

Let me choose what I'm best at: a natural field experiment with volunteers

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What motivates effort?

- Money is the **gold standard** for motivating workers: *you pay people for output, they produce* (Levitt & Neckermann, 2014).
- **The problem with money:** it is *costly* and it can *crowd out* intrinsic motivation (Gneezy & Rustichini, 2000; Ryan & Deci, 2000; Benabou & Tirole, 2003; Conrads et al., 2016).
- **In the absence of money:** *recognition* (Kosfeld & Neckermann, 2011; Ashraf et al., 2014; Conrads et al., 2016), *adding meaning to mundane tasks* (Chandler & Kapelner, 2013) and **autonomy** (Bloom et al., 2015; Mertins & Walter, 2021).
- **Autonomy is a cornerstone of intrinsic motivation** and highly applicable in the volunteering context!

Motivation: volunteering context

- While we know the motives of donating time (Clary et al., 1998; Andreoni, 2006; Burns et al., 2006; Ariely et al., 2009; Brown et al., 2019), little is known about **how to motivate volunteers**.
- **Tailoring communication to motives**: no effect on the overall labor supply of volunteers (Al-Ubaydli & Lee, 2011).
- **Feedback & voting** increases the volunteering output (Walter & Mertins, 2021).
- **This paper**: Autonomous motivation - refers to engaging in an activity of one's free will or with a **sense of choice** (Ryan & Deci, 2000).
- A large scale natural field experiment in Albania to evaluate the effect of autonomy at the task level on effort and effort quality.
- This broader notion of autonomy recognizes the diversity of individual preferences, interests, and abilities - more generalizable!

Main Research Questions

- 1 **Do volunteers increase effort and effort quality when they can choose tasks? Yes!**
 - ▶ Allowing volunteers to write awareness raising messages for one out of three different social causes.
- 2 **Does the autonomy of choosing tasks lead to more effort and better quality than monetary rewards? No & Yes!**
 - ▶ Benchmark the effect of choice with that of a large performance contingent monetary reward.
- 3 **Do volunteers who can choose tasks increase effort because they match tasks with abilities? Yes!**
 - ▶ Other mechanisms: preferences for choice & preferences for the options associated with the choice.

Conceptual Framework

- Nonprofits hire volunteers and their goal is to maximize the volunteers' output.
- Suppose a non-profit aims to raise awareness about three social causes and hires volunteers to write awareness-raising messages about each of them.
- The production function of writing messages depends on: (i) **writing skills**, (ii) **awareness & knowledge**, and (iii) **ability to raise awareness**.
- Since abilities are unobservable and costly to learn for non-profit, it may be beneficial to allow helpers choose the tasks they feel best at.
- People have an innate psychological need to feel capable and effective - **competence** (Ryan & Deci, 2000).

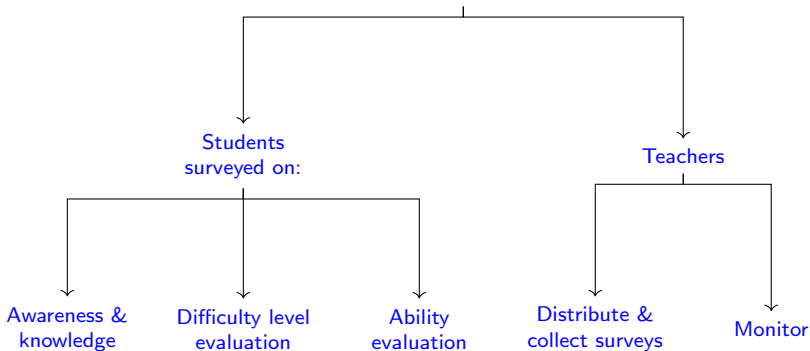
Environmental Context ▶▶ timeline

- Partnership with [The Observatory for the rights of children and youth, UNICEF](#).
- **Volunteers:** students in 4 high schools (4391 students) in Tirana, Albania.
- **Volunteers needed to raise awareness about:**
 - ▶ [Bullying](#)
 - ▶ [Mental health: depression](#)
 - ▶ [Social inclusion of people with disabilities](#)
- Output will be posted on **U-Report** - *a social messaging tool and data collection system developed and managed by UNICEF.*
- The intervention coincided in time with the promotion of the platform.
- All 4 high schools are part of the promotion program, and in each school there are paid teachers involved in the program.

