Mobilizing young voters with short text messages in nationwide field experiments

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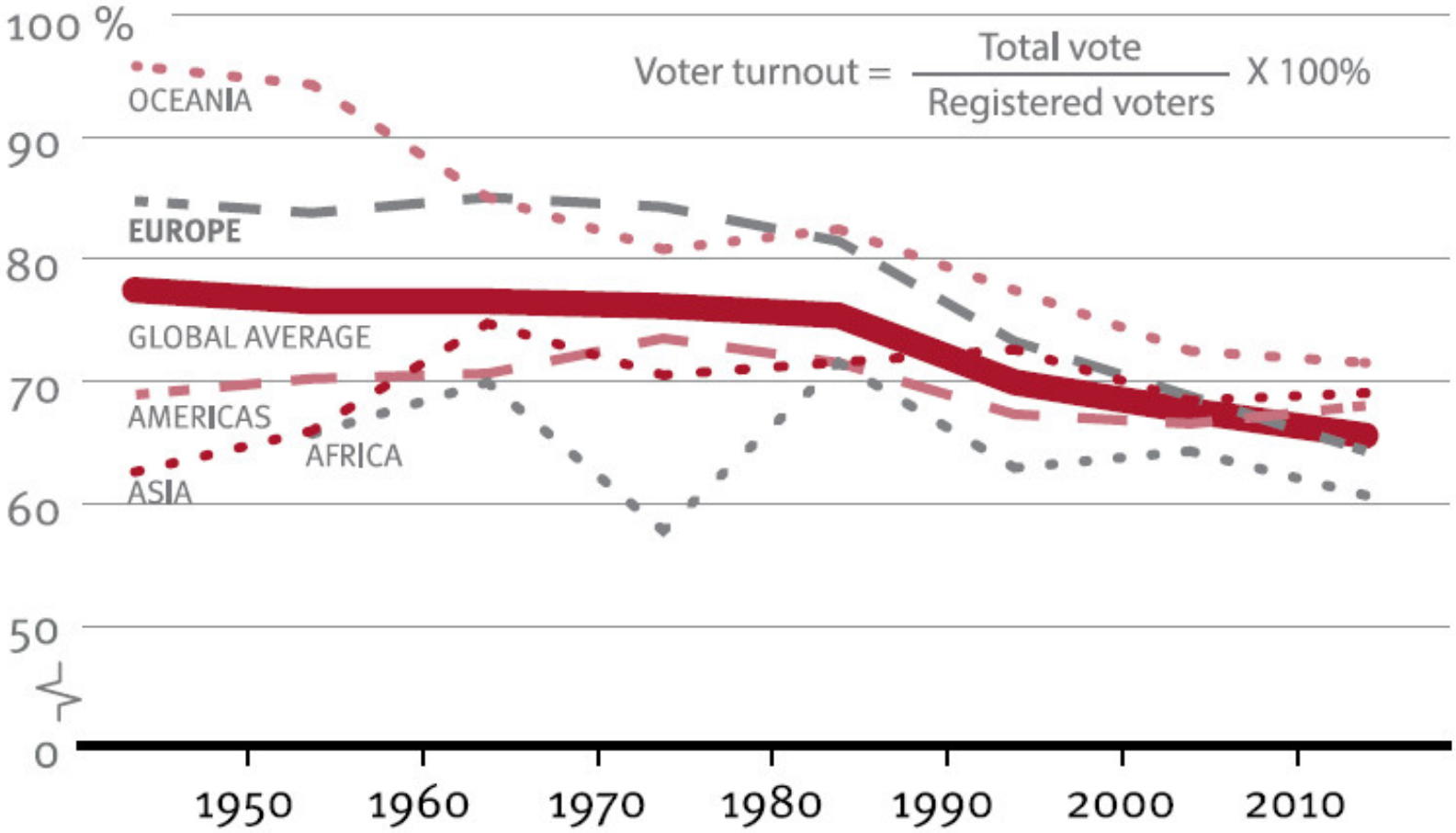
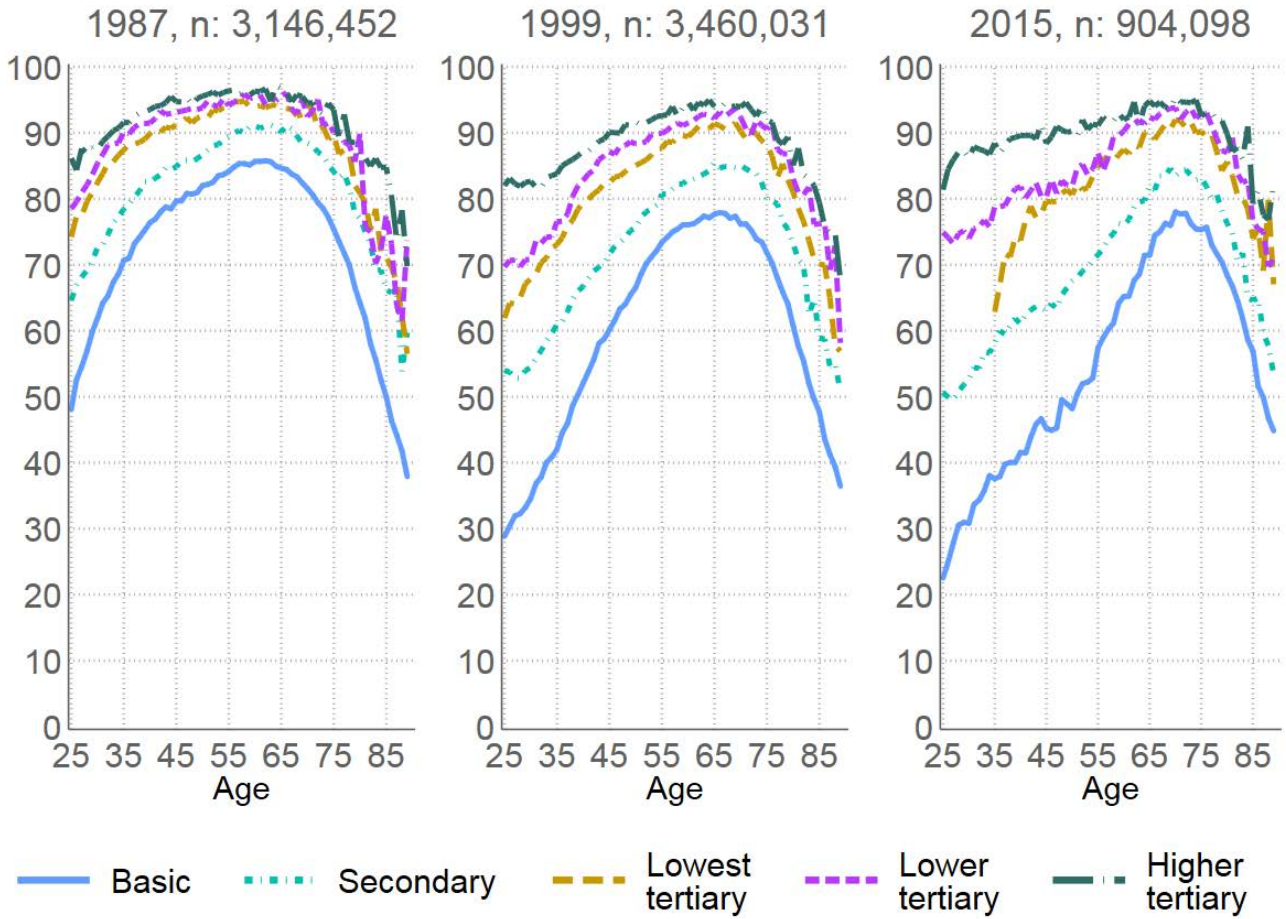
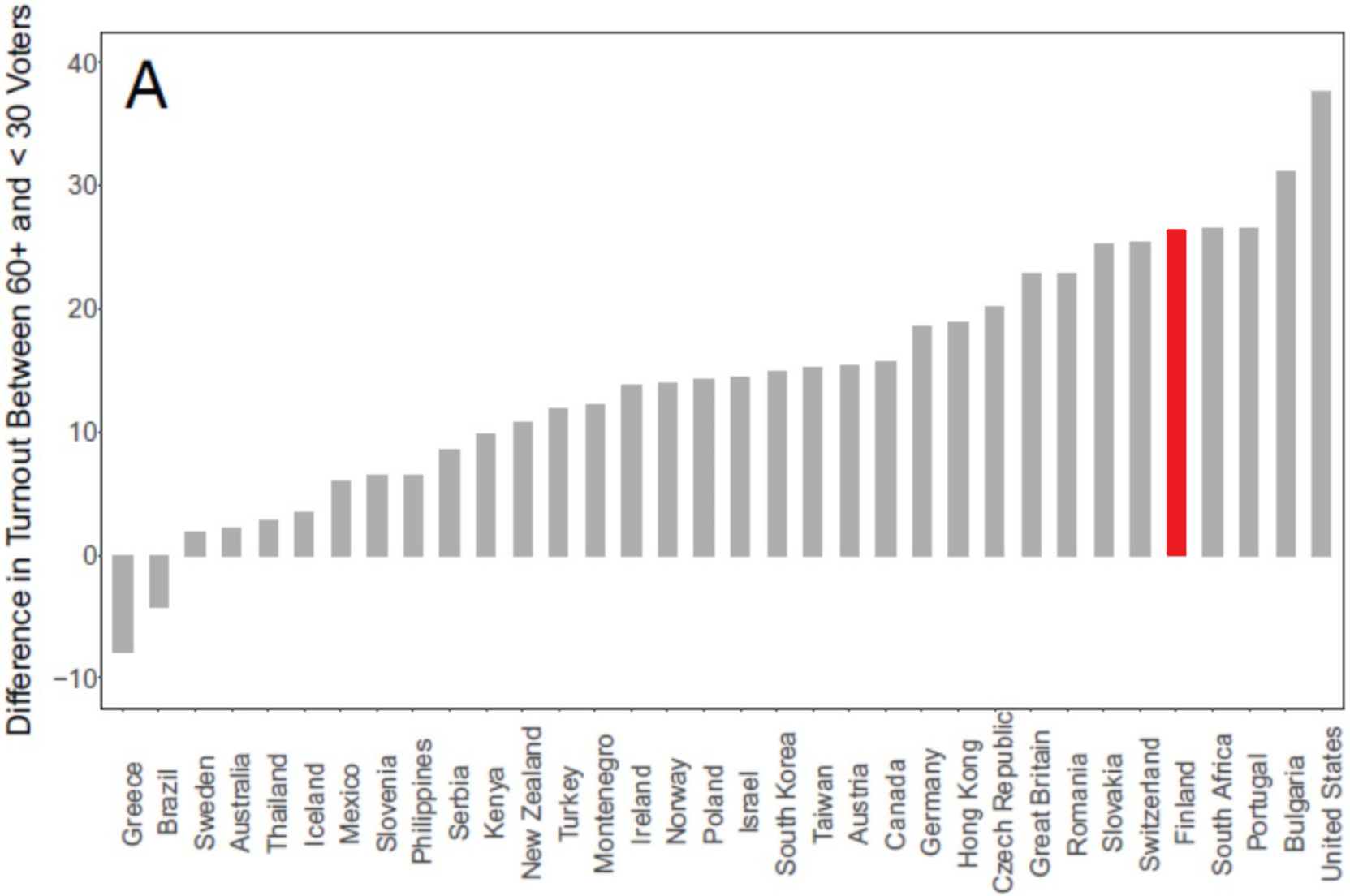
Turnout (Solijonov, 2016)



