

(Field) Experimenting in Public Sector

Design for Government 2023

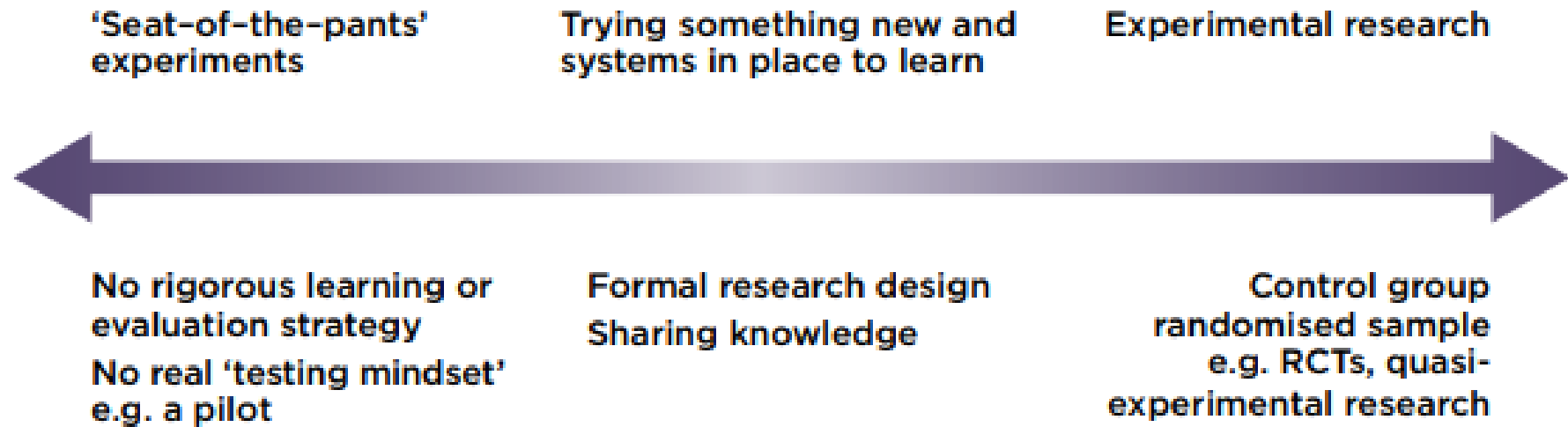
Markus Kanerva, Senior Lecturer, Laurea UAS





Introduction

A continuum of experimental government



Louis Pasteur testing vaccine against antrax in 1881

48 sheep



24



24



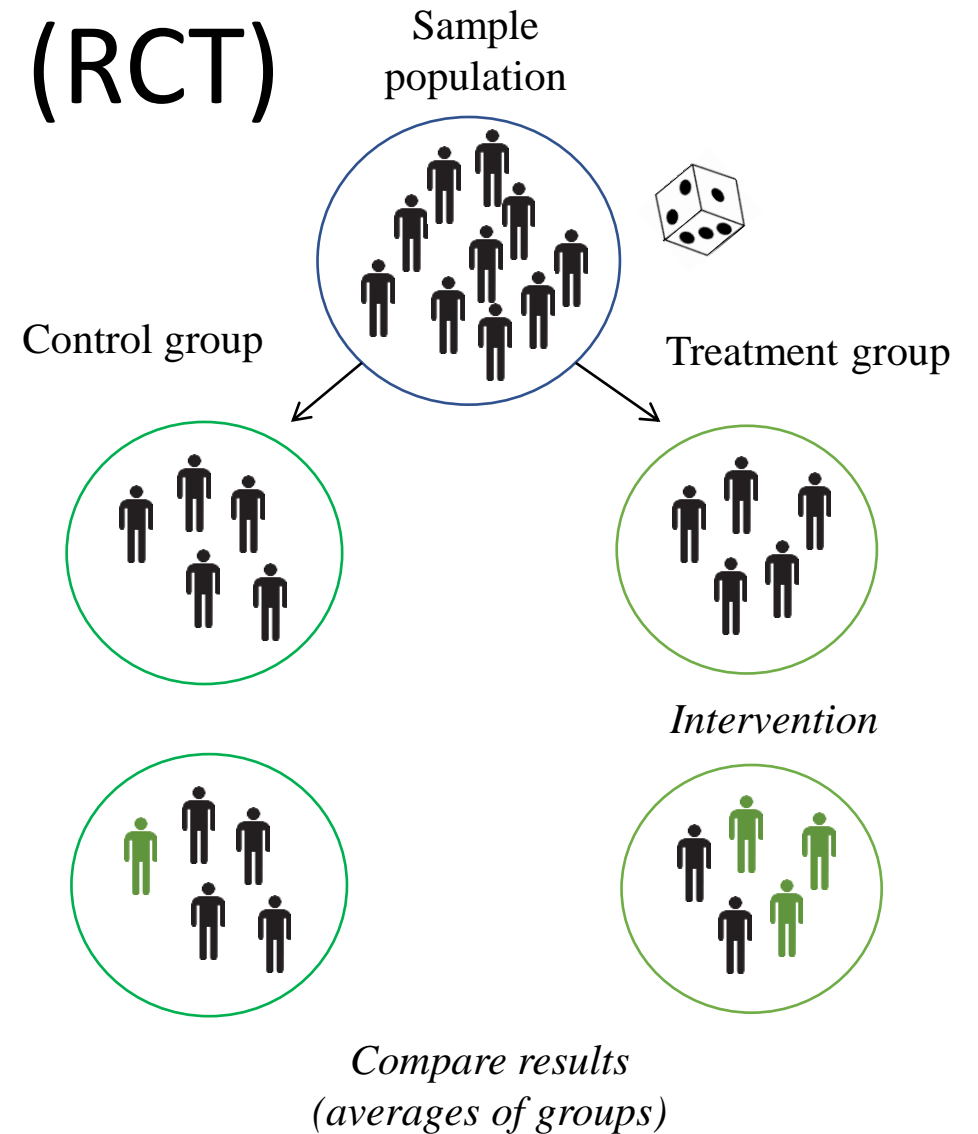
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Randomized controlled trial (RCT)

- Sample population is randomly assigned to a control group and a treatment group
 - Consider what is the level of randomisation: students, classes, schools or school districts
 - Participants have an equal chance of being in the treatment group or in the control group due to randomization -> overcoming selection bias
- Randomization is important because it ensures that control and treatment groups are comparable (as groups, the same or very similar)
 - Accomplished with a large enough sample size
- Intervention is introduced to the treatment group
 - E.g. a new training or a new letter
- Control group is treated with the normal (old) way
- At the end of the treatment period you compare the average results of the different groups
- The difference of results is the **causal effect of the treatment**