Outcomes

- **Creative, cognitive and meaningful task:** writing **awareness-raising messages** against bullying, depression and social exclusion of people with disabilities
 - ① Total number of relevant written messages
 - ② Share of "good" *quality* messages
 - ★ A good messages has the potential to be posted on the platform. A good message can touch people's hearts or make their brains reflect.
 - ③ Overall work *quality*: $q \in \{1...10\}$
- **Quality evaluation:** Initially done by 3 MA in psychology students and then validated by a volunteer at the NGO!
- **Task enjoyment:** $e \in \{1...10\}$
- **Willingness to volunteer in the future**
 - ▶ Yes/No
 - ▶ Sign up: [e-mail](#)
- **Effort in another task (environmental pollution)**

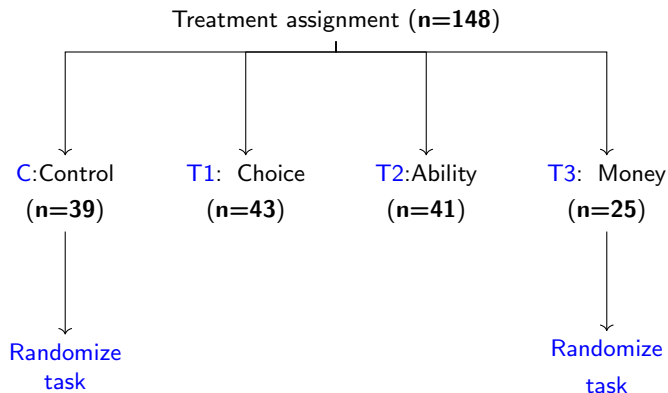
Before the main experiment



- Through a survey we measured information on the awareness level, perceived ability to raise awareness, knowledge level & difficulty level to raise awareness for each cause.
- Administrative data collection of age, gender, cohort, & grades in maths, language, literature & civic education.

Randomization

- At the classroom level: 148 classrooms in 4 high-schools (4391 students).
- Stratification based on school

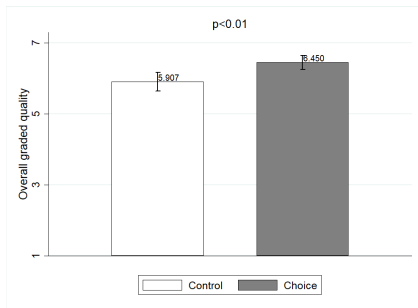
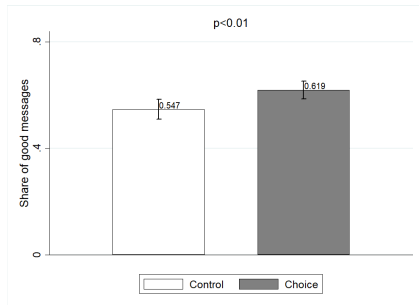
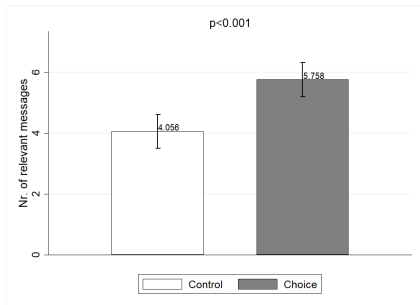


Part 1: Reduced-form effects

- Do volunteers increase effort and effort quality when they can choose tasks?
- Does giving volunteers choice make them more *likely* to volunteer in the future?
- Do performance contingent rewards work?
- Is effort and its quality higher when people choose tasks or when they get paid for their good work?

