

The effect of school and peers on dropout behavior

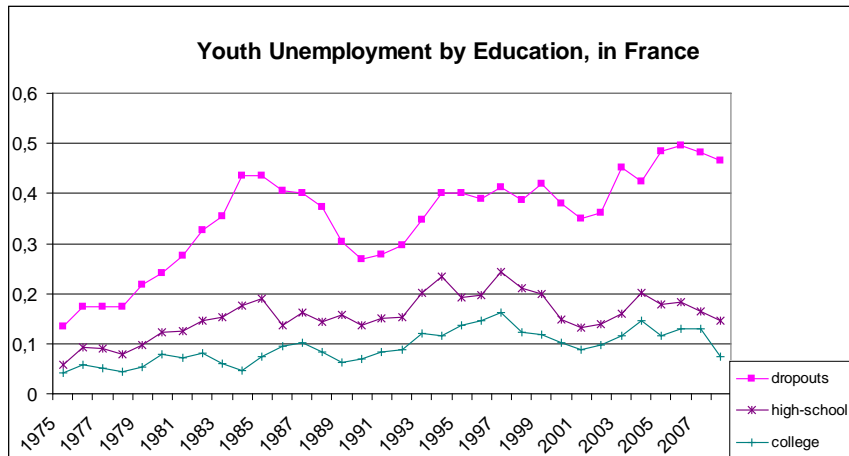
Dominique Goux, Marc Gurgand and Eric Maurin
Crest, Paris Schools of Economics and J-PAL

Young NEETs workshop
Barcelona, June 27, 2013



PARIS SCHOOL OF ECONOMICS
ÉCOLE D'ÉCONOMIE DE PARIS

The dropout problem



Two views on dropout

Two views on dropout

- Optimal dropout models : this is the right decision given circumstances
 - Lack of ability, low labor market return
 - Low consumption value of education, low motivation

Two views on dropout

- Optimal dropout models : this is the right decision given circumstances
 - Lack of ability, low labor market return
 - Low consumption value of education, low motivation
- Non-optimal behavior : this is an underinformed decision
 - Liquidity constraints
 - Future benefits of education ignored or too heavily discounted
 - Peer influence/imitation

Two reasons to believe it is underinformed



Two reasons to believe it is underinformed

- 1 Track choice at the end of 9th grade (middle school) is a complex decision



Two reasons to believe it is underinformed

- 1 Track choice at the end of 9th grade (middle school) is a complex decision
- 2 Options accessible to poor performing students seem to dominate dropout
 - Unemployment rate : dropout 42% vs. 2 year vocational 21%
 - High returns to schooling even at low levels



This research



- Two meetings between school principal and parents of low performing students

- Two meetings between school principal and parents of low performing students
- Identify target students in all classes, then randomize classes

This research

- Two meetings between school principal and parents of low performing students
- Identify target students in all classes, then randomize classes
- Significant impacts on dropout and grade repetition



General research context



- Importance of parental involvement (a neglected input in education literature and policy)
 - Strong effects on behavior of a parents meeting program in a 6th grade program
 - Significant peer effects

- Importance of parental involvement (a neglected input in education literature and policy)
 - Strong effects on behavior of a parents meeting program in a 6th grade program
 - Significant peer effects
- Randomized control trials
 - Robust and transparent evidence on (in)efficient policies
 - Experimental Founds for the Youth (150 million euros - but only a minority RCT)
 - Teaching methods, school boards - also labor market policies

1. The experiment



Institutional context



Institutional context

At the end of 9th grade, 6 possible track choices :



At the end of 9th grade, 6 possible track choices :

■ Within National Education

- 1 Grade repetition (middle school)
- 2 High school, 3-year academic programme
- 3 High school, 3-year vocational programme
- 4 High school, 2-year vocational programme

At the end of 9th grade, 6 possible track choices :

■ Within National Education

- 1 Grade repetition (middle school)
- 2 High school, 3-year academic programme
- 3 High school, 3-year vocational programme
- 4 High school, 2-year vocational programme

■ Outside National Education

- 1 Apprenticeship (either 2-year or 3-year vocational programme)
- 2 Dropout

At the end of 9th grade, 6 possible track choices :

■ Within National Education

- 1 Grade repetition (middle school)
- 2 High school, 3-year academic programme
- 3 High school, 3-year vocational programme
- 4 High school, 2-year vocational programme

■ Outside National Education

- 1 Apprenticeship (either 2-year or 3-year vocational programme)
- 2 Dropout

■ Vocational system is complex :