RCT is one of the most reliable ways to build scientific evidence

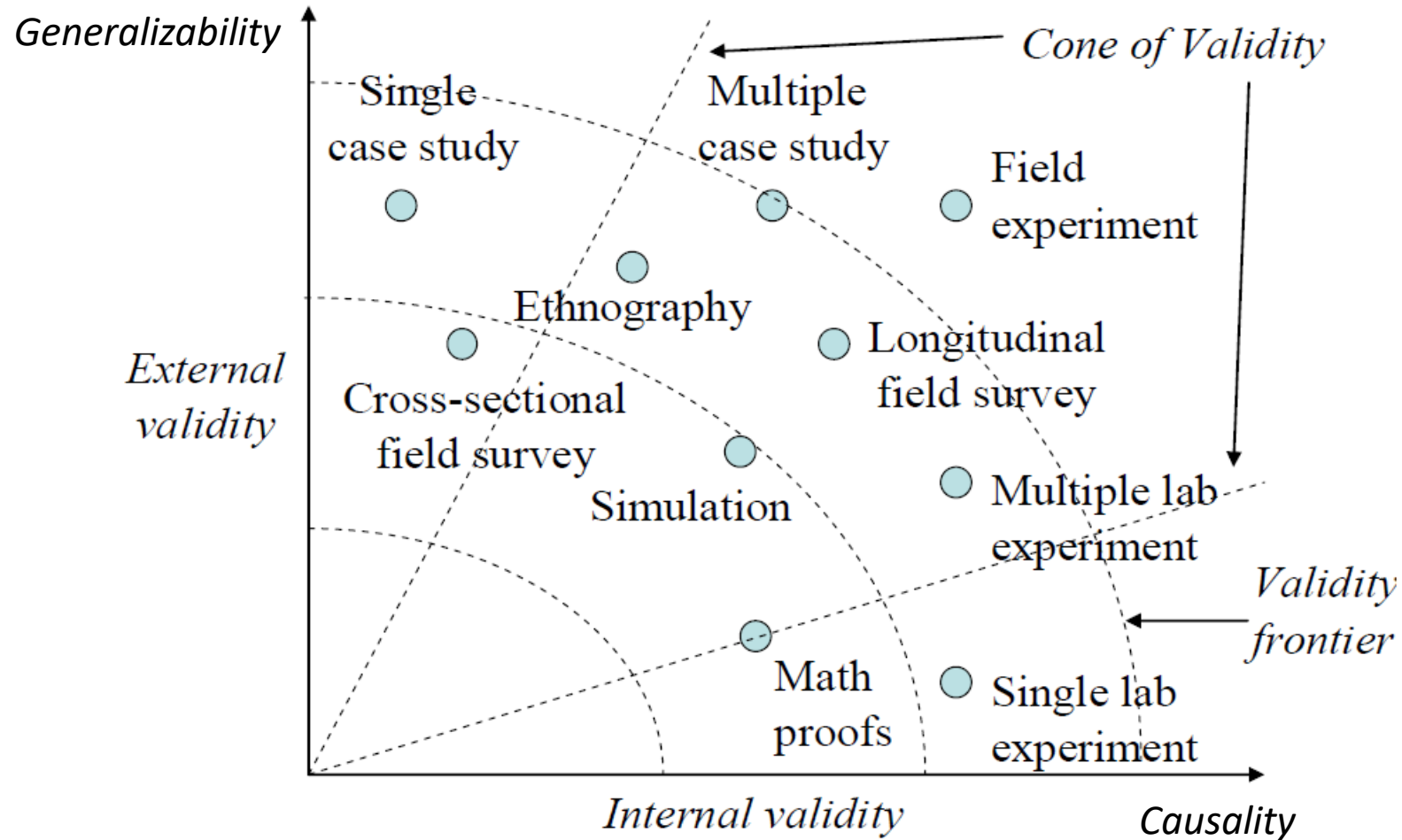
Box 2: Two illustrations of simplified hierarchies of evidence based on study design	
<ul style="list-style-type: none">• Level I: Well conducted, suitably powered randomised control trial (RCT)• Level II: Well conducted, but small and under powered RCT• Level III: Non-randomised observational studies• Level IV: Non-randomised study with historical controls• Level V: Case series without controls	<ol style="list-style-type: none">1. Systematic reviews and meta-analyses2. RCTs with definitive results3. RCTs with non-definitive results4. Cohort studies5. Case control studies6. Cross sectional surveys7. Case reports
Source: Bagshaw & Bellomo 2008, p 2	Source: Petticrew & Roberts 2003, p 527

From RCT to field experiment

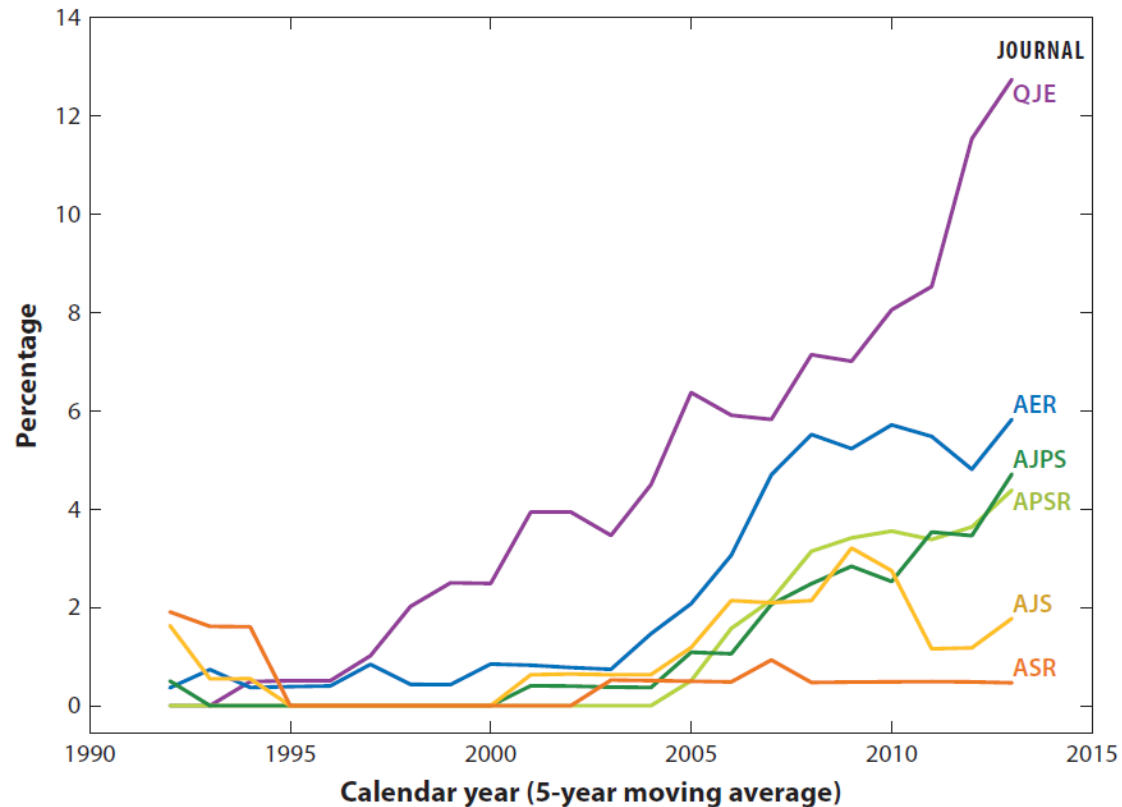
- Randomized controlled trial (RCT)
 - People can know being in a test
 - Can be in a controlled setting (in a lab)
- Field experiment
 - Using the natural environment of the phenomenon
 - Less control than in a lab experiment < - > More realistic situation
 - People usually don't know being tested
 - Need for ethical pre-evaluation due to lack of consent