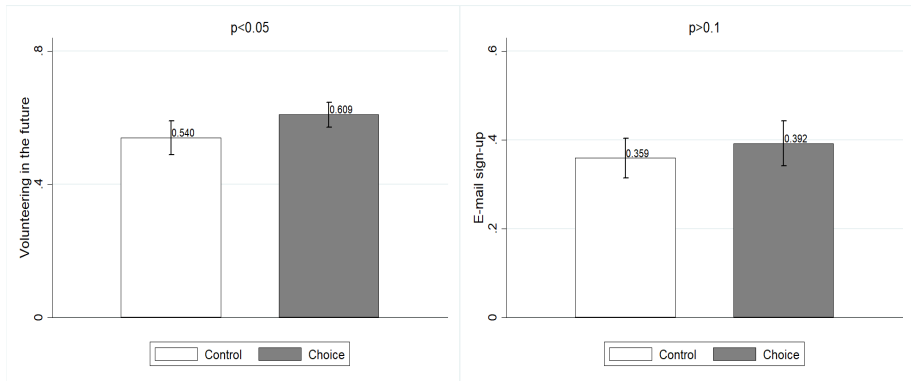
The effect of choice on effort and effort quality

▶▶ table

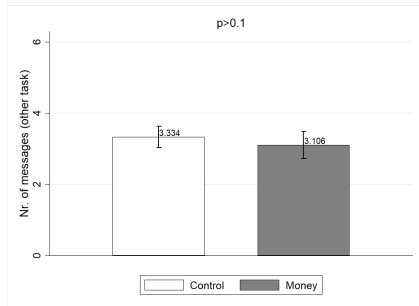
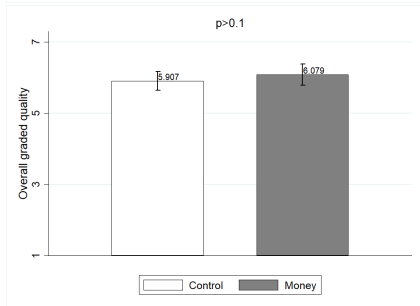
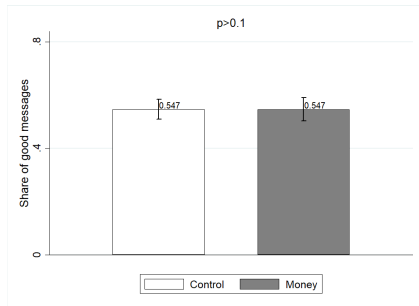
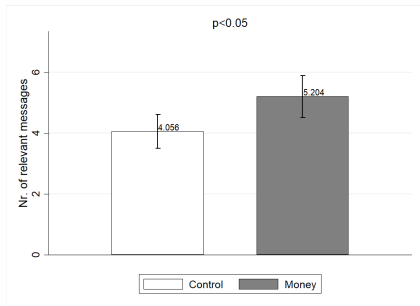


The effect of choice on the willingness to volunteer in the future

▶▶ table

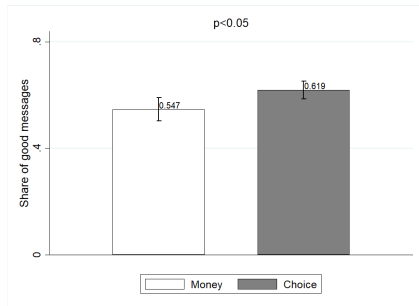


The effect of a monetary reward on effort and quality [▶ table](#)



Benchmarking the choice effect

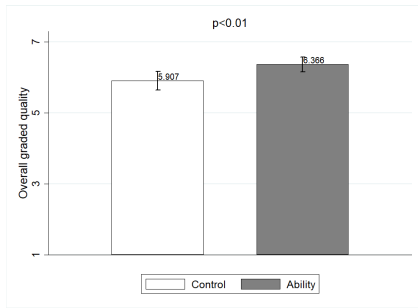
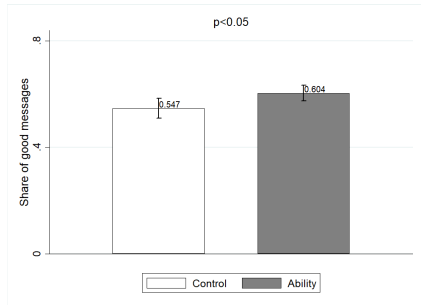
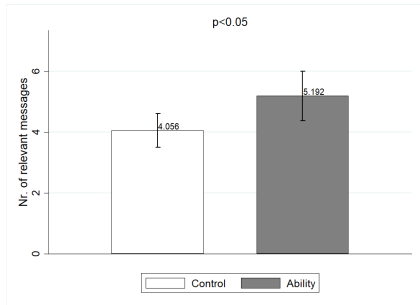
▶ table