Turnout in Finland - Parliamentary Elections (Lahtinen, 2019)



Age-group Differences in Turnout (Mo et al., 2022)



SMS Experiment

- For the first time in an open-list electoral context, we evaluated the effectiveness of short text message (SMS) reminders as a tool to mobilize young voters (under 30 years old) and ameliorate the gap in political participation between younger and older citizens in 2022 Finnish county elections.
- **This paper**: We study whether results generalize into high salience 2023 Finnish parliamentary elections, and explore persistence and dynamic effects.
- We are able to merge individual level turnout data to comprehensive administrative data including information on voters and their cohabitants.
- We study:
  - i) the direct effect of SMS reminders on turnout
  - ii) spillover effects within households
  - iii) the effect of SMS-based mobilization on the composition of the electorate both for the direct and spillover effects.
  - iv) persistence effect from SMS sent during previous year's county elections
  - v) dynamics effects i.e. receiving messages during both elections vs. only in 2023

Theory

- Noticeable Reminder Theory (Dale and Strauss, 2009) proposes that a reminder is enough to increase turnout for people who have voting intentions but might not follow their plans through without the message.
  ➔ High treatment effect among individuals who have voted in the past.

- The Receive-Accept-Sample theory (Zaller, 1993) proposes that individuals living in environments with low amount of cues will be most likely affected by a simple message.
  ➔ High treatment effect among predicted low propensity voters.