Field experiment provides causality and generalizability



Field experiments finding its way to economics



The first RCT study in medicine was published in 1948 (Medical Research Council Streptomycin in Tuberculosis Trials Committee 1948).

Figure 1

The percentage of research articles reporting field experiments. Abbreviations: AER, *American Economic Review*; AJPS, *American Journal of Political Science*; APSR, *American Political Science Review*; AJS, *American Journal of Sociology*; ASR, *American Sociological Review*; QJE, *Quarterly Journal of Economics*.

Behavioral biases in a trial setting

- Hawthorne effect

- Subjects' knowledge that they are in an experiment modifies their behavior from what it would have been without the knowledge

- John Henry effect

- An effect in which rivalry between a control group and an experimental group leads to competitive efforts that disturb the whole basis of the experiment.



- Blinding

- Withholding information which may influence the subjects or researchers' behavior
- Avoiding preferably treatment

- Placebo treatment

- Giving the control group an ineffective treatment without telling the subjects so that they don't if they are in the control or treatment group.



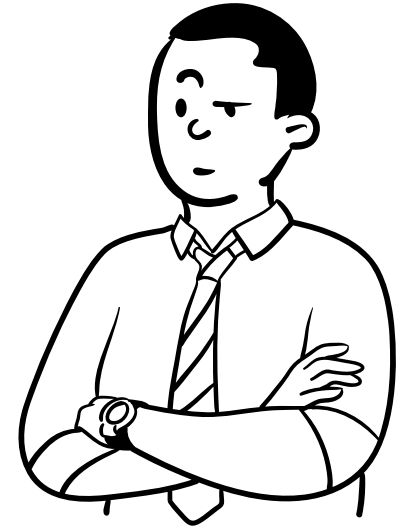
Let's experiment



How to design a field trial

Things to be considered

1. Objective
2. Previous research
3. Treatment
4. Outcome
5. Measuring
6. Randomization and observation unit
7. Implementation of randomization
8. Sample size
9. Duration
10. Costs
11. Ethical questions
12. Legal conditions
13. Implementation
14. Evaluation
15. Utilization of the results



Following questions may initiate an experiment

- *”Will the reform be better than the current program?”*
- *”Are we going to see results that motivate the higher costs?”*
- *”Will there be side-effects that we couldn’t anticipate?”*
- *”Does the existing policy / program really work?”*

Helsinki torppasi koululaisten ilmaiset välipalat

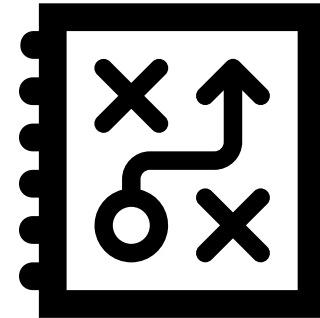
HELSINGILLÄ ei ole rahaa koululaisten ilmaiseen välipalaan.


Nora Grotenfelt (r) ja 26 muuta valtuutettua ehdottivat valtuustoaloitteella, että kaupunki tarjoilee iltapäivisin maksuttoman välipalan koululaisille, joiden tunnit jatkuvat lounaan jälkeen yli kolme tuntia.

Aloitteen mukaan välipalan tarjoaminen tasaisi oppilaiden välisiä sosioekonomisia eroja, turvaisi jaksamista, edesauttaisi oppimista ja lisäksi terveellisiä ruokailutottumuksia. Valtakunnallisten ravitsemus- ja ruokailusuositukset mukaan on suositeltavaa tarjota oppilaille maksuton välipala, jos tunnit jatkuvat kolme tuntia pidempään lounaan jälkeen.

Maksuttoman välipalan kustannukset olisivat noin 4,6 miljoonaa euroa vuodessa. Kaupunginhallituksen mukaan tässä taloudellisessa tilanteessa rahaa ilmaisiin välipaloihin ei kuitenkaan ole. Kaupunginvaltuusto asettui samalle linjalle. Osassa kouluista järjestetään maksullista välipalamyyntiä iltapäivisin.**HS**

**Experimentation
is a data generating process**





**How can field trials support
public sector?**

Quiet revolution

“ *Trials establish a new level of high quality evidence in the developed world. - - In the future policy and practice is based on hard evidence, not just instinct or history, and where public money can go further and outcomes continually improved.* ”

David Halpern and Michael Sanders
The behavioral insights team

Field experiments can support different phases in the policy creation process



Giving direction to policies



Preparing new laws



Testing new programs



Evaluating existing programs



Improving functioning programs

Giving direction to policies

- *Field experiments used for achieving more knowledge about behavioral reactions*
 - For instance reforming the social welfare system
 - How conditionalities affect behaviour
 - Basic income experiment

🗺 Giving direction to policies – some examples

- If you paid social assistance twice a month instead of once a month, would that increase recipients' capabilities to manage their budget
- Would unconditional social payments make people work less?
 - Decoupling student allowance from progress

Preparing new laws

- *Field experiments used for understanding how a new law would affect people's behavior*
- In an optimal case experiments are used in an early stage to test even several options