Part 2: Mechanisms

- 1 Ability - matching
 - ▶ Intuitively, people perform better when doing they are good at!
 - ▶ People have the psychological need to feel capable and effective - competence component of the self-determination theory (SDT) (Ryan & Deci, 2000).
- 2 Preference for choice
 - ▶ People have the psychological need for control and choice - autonomy component of (SDT)
- 3 Preferences for the options associated with the choice
 - ▶ When individuals can choose tasks that align with their interests and values, they are more likely to be intrinsically motivated and experience greater enjoyment (Ryan & Deci, 2000).

The effect of ability-matching on effort and its quality [▶ table](#)



Further evidence on the role of ability matching on effort

	(1)	(2)	(3)	(4)	(5)
Comparison groups	Ability-Control	Ability-Control	Ability-Control	Control	Control
Sub-sample	Full sample	Ability - matched	Exact ability - matched	Ability - matched	Exact ability - matched
Outcome	Nr. of messages	Nr. of messages	Nr. of messages	Nr. of messages	Nr. of messages
Panel A: Ability-Control					
Ability	0.874** (0.423)	0.238 (0.428)	0.075 (0.449)		
Panel B: Control group					
Ability-matched				0.798*** (0.189)	
Exact ability-matched					0.891*** (0.237)
Baseline mean	4.056	4.650	4.803	3.821	3.928
Strata fixed effects	Yes	Yes	Yes	Yes	Yes
Task fixed effects	Yes	Yes	Yes	Yes	Yes
Cohort fixed effects	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes
Observations	2,346	1,152	733	1,153	1,153
R-squared	0.162	0.171	0.167	0.162	0.160

Note: Columns (1)-(3) in Panel (A) report the estimated ability treatment effect on the relevant number of messages in the full sample, ability-matched and exact ability-matched sub-samples. Columns (4)-(5) in Panel (B) report the effect of ability-matched and exact ability-matched indicators on the number of relevant messages in the control group only. In each regression, standard errors are clustered at the classroom level. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

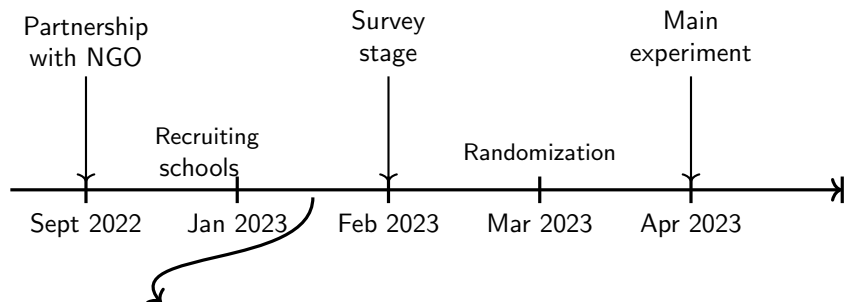
Supporting evidence on the underlying mechanism

- Volunteers choose their tasks based on perceived ability rather than other factors [▶▶ table](#)
- No evidence that volunteers who can choose the task are more prosocial because they simply like choice or experience greater enjoyment [▶▶ table](#)
- The effect of choosing tasks does not depend on the type of task [▶▶ table](#)
- Alternative mechanism: heightened responsibility to do well because the decision was theirs (Hackman & Oldham, 1976).

Take away

- It is possible to motivate volunteers increase effort and effort quality through giving them the autonomy to choose tasks!
- Monetary incentives targeting the best volunteers work without crowding out effort!
- While the choice effect is unlikely to persist over time, it is cost-effective to give them choice rather than paying for their good work! They'll provide more quality outcome!
- The story: having choice allows volunteers to match their abilities with tasks leading to higher effort and effort quality!