- Arceneaux and Nickerson (2009) suggests that (nearly) indifferent voters are the most easiest to mobilize.
  ➔ High treatment effect among predicted marginal propensity voters.

Findings from 2022 County Elections Experiment (Hirvonen et al, 2024 Political Behaviour)

- SMS reminder experiment conducted in 2022 low salience county elections.
- We found 0.9%-pts ATE and larger within household spillover effect.
- Largest treatment effects coming from individuals who had voted in the past, but were low predicted probability voters ➔ Evidence for both Noticeable Reminder and The Receive-Accept-Sample theories.
- Neutral message worked the best.

Experimental Design

- We conducted RCT in the context of parliamentary elections held in 2023 for the target population of 18 to 30 year-old eligible voters living in 128 municipalities where there is an electronic voting register available.
- We found a mobile phone number for total of 49,866 individuals, around 16.5%, of the target population.
- Due to our results from the 2022 experiment, we use only the neutral message in order to increase precision and impact.
- We use 60/40 split instead of 50/50 split to increase power to detect the possible dynamic effects.

Sample

	Analysis sample Full Sample (1)	Analysis sample Aged 19 to 30 (2)	Analysis Municipalities Aged 19 to 30 (3)	Full population Aged 19 to 30 (4)
Female	0.40	0.40	0.48	0.49
	(0.49)	(0.49)	(0.50)	(0.50)
Age	25.16	25.26	24.57	24.63
	(3.49)	(3.41)	(3.46)	(3.49)
High School Degree	0.45	0.45	0.46	0.48
	(0.50)	(0.50)	(0.50)	(0.50)
Taxable Income	19980.73	20161.30	17366.25	17725.93
	(14970.78)	(14935.75)	(14411.31)	(14821.19)
Immigrant	0.02	0.02	0.03	0.04
	(0.15)	(0.15)	(0.18)	(0.20)
Observations	49.864	49.090	304.536	710.516

Messages

Treated, First Message (N=29,947)

Hi, a reminder for you that the parliamentary elections are held on the 2nd of April. The domestic advance voting period is from 22nd of March until 28th of March. Read more vaalit.fi. Best Regards, the Ministry of Justice

Treated, Second Message (N=29,947)

Hi, a reminder for you that the parliamentary elections are held on the 2nd of April. Read more vaalit.fi. Best Regards, the Ministry of Justice

Control Group (N=19,919)

Estimation I

- We use a Linear Probability Model with individual level controls to estimate the treatment effect:

$$Y_i = \beta_0 + \beta_1 \mathit{Treatment}_i + \boldsymbol{X}_i'\beta + \epsilon_i$$

Estimation II

- Following Hirvonen et al (2024), we explore heterogeneous treatment effects among young voters by their voting propensities.

- 1. We estimate the following probability model for voting, using individuals in the control group as a sample:

$$Pr(Y_i = 1|\boldsymbol{X}_i) = \frac{exp(\boldsymbol{X}_b)}{1 + exp(\boldsymbol{X}_b)}$$

  where $Pr(Y_i = 1|\boldsymbol{X}_i)$ is a probability to vote conditional on individual covariates (gender, age, ethnicity, taxable income (mostly parents'), education (mostly parents'), SES background (mostly parents'), eligibility to vote for the first time and municipality fixed effects).

- 2. We use the estimated propensities to vote in the control group to compute predicted probabilities to vote in the whole sample.

Estimation II (continued)

- 3. Voters are divided into three groups according to their estimated voting probability: i) low propensity voters, ii) marginal voters, iii) high-propensity voters. $\rightarrow$ This practice allows us to detect possible non-linearities, while it retains statistical power for doing group comparisons compared to finer sample splittings.

- 4. We estimate treatment effect among the voting propensity groups by LPM.

- Robustness: We address the concern that the within-sample estimates of voting propensities may overfit the data, using machine learning techniques (Elastic Net, Causal forest) that separate the choice of covariates and fitting the prediction model.