Testing new programs

- *Finding out if programs work in real life as well as in paper*
- Example: Touring middle schools to encourage girls to choose more science and math orientated high school curriculums



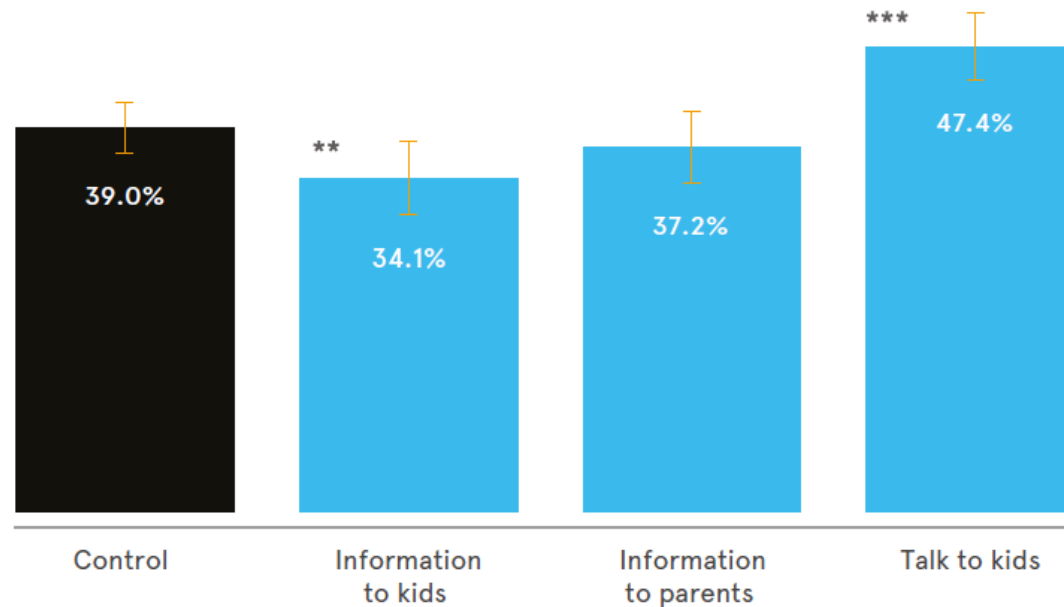
Somerset challenge – Sometimes you miss, therefore you need to test

Update report 2013-2015

5. Education

THE
BEHAVIOURAL
INSIGHTS TEAM.

Figure 5.2 Effects on students' reported likelihood of attending university (total n = 1,440)





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If you needed an organ transplant would you have one? If so please help others.

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Please join the NHS Organ Donor Register.

If you support organ donation please turn your support into action.

