

The Effects of Peer-to-peer Financial Education: Evidence from Lower Secondary Schools

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Motivation

- Financial literacy has become more important and topical (e.g. Lusardi & Mitchell 2014 JEL)
- At the same time there is ongoing discussion:
- Whether gaining financial knowledge is associated with improved financial behavior (knowledge => behavior)
- Whether financial education even improves financial knowledge
- What are the best methods to teach personal finance
- "Gender gap" in financial literacy

The aim of the paper

- To study the effects of educational intervention on 9th grade students' financial capability, measured by knowledge and savings behavior
- Uses a pre- and post-education test to analyze a difference between the intervention and control group
- Because the intervention is not randomized, we use a difference-in-differences estimation method to analyze the impact

Description of the program

- "Oma Onni", developed by vocational education center SEDU in Seinäjoki, Finland
- Sponsored by local savings bank foundation
- Online-based learning environment: games, videos, information, quizzes, a character called Onni
- Designed by the students of SEDU: hence "peer learning"
- Student visits to schools to introduce the program
- Pre- and post-test to analyze

Financial and economic education for the 9th grade students in Finland

- 9th grade is the last year of mandatory schooling
- There is one course in economics and personal finance, divided roughly 50-50 across the two subjects
- The course is part of history and social sciences module
- There is a national curriculum all schools have to follow

Our contribution to the intervention

- Introduction of a control group
- Different knowledge questions in pre- and post-tests: 60 each
- Introduction of savings related questions and some other background questions
- We contrast the effects of treatment (participation to Onni) to a control group of 9th graders
- Both groups receive the financial education specified in the curriculum
- Pre-test administered in September 2014 and Post-test in April 2015
- The research setting replicated in the academic year 2015 / 2016

Examples of knowledge questions

- 15-year old can independently sign a work contract and resign from work: **True** / untrue / do not know
- You can control investment risk by investing as much as possible in one asset only: True / **untrue** / do not know
- Electronic bills can be paid only in bank branches: True / **untrue** / do not know

Savings questions

- “Do you save regularly for some goal? **Yes / No / cannot say**”.
- “When you get money from your parents, how often do you save at least part of it? **Never / sometimes / often / always / cannot say**”.
- “Which one of the following statements best describes your relation with money? **I want to use money to help my family and other people / I want to use money for myself / I want to buy everything I want / I want to save for the future / cannot say**”.

Empirical strategy

- In main estimations, difference-in-difference strategies
- Dependent variables: knowledge and savings scores from the questionnaire
- Key explanatory variables: Treatment and gender
- Includes a range of control variables

Differences in correct responses, by treatment

	Treatment group, 2014-2015	Control group, 2014-2015	Treatment group, 2015- 2016	Control group, 2015- 2016
Total correct, Q1	29.02 (.20)	29.34 (.31)	28.43 (.20)	28.94 (.30)
Total correct, Q2	32.67** (.20)	31.74 (.33)	32.90** (.21)	32.16 (.29)

Differences in savings behavior, by treatment

	Treatment group, 2014-2015	Control group, 2014-2015	Treatment group, 2015-2016	Control group, 2015-2016
Savings index, Q1	1.49 (.03)	1.42 (.04)	1.45* (.03)	1.36 (.04)
Savings index, Q2	1.54** (.03)	1.40 (.05)	1.43 (.03)	1.46 (.04)

The effects of treatment to knowledge: cross-section

	1: Fall 2014, pre-test	1: Spring 2015, post-test	2: Fall 2015, pre-test	2: Spring 2016, post-test
Onni	-0.438	0.786**	-0.784**	0.647*
Female	-1.917***	0.410	-1.337***	0.615*

The effects of treatment to knowledge: diff-in-diff 14/15

Onni	-0.435	-0.449	-0.449	-0.450
Post-education	2.145***	1.038**	1.099**	1.042**
Onni * Post-education	1.203***	1.226***	1.140*	0.599
Female	-0.832	-1.847***	-1.847***	-1.851***
Female*post-education		2.200***	2.078***	2.194***
Onni*Female*Post-education			0.171	
Onni, intensity of use				0.264***

The effects of treatment to knowledge: diff-in-diff 15/16

Onni	-2.228***	-2.180***	-2.182***	-1.562**
Post-education	2.861***	1.851***	1.708***	1.863***
Onni * Post-education	1.438***	1.403***	1.623***	0.837*
Female	-0.427	-3.512***	-3.504***	-3.548***
Female*post-education		2.105***	2.403***	2.106***
Onni*Female*Post-education			-0.451	
Onni, intensity of use				0.0191**

The effects of treatment to savings: cross-section

	1: Fall 2014, pre-test	1: Spring 2015, post-test	2: Fall 2015, pre-test	2: Spring 2016, post-test
Onni	0.0637	0.115**	0.0639	-0.0406
Female	-0.00862	0.092*	0.0390	0.0732

The effects of treatment to savings: diff-in-diff 14/15

Onni	0.0610	0.0604	0.0604	0.0606	0.0649
Post-education	-0.0466	-0.0963*	-0.527	-0.0968*	-0.107*
Onni * Post-education	0.0558	0.0569	-0.0037	0.139*	0.0445
Female	0.0422	-0.0033	-0.0034	-0.00272	0.0153
Female*post-education		0.0987*	0.0126	0.0995*	0.0765
Onni*Female*Post-education			0.120		
Onni, intensity of use				-0.0345*	
Financial knowledge					0.0101***

The effects of treatment to savings: diff-in-diff 15 /16

Onni	0.159*	0.160*	0.160*	0.240**	0.185***
Post-education	0.491	0.201	0.00374	0.0238	-0.00120
Onni * Post-education	-0.0980*	-0.0990*	-0.0738	-0.179***	-0.115
Female	0.0533	-0.0353	-0.0345	-0.0278	0.00505
Female*post-education		0.0605	0.0946	0.0533	0.0363
Onni*Female*Post-education			-0.0516		
Onni, intensity of use				0.00296** *	
Financial knowledge					0.0115***

Results

- For students who participate in the treatment, there is a modest but significant increase in the knowledge scores compared to those who do not; both groups increase knowledge
- No significant impact on savings
- Girls know less initially but learn more, and increase their knowledge more than boys: unrelated to treatment
- Increases in knowledge scores correlated with changes in reported savings behavior
- Results rather consistent across years

Why not impact on behavior?

- Students in the age group under study do not make decisions of economic significance
- Self-reported measures may be problematic
- Program geared to improve knowledge rather behavior