europe*. Basingstoke: Palgrave Macmillan.
Smith, G. 2009. *Democratic Innovations: Designing Institutions for Citizen Participation*. Cambridge: Cambridge University Press.
Söderlund, P., and L. Rapeli. 2015. In sickness and in health: Personal health and political participation in the Nordic countries. *Politics and the Life Sciences* 34(1): 28–43.
Sonnicksen, J. 2016. Dementia and representative democracy: Exploring challenges and implications for democratic citizenship. *Dementia* 15(3): 330–342.
Stoker, G. 2006. *Why Politics Matter—Making Democracy Work*. Basingstoke: Palgrave Macmillan.
Tu, Y.-K., D.J. Gunnell, and M.S. Gilthorpe. 2008. Simpson's paradox, Lord's paradox, and suppression effects are the same phenomenon: The reversal paradox. *Emerging Themes in Epidemiology* 5(2): 2.
Verba, S., K.L. Schlozman, and H.E. Brady. 1995. *Voice and Equality: Civic Voluntarism in American Politics*. Cambridge, MA: Harvard University Press.
Wass, H. 2007. The effects of age, generation and period on turnout in Finland 1975–2003. *Electoral Studies* 26(3): 648–659.
Young, I. 2000. *Inclusion and Democracy*. Oxford: Oxford University Press.

Henrik Serup Christensen is Academy Research Fellow funded by Academy of Finland at Samforsk, Åbo Akademi University. His research interests include political behaviour and the consequences for democracy, and his current research project concerns the use of democratic innovations and the consequences for democratic legitimacy in Finland.

Maija Setälä is a Professor in Political Science at the University of Turku, Finland. Setälä received her Ph.D. at the London School of Economics in 1997. Previously, she has worked at the Åbo Akademi University in Finland and has made research visits to Columbia University (2000) and Australian National University (2008, 2009, 2011). Setälä specializes in democratic theory, especially theories of deliberative democracy, direct democracy and democratic innovations. She has published a number of books and articles on these topics, e.g. in Political Studies, Political Behaviour and European Journal of Political Research.

Maija Jäske is a doctoral candidate at the Department of Philosophy, Contemporary History and Political Science at the University of Turku, Finland. Her research interests include democratic theory and innovations, and her Ph.D. thesis maps determinants and impacts of democratic innovations in local politics.