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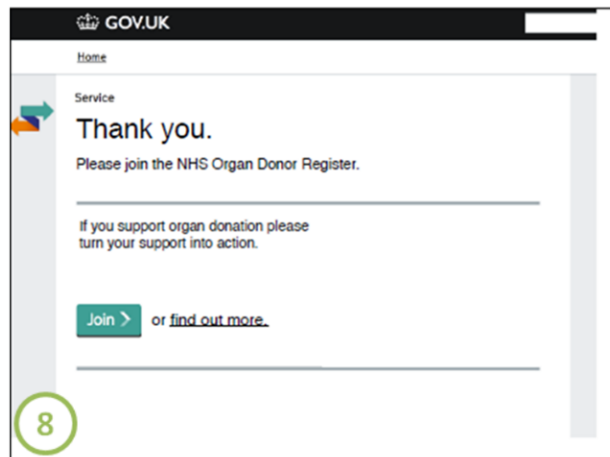
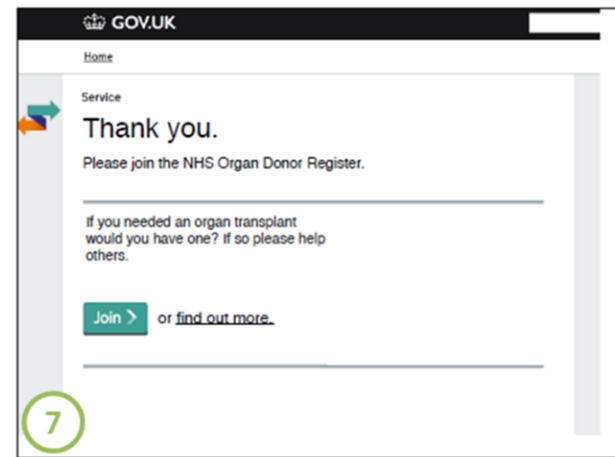
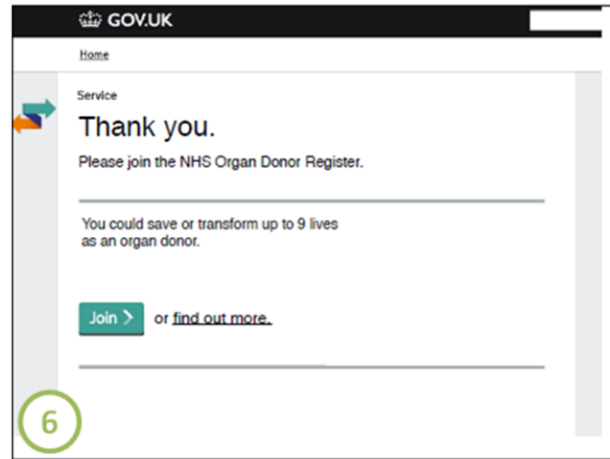
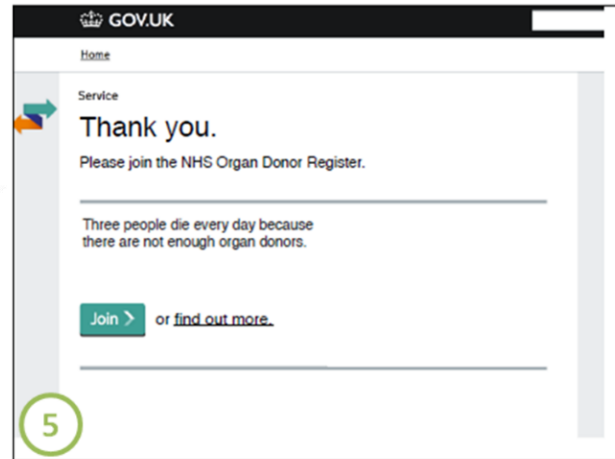
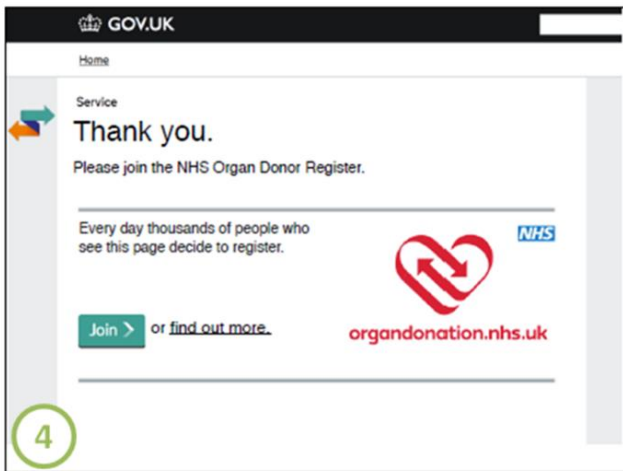
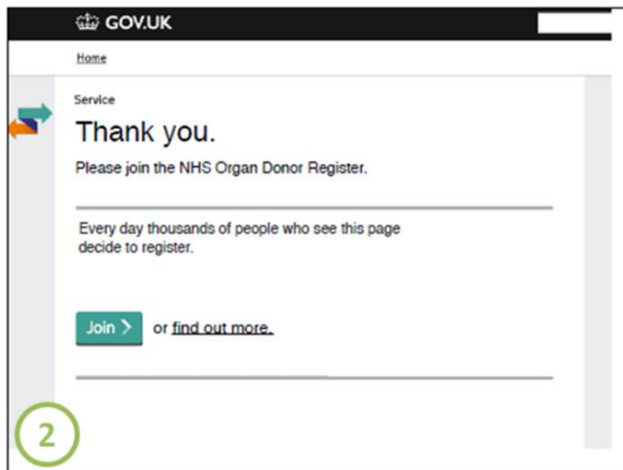
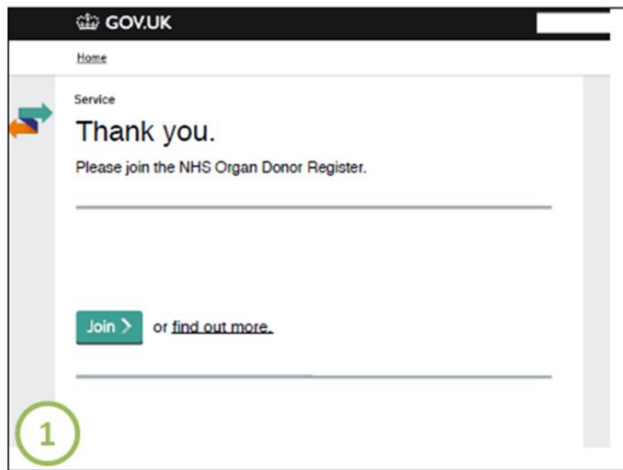
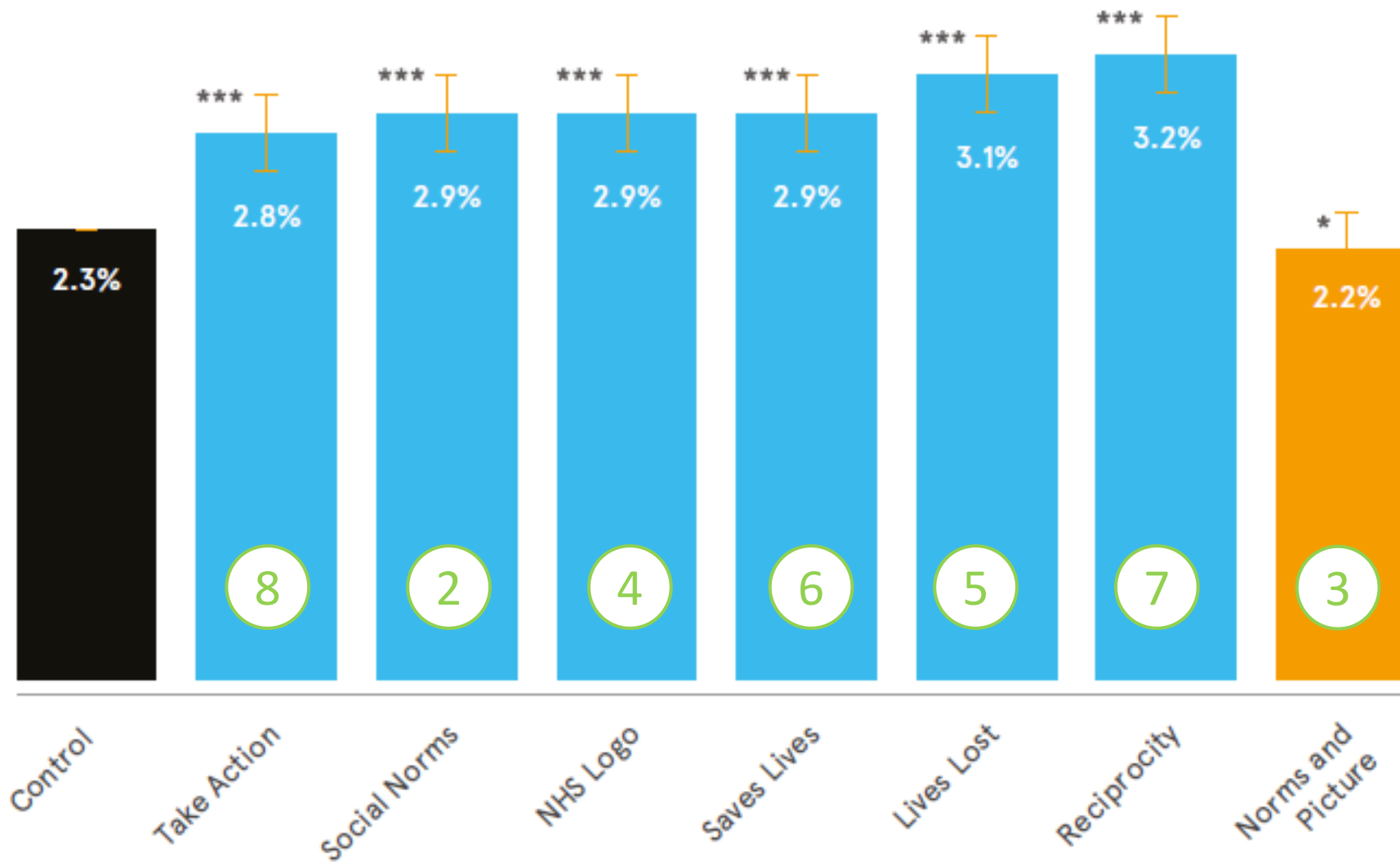




Figure 2.4 Organ donation register sign-ups resulting from different messages (n = 1,085,322)



Evaluating existing programs

- *Eventhough a program seems to deliver positive results, it may not be the best one*
- Scared Straight programs actually increase the likelihood of committing a crime
- The use of steroids was a standard treatment for head trauma until it was tested in a trial



Improving functioning programs

Original “Buy Now”

DEWALT
GUARANTEED TOUGH.