Timeline of Events [▶▶ back](#)



**IRB, Ministry Permission
& Commissioner for Data Protection
Approval**

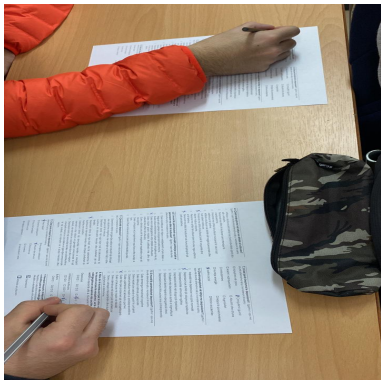
Details of the experiment [▶ back](#)



Details of the experiment [▶ back](#)



Details of the experiment [▶ back](#)



Control (ability) group [▶▶ back](#)

Code



I



Hello,

The Observatory for the Rights of Children and Youth is working to raise awareness about three social causes: depression, people with disabilities, and bullying. According to psychologists and sociologists, it is essential to raise awareness about these social causes, and it requires the active involvement of youth that has or has not been affected by them to enhance their social and academic lives toward a greater future. You can voluntarily help by writing as many awareness messages against bullying. The best motivating messages will be posted in the U-Report platform, managed by UNICEF, where you can register through scanning the QR-code on the back page, thus becoming a volunteer in a large youth community. U-Report aims to empower youth to share their thoughts on issues that are important to them, to inform them and to shrink the distance between them and (non)government institutions. Moreover, the messages that will not be selected for this campaign, will be filtered and used in similar campaigns in the future. Please, write your messages in **capital letters** in order to increase readability as well as avoid short messages with 2-3 words, e.g., "*Say No to bullying*". Thank you for your contribution in creating a better community for children, youth and for all. Your voice matters!

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Choice treatment

▶▶ back

Code



II



Hello,

The Observatory for the Rights of Children and Youth is working to raise awareness about three social causes: depression, people with disabilities, and bullying. According to psychologists and sociologists, it is essential to raise awareness about these social causes, and it requires the active involvement of youth that has or has not been affected by them to enhance their social and academic lives toward a greater future. You can voluntarily help by writing as many awareness messages against (choose one between: depression social exclusion of people with disabilities bullying). The best motivating messages will be posted in the U-Report platform, managed by UNICEF, where you can register through scanning the QR-code on the back page, thus becoming a volunteer in a large youth community. U-Report aims to empower youth to share their thoughts on issues that are important to them, to inform them and to shrink the distance between them and (non)government institutions. Moreover, the messages that will not be selected for this campaign, will be filtered and used in similar campaigns in the future. Please, write your messages in **capital letters** in order to increase readability as well as avoid short messages with 2-3 words, e.g., *"Say No to bullying"*. Thank you for your contribution in creating a better community for children, youth and for all. **Your voice matters!**

1. _____
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6. _____
7. _____
8. _____



IV



Hello,

The Observatory for the Rights of Children and Youth is working to raise awareness about three social causes: depression, people with disabilities, and bullying. According to psychologists and sociologists, it is essential to raise awareness about these social causes, and it requires the active involvement of youth that has or has not been affected by them to enhance their social and academic lives toward a greater future. You can voluntarily help by writing as many awareness messages against **bullying**. The best motivating messages will be posted in the **U-Report** platform, managed by UNICEF, where you can register through scanning the QR-code on the back page, thus becoming a volunteer in a large youth community. U-Report aims to empower youth to share their thoughts on issues that are important to them, to inform them and to shrink the distance between them and (non)government institutions. Moreover, the messages that will not be selected for this campaign, will be filtered and used in similar campaigns in the future. **The student in your class with the most messages selected by the Observatory will receive a reward of 20 Euros.** If you are the winner, you will receive a reward through the office of your school's principal. Would you like to be considered for the reward if you are the winner? Yes No. Please, write your messages in **capital letters** in order to increase readability as well as avoid short messages with 2-3 words, e.g., "*Say No to bullying*". Thank you for your contribution in creating a better community for children, youth and for all. **Your voice matters!**

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Other outcomes [▶ back](#)