Treatment Reduces Gaps in Participation

Table: Direct effects

	Outcome: Voted in 2023			
	All	"Low Propensity" Bottom 25%	"Marginal Voters" 25-75%	"High Propensity" Top 25%
	(1)	(2)	(3)	(4)
Treated	0.004	0.021**	0.004	-0.012
	(0.004)	(0.009)	(0.005)	(0.008)
Controls	Yes	Yes	Yes	Yes
Untreated $\bar{Y}$	0.628	0.442	0.635	0.801
Observations	49,190	12,297	24,595	12,298
		Marginal - Low	Marginal - High	High - Low
Differences		-0.017	0.016	-0.033***
		(0.011)	(0.010)	(0.012)

Heterogenous Effects by Past Voting and Voting Propensity

Table: Spillovers by Combination of Voting Propensity Groups and Voted in 2022

		Voted		
	All	"Low Propensity" Bottom 25%	"Marginal Voters" 25-75%	"High Propensity" Top 25%
	(1)	(2)	(3)	(4)
Panel A: Voted in 2022				
Treated	0.002	0.019	0.006	-0.007
	(0.005)	(0.017)	(0.008)	(0.006)
Controls	Yes	Yes	Yes	Yes
Untreated $\bar{Y}$	0.923	0.861	0.914	0.957
Observations	13,324	1,863	6,526	4,935
		Marginal - Low	Marginal - High	High - Low
Differences		-0.013	0.013	-0.025
		(0.019)	(0.010)	(0.018)
Panel B: Did Not Vote in 2022				
Treated	0.005	0.013	0.001	-0.003
	(0.004)	(0.011)	(0.006)	(0.012)
Controls	Yes	Yes	Yes	Yes
Untreated $\bar{Y}$	0.498	0.364	0.523	0.659
Observations	31,698	9,707	16,062	5,929
		Marginal - Low	Marginal - High	High - Low
Differences		-0.012	0.004	-0.016
		(0.012)	(0.014)	(0.016)

Spillover Effects

- Using administrative data (Household IDs), we investigate whether text messages affect voting behaviour of individuals who do not belong to the treatment group but live in the same household as the receiver of the text message reminder.

- Possible spillovers have implications for cost-effectiveness estimates but could also mean that turnout gap does not diminish as much as suggested by results which do not take spillovers into account.

- Here treatment (control) group is eligible voters, not belonging to the experiment, who had exactly one treated (control) individual in their household.

Large Spillover Effects Found

Table: Heterogeneity by voting propensity

	Outcome: Voted in 2023			
	All	"Low Propensity" Bottom 25%	"Marginal Voters" 25-75%	"High Propensity" Top 25%
	(1)	(2)	(3)	(4)
Treated in HH	0.007	0.035***	0.001	-0.013*
	(0.004)	(0.013)	(0.006)	(0.006)
Controls	Yes	Yes	Yes	Yes
Untreated $\bar{Y}$	0.773	0.585	0.792	0.926
Observations	35,723	8,930	17,862	8,931
		Marginal - Low	Marginal - High	High - Low
Differences		-0.034**	0.014	-0.048***
		(0.014)	(0.009)	(0.014)

Persistence and Dynamic Effects

- Possible persistence and dynamic effects have implications for policy design.
- We estimate whether treatment before 2022 elections had an effect on voting in 2023.
- Additionally, in order to asses dynamic effects we estimate treatment effect of receiving SMS reminders before both elections vs only in 2023.

Persistence

Table: Average treatment effect - Persistence

	Outcome: Voted in 2023			
	(1)	(2)	(3)	(4)
Treated in 2022	-0.004	-0.004	-0.004	-0.004
	(0.005)	(0.005)	(0.004)	(0.004)
Controls	No	Basic	All	All
Municipality FE	No	No	No	Yes
Untreated $\bar{Y}$	0.613	0.614	0.615	0.614
Observations	50,099	49,618	49,618	49,618

Dynamic Effects

Table: Average treatment effect - Dynamic Effects

	Outcome: Voted in 2023			
	(1)	(2)	(3)	(4)
Treated Twice vs Once	-0.005	-0.006	-0.007	-0.007
	(0.007)	(0.007)	(0.007)	(0.007)
Controls	No	Basic	All	All
Municipality FE	No	No	No	Yes
Treated Once $\bar{Y}$	0.631	0.633	0.633	0.633
Observations	18,702	18,513	18,513	18,513

Conclusion

- New evidence on compositional effects: results suggests that text message reminders decreased inequality in both low and high salience elections.
- RCTs with a limited focus on the analysis of individuals in the treatment and control groups alone may substantially underestimate the net effect of interventions
- No evidence for persistence nor dynamic effects $\Rightarrow$ reminders have to be repeated in order for them to be effective.
- TO DO: study effects by predicted party support.
- Stay tuned for more: this year we conducted another voting reminder experiment targeting whole population (350k treated individuals) and randomizing the language of the message for non-Finnish speakers.

Thank You For Listening!