Home > Tools > Power Tools > Drills & Fastening > Drills > 1/2" VSR Drills > DWD216G

DWD216G
1/2" Keyed VSR Mid Handle Drill

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Need a part for Documentation
1/2 DRILL P

Product Features

- 10.5 Amp motor delivers increased drilling performance
- Patented DEWALT built motor design generates 50% more power with increased overload protection for added durability
- 1/2" keyed chuck provides greater bit retention
- Mid-handle grip design with soft grip provides increased balance and comfort
- 0-1200 RPM, variable speed reversing switch for increased versatility
- 360° locking side handle with soft grip for greater control and versatility
- Metal gear housing for jobsite durability and increased reliability

Variation “Shop Now”

DEWALT
GUARANTEED TOUGH.

Home > Tools > Power Tools > Drills & Fastening > Drills > 1/2" VSR Drills > DWD216G

DWD216G
1/2" Keyed VSR Mid Handle Drill

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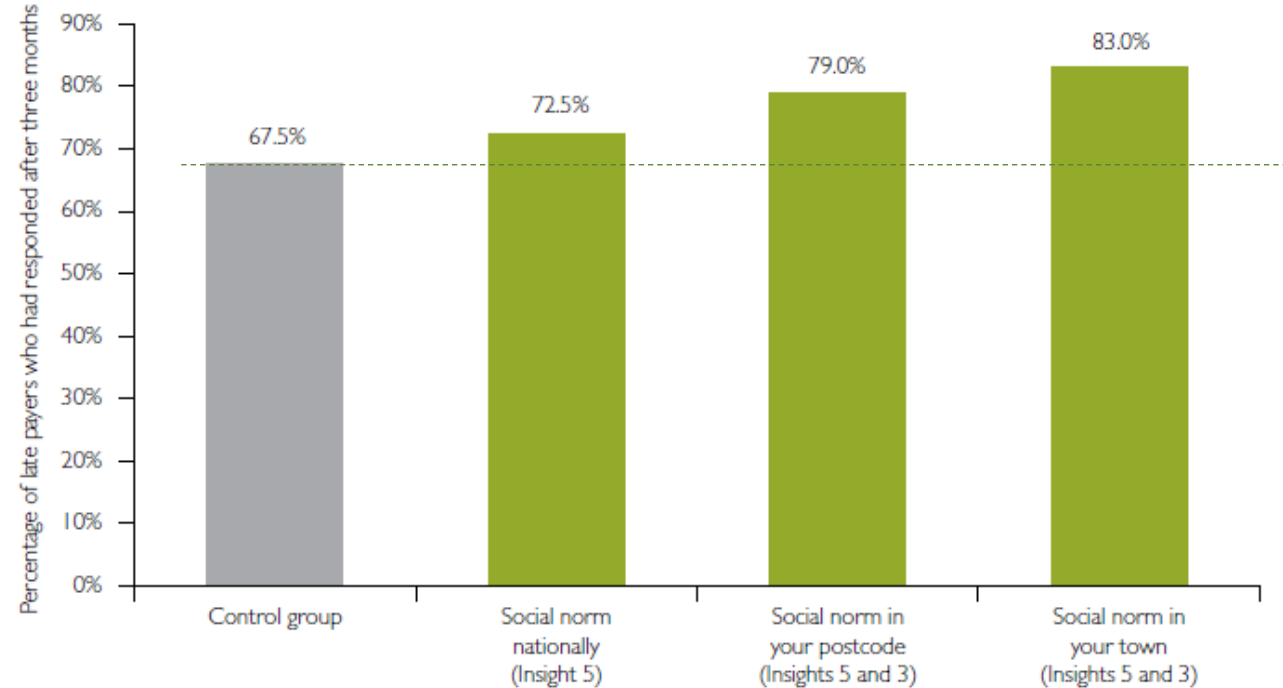
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The UK tax trial creates savings worth 30 million pounds

- Improved letter with one additional sentence: *“one in ten habitants in your town pay on time”*





Improving functioning programs – example of an idea

Kela Asiointipalvelu Palautte ja kysymykset Ohjeet Kirjautuminen

30.03.2015

Etusivu

Hakemukset ja ilmoitukset

Työttömyysturva

Ilmoitus työttömyysajasta

Työssäolo ja työttömyyden jatkuminen

Päiväkohtaiset tiedot

Perustiedot

Yhteenveto

Saapumisevaluutus

Tarvitsetko apua ilmoituksen täytössä?

Työttömyysturva: Päiväkohtaiset tiedot

Ilmoitus työttömyysajasta

Ilmoitus ajalta 16.01.2015 - 08.03.2015

Tarkista tiedot ja valitse tarvittaessa oikea selvitys alusvetovalikosta jokaiselle päivälle.

Pvm	Selvitys
Ma	12.01.2015
Ti	13.01.2015
Ke	14.01.2015
To	15.01.2015
Pe	16.01.2015 Työn
La	17.01.2015 Työn
Su	18.01.2015 Työn

Pvm	Selvitys
Ma	19.01.2015 Työn
Ti	20.01.2015 Työn
Ke	21.01.2015 Työn
To	22.01.2015 Työn
Pe	23.01.2015 Työn
La	24.01.2015 Työn
Su	25.01.2015 Työn

Pvm	Selvitys
Ma	26.01.2015 Työn

How RCT's are utilized elsewhere

USA:

- The Social and Behavioural Sciences Team during Obama administration
- Institute for Education Sciences (IES)
 - Over 1000 RCT's
- J-PAL Abdul Latif Jameel Poverty Action Lab
 - 842 RCT's in 80 countries

Great Britain:

The Behavioral Insights Team

Hundreds of RCT's

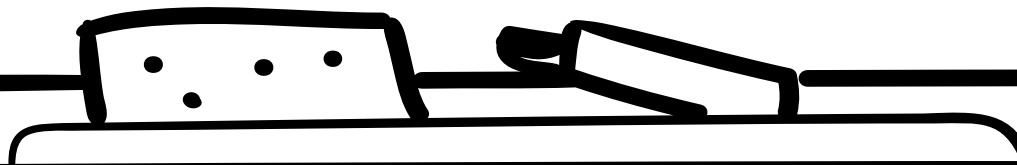
Education Endowment Foundation (EEF)