How much did you enjoy writing awareness messages in a scale from 1 to 10? (0- did not enjoy, 10- fully enjoyed)

0 1 2 3 4 5 6 7 8 9 10

Would you consider becoming a volunteer in the future? Po Jo

If yes, please write down your e-mail address for future notifications:

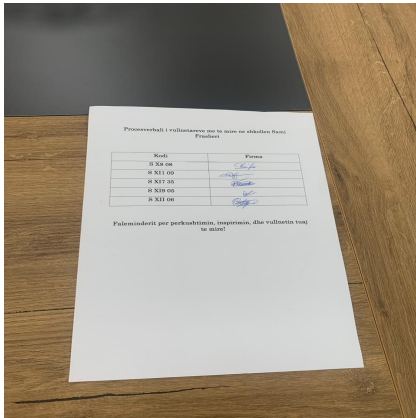
E-mail: _____

Lastly, take a few minutes to help raise awareness about environmental pollution by writing awareness messages against pollution. This is important since the level of urban waste has recently increased drastically.

1. _____
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8. _____
9. _____
10. _____

Rewarded volunteers

▶ back



Control vs. Choice

Treatment	(1) Nr of messages	(2) Nr of messages	(3) quality (%)	(4) quality (%)	(5) quality (grade)	(6) quality (grade)
Choice	1.484*** (0.393)	1.324*** (0.399)	0.067*** (0.023)	0.053*** (0.019)	0.497*** (0.169)	0.391*** (0.135)
% change	36.588	32.643	12.249	9.69	8.414	6.619
Control mean	4.056	4.056	0.547	0.547	5.907	5.907
Strata fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Task fixed effects	No	Yes	No	Yes	No	Yes
Cohort fixed effects	No	Yes	No	Yes	No	Yes
Controls	No	Yes	No	Yes	No	Yes
Observations	2,454	2,454	2,264	2,264	2,264	2,264
R-squared	0.084	0.168	0.038	0.152	0.031	0.201

Likelihood of volunteering in the future

Treatment	(1) Future (Y/N)	(2) Future (Y/N)	(3) E-mail (Y/N)	(4) E-mail (Y/N)
Choice	0.075** (0.032)	0.064** (0.030)	0.041 (0.032)	0.026 (0.031)
Control mean	0.540	0.540	0.359	0.359
Strata fixed effects	Yes	Yes	Yes	Yes
Cohort fixed effects	No	Yes	No	Yes
Controls	No	Yes	No	Yes
Observations	2,463	2,463	2,463	2,463
R-squared	0.010	0.060	0.022	0.100

▶▶ back

Control vs. Money

Treatment	(1) Nr of messages	(2) Nr of messages	(3) quality (%)	(4) quality (%)	(5) quality (grade)	(6) quality (grade)	(7) Nr. of messages (other task)	(8) Nr. of messages (other task)
Money	1.035** (0.447)	0.929** (0.402)	0.015 (0.028)	0.016 (0.024)	0.193 (0.208)	0.168 (0.173)	-0.232 (0.255)	-0.274 (0.257)
% change	25.518	22.904	2.742	2.295	3.267	2.844	-6.959	-10.168
Control mean	4.056	4.056	0.547	0.547	5.907	5.907	3.334	3.334
Strata fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Task fixed effects	No	Yes	No	Yes	No	Yes	No	No
Cohort fixed effects	No	Yes	No	Yes	No	Yes	No	Yes
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Observations	1,887	1,887	1,617	1,617	1,617	1,617	1,887	1,887
R-squared	0.048	0.142	0.017	0.123	0.012	0.176	0.009	0.063