100 RCT's in 2011-2016

What Works Centers

Mental obstacles for wider deployment

- If it worked there, it would work here
- Existing policy works well enough
- No time to run a trial
- It is expensive
- We can rely on theory (=ideology)
- What if the trial shows the policy won't work
- Need to treat people equally

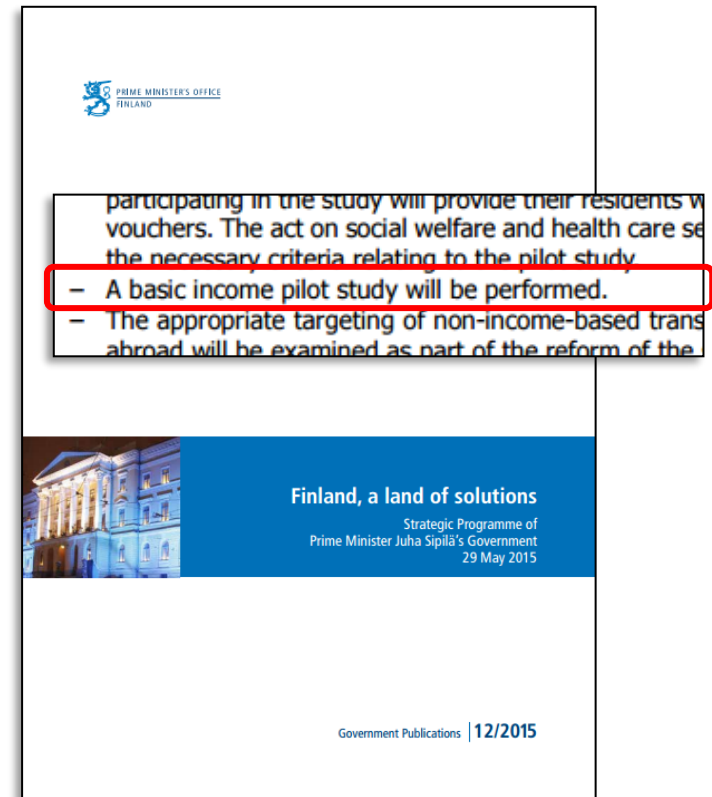




The basic income experiment in Finland

History of Basic Income Debate in Finland

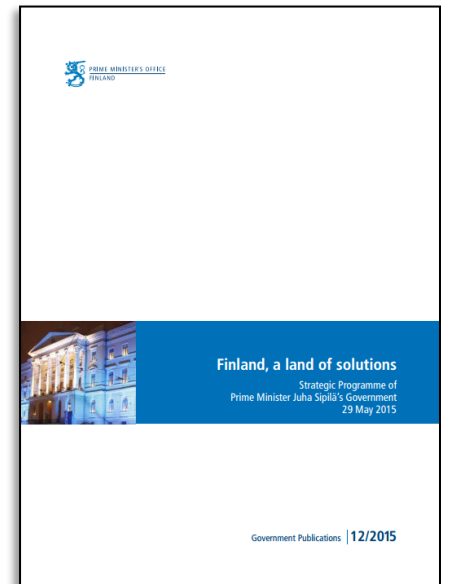
- First mentions in the 1970's (negative income tax)
- 1980's (citizen's income): Threat from automation
- After the 1990's depression: Increase flexibility in the job market and support low income work
- 2000's and 2010's: To improve incentives to work and offer better social security for the precariat



Finland, a land of solutions

Strategic Programme of Prime Minister Juha Sipilä's Government

"The Programme is a strategic programme of reform. In contrast to what has been the custom, we have not included everything in the Programme, as the development projects of many administrative branches will continue unchanged. **The overriding objective of the Programme is to raise the employment rate to 72 per cent** through a number of measures promoting employment and entrepreneurship"



Key reforms and priorities

The Government's objectives are to bring the Finnish economy onto a path of sustainable growth and higher employment and to safeguard sufficient financial resources for public services and social protection.

• Five ongoing reforms

- Health and social services reform
- Reduction of costs in municipalities, regions and across the entire public sector
- Municipality of the future
- Regional government reform
- Central government reform

• Five strategic priorities

- Employment and competitiveness
- Knowledge and education
- Health and wellbeing
- Bioeconomy and clean solutions
- *Digitalisation, experimentation and deregulation*

Digitalisation, experimentation and deregulation

- Digitalised public services
- Growth environment for digital business operations
- Streamlined legal provisions
- *A culture for experimenting*
- Better leadership and implementation

Three levels of experimenting

- Strategic level
 - Pilot studies selected by the Government
- Pooled pilots and partnerships level
 - Pilot studies that promote the objectives of the Government programme, executed in the regions, NGOs and business environment
- Grass-roots level
 - Civil society engagement (e.g. www.kokeilunpaikka.fi, digital platform for experiments)

Government strategic pilot studies

Basic income

Objective: To test whether a basic income can help reduce income poverty, marginalisation, red tape in social benefits and taxation, and find incentives for work in a way that is sustainable for public finances.

Digital municipality trial

Objective: To promote open-minded, forward-looking development of procedures and service procedures in local government to improve the wellbeing of citizens.

Local government trials

Objective: To reduce local government duties and obligations. Includes trials about an integrated model for wellbeing, educational services, the supervision of local government activities, housing services, cooperation between local authorities and the Social Insurance Institution and the youth guarantee.

Language trials

Objective: To increase and diversify language studies. Launch a regional experiment whereby language studies start in the first year of school, and enable regional testing to broaden the range of language studies.

Service voucher system

Objective: To produce information in support of the forthcoming freedom of choice model and for law drafting purposes.

Regional trials in employment and business services

Objective: Support reform of employment service activities and how to put in place comprehensive inter-administrative and customer-oriented procedures for employment and business services.

“A basic income is an income unconditionally paid to all on an individual basis, without means test or work requirement.”

Van Parijs (1992: 3)

Aim of the Experiment

- Reform existing social security to better match with societal changes
- Diminish bureaucracy
- Abolish work disincentives and income traps

Experimental Design

- 2000 participants were randomly selected from the pool of 175 000 individuals who received basic unemployment benefits in November 2016
 - Nationwide, participants were situated all over Finland
- 560 euros were paid tax free to the bank account found in the unemployment benefit registry for two years (2017-2018)
 - Other benefits were intact
 - Paid unconditionally – participants kept receiving money even if they were hired again or became self-employed.
- Regulated by a law which was proven by the Constitutional Law Committee in the parliament

Main Findings – No Effect on Employment



- Register data for the first year of the experiment suggests that the basic income experiment did not have any effect on employment.
- The primary outcome was defined to be the number of days in open employment.

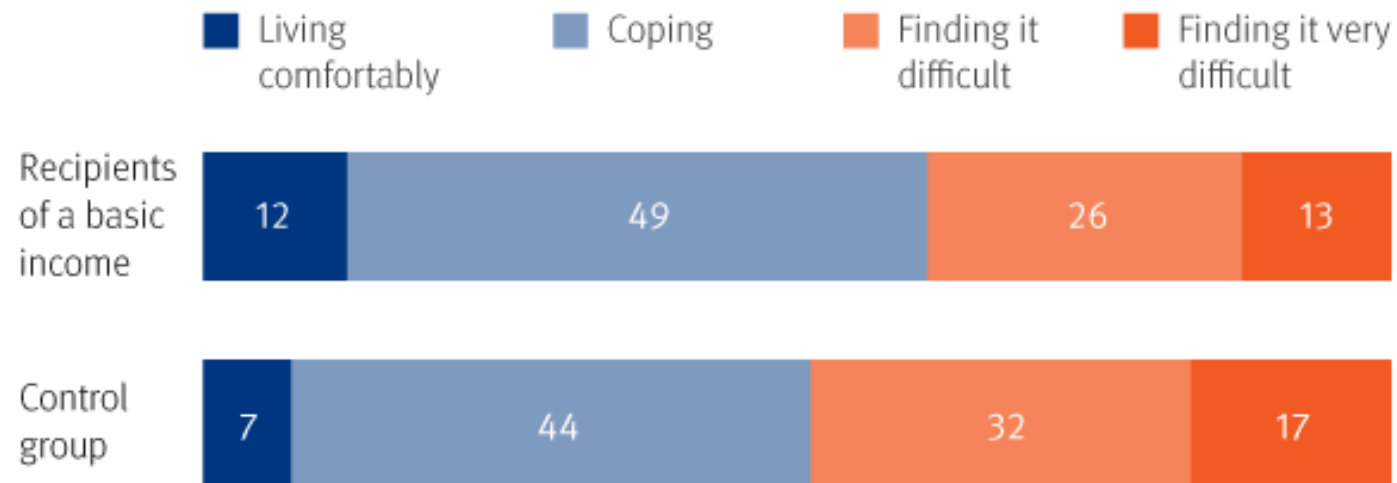
	Treatment group	Control group	Difference	p-value
Employment status				
Days in employment (number of days)	49.64	49.25	0.39	0.87

Main Findings – Less Financial Insecurity



- Basic income recipients experienced less financial insecurity

Self-perceived financial situation at current income level,
% of respondents



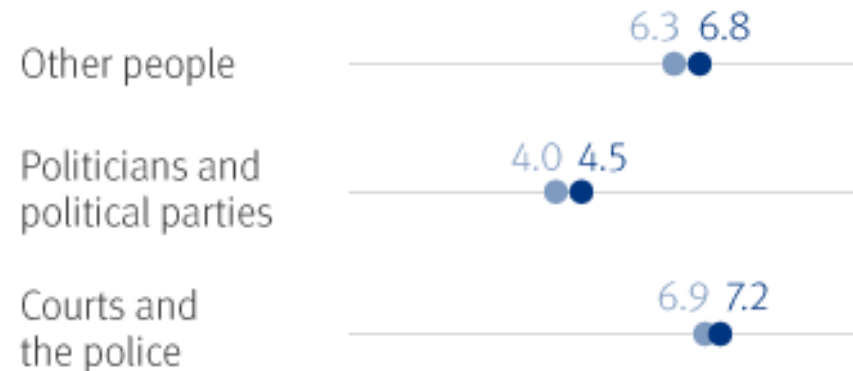
Main Findings – Greater Trust



- Basic income recipients reported greater trust in societal institutions

Trust in other people and societal institutions on a scale of 0 to 10

● Control group ● Recipients of a basic income



Main Findings – More Satisfied with Life



- In the test group the average value for satisfaction with life was 7.32 and in the control group 6.76. The difference is statistically highly significant ($p < .0001$).
 - Satisfaction with life was measured by a variable where the value 0 on a scale from 0 to 10 means very high dissatisfaction with life and the value 10 very high satisfaction with life
 - The difference remained significant even when we controlled for the background variables: gender, age, education, structure of the household and income.

What worked well and advice for similar projects.

- Dedication
 - We had a project leader who was active in solving issues, had the network and was respected
- Team effort
 - Experts from several fields came together
- Balanced act
 - important to mitigate politicians need to get results quickly and researchers need to do perfect job.
- On-boarding
 - Differing political opinions (with-in and between ruling parties) slow down decision-making
 - Politicians have a limited understanding of universal basic income and experimentation
 - Help civil servants to get out of their comfort zone

For further research and future possibilities

- How would low income workers behave if they received UBI?
- What is the optimal paying frequency for any type benefit?
- How would UBI affect individuals productivity and cognitive skills?

- Negative income tax experiment in the pipeline (2021?)
- Win for Life type of lottery operated by the State gambling monopoly?
- Reforming the social security using some characteristics of UBI?



Conclusion

Future of experimentation in the Finnish public sector

- Salomo Hirvonen & Maarit Lassander & Lauri Sääksvuori & Janne Tukiainen, 2023. "[Who is mobilized to vote by short text messages? Evidence from a nationwide field experiment with young voters,](#)" [Discussion Papers](#) 157, Aboa Centre for Economics.
- Finnish Behavioural Policy Team (FINBEPOL)
 - FINBEPOL conducts experimental research in cooperation with research organisations and the scientific community. The team acts as an intermediary between researchers and officials and maintains networks.
 - Käyttäytymistieteellinen ennakointi ja tieto tulevaisuuden hallinnossa – toiminta (KETTU)

Summary

- It is very easy to come up with new policies about how to improve things.
- But your intuitions can be wrong.
- The society is too complex to be fixed from your offices.
- The best way to be sure is to test ideas and new policies in real life context.
- That might lead you to realise that you were wrong in the first place. That is not a bad thing – we can learn from those failures.
- Actually, learning that something didn't work as you expected or hoped for is not a failure. Experimenting without learning is a failure.
- Running trials with real people can first sound troubling and unethically, but it can save future generations suffering the consequences of bad policies.
- Trials can also help governments save money and help politicians to stay credible when strategically used.