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Choice vs. Money

Treatment	(1) Nr of messages	(2) Nr of messages	(3) quality (%)	(4) quality (%)	(5) quality (grade)	(6) quality (grade)	(7) Nr. of messages (other task)	(8) Nr. of messages (other task)
Choice - Money	0.434 (0.446)	0.341 (0.406)	0.067** (0.027)	0.051** (0.020)	0.360** (0.178)	0.268* (0.136)	0.490** (0.243)	0.515** (0.241)
% change	8.340	6.552	12.249	9.324	5.922	4.409	15.776	17.579
Money (mean)	5.204	5.204	0.547	0.547	6.079	6.079	3.106	3.106
Strata fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Task fixed effects	No	Yes	No	Yes	No	Yes	No	No
Cohort fixed effects	No	Yes	No	Yes	No	Yes	No	Yes
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Observations	2,035	2,035	1,931	1,931	1,931	1,931	2,044	2,044
R-squared	0.021	0.122	0.025	0.172	0.015	0.219	0.013	0.065

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Control vs. Ability

Treatment	(1) Nr of messages	(2) Nr of messages	(3) quality (%)	(4) quality (%)	(5) quality (grade)	(6) quality (grade)
Ability	0.913** (0.436)	0.874** (0.423)	0.064*** (0.021)	0.069*** (0.019)	0.438*** (0.160)	0.456*** (0.142)
% change	22.509	21.548	11.7	12.614	7.417	7.720
Control mean	4.056	4.056	0.547	0.547	5.907	5.907
Strata fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Task fixed effects	No	Yes	No	Yes	No	Yes
Cohort fixed effects	No	Yes	No	Yes	No	Yes
Controls	No	Yes	No	Yes	No	Yes
Observations	2,346	2,346	2,095	2,095	2,095	2,095
R-squared	0.071	0.162	0.037	0.111	0.036	0.167

» back

Task Choice Regressions [▶▶ back](#)

Task choice	(1) Bullying	(2) Disability	(3) Depression
Panel A: correlation between perceived ability and task choice			
Ability (bullying)	0.056*** (0.010)	-0.029*** (0.009)	-0.027*** (0.008)
Ability (disability)	-0.018** (0.008)	0.046*** (0.006)	-0.028*** (0.008)
Ability (depression)	-0.025** (0.009)	-0.012* (0.007)	0.037*** (0.007)
Panel B: Correlation between perceived awareness and task choice			
Aware (bullying)	0.013 (0.008)	-0.005 (0.008)	-0.008 (0.007)
Aware (disability)	-0.009 (0.009)	0.003 (0.007)	0.006 (0.009)
Aware (depression)	-0.005 (0.008)	-0.001 (0.005)	0.006 (0.008)
Panel C: correlation between knowledge and task choice			
Knowledge (bullying)	0.001 (0.001)	-0.001 (0.001)	-0.000 (0.001)
Knowledge (disability)	-0.000 (0.001)	0.000 (0.001)	-0.000 (0.001)
Knowledge (depression)	-0.003** (0.001)	-0.000 (0.001)	0.003** (0.001)
Panel D: correlation between perceived task easiness and task choice			
Easy (bullying)	-0.111** (0.046)	-0.031 (0.060)	0.142** (0.066)
Easy (disability)	-0.104** (0.042)	0.013 (0.067)	0.091 (0.064)
Easy (depression)	-0.090** (0.042)	0.001 (0.058)	0.089 (0.059)
Mean	0.512	0.195	0.293
Observations	1,301	1,301	1,301
R-squared	0.047	0.056	0.051

Effect on enjoyment and effort in the other task

Treatment	(1) Nr of messages (other)	(2) Nr of messages (other)	(3) Enjoyment	(4) Enjoyment
Choice	0.266 (0.214)	0.235 (0.217)	0.144 (0.220)	0.136 (0.213)
Control mean	3.334	3.334	7.400	7.400
Strata fixed effects	Yes	Yes	Yes	Yes
Cohort fixed effects	No	Yes	No	Yes
Controls	No	Yes	No	Yes
Observations	2,463	2,463	2,463	2,463
R-squared	0.006	0.063	0.014	0.039

» back

The effect of choosing tasks for each task option

Treatment	(1) Nr of messages (Bullying)	(2) Nr of messages (Depression)	(3) Nr of messages (Disability)
Choice	1.153*** (0.433)	1.451** (0.596)	1.353*** (0.337)
Control mean	4.566	4.205	3.449
Strata fixed effects	Yes	Yes	Yes
Cohort fixed effects	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	1,032	766	656
R-squared	0.167	0.152	0.186

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