- In district, 64 possible 3-year school programmes
- 46 possible 2-year school programmes
- About 300 apprenticeship training centers

Application process



Make irreversible choice under incomplete information

- Incomplete information on existing tracks
- Poor knowledge of assignment rules
- Distorted perception of potential benefits and difficulty
- Overwhelming influence of peers ideas, choices, norms

Application process

Make irreversible choice under incomplete information

- Incomplete information on existing tracks
- Poor knowledge of assignment rules
- Distorted perception of potential benefits and difficulty
- Overwhelming influence of peers ideas, choices, norms

Process

- Schools decide who can be admitted to 3-year academic
- If not admitted students can ask to repeat or apply to vocational education
 - List up to 4 choices of vocational education track
 - Centralized assignment system assigns as many students as possible to their choices



37 volunteer schools in deprived Paris neighborhoods



37 volunteer schools in deprived Paris neighborhoods

Principal selects students at risk of dropping out

- avg. mark : 9.4/20
- 54.5% has repeated a grade
- 32.2% scholarship beneficiaries

37 volunteer schools in deprived Paris neighborhoods

Principal selects students at risk of dropping out

- avg. mark : 9.4/20
- 54.5% has repeated a grade
- 32.2% scholarship beneficiaries

Randomize half of the classes to enter the program

37 volunteer schools in deprived Paris neighborhoods

Principal selects students at risk of dropping out

- avg. mark : 9.4/20
- 54.5% has repeated a grade
- 32.2% scholarship beneficiaries

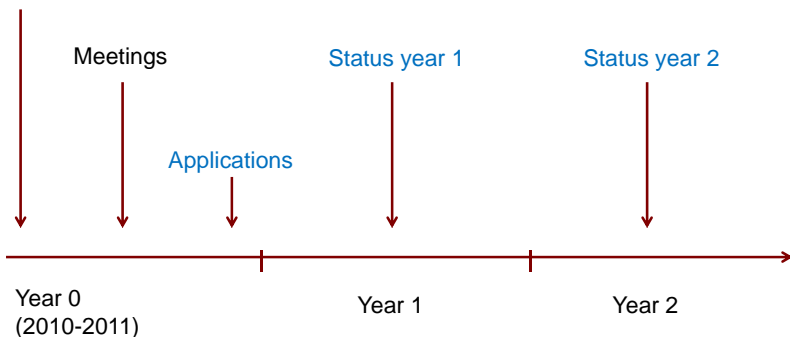
Randomize half of the classes to enter the program

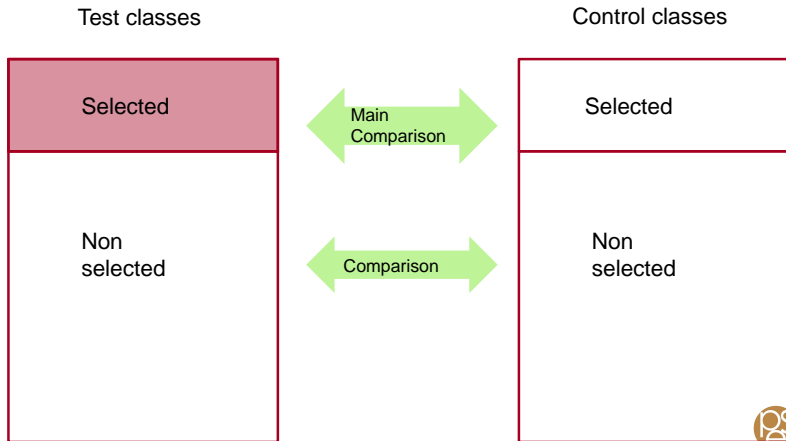
Two group meetings with selected parents
(10 families on average)

- Understand complexity of choice set
- Understand extent of choice set
- Understand assignment procedure and strategy

Timeframe

Selection of students +
Randomization





2. Main findings



Parental attitude (selected students)

	Control mean	Impact	(s.e.)
General information meetings	16.0	24.1***	(3.0)
Talked with other parents	43.8	9.3**	(3.2)
Happy with school information	53.3	5.7*	(3.1)
Expected diploma			
3-year track	77.4	-8.2**	(2.6)
2-year voc.	10.3	3.4*	(2.0)
Do no know	11.6	5.4**	(2.2)

Choice and assignment outcomes (selected students)



Choice and assignment outcomes (selected students)

Application

- Less repetition, more 2-y vocational
- Specifically less popular tracks

Choice and assignment outcomes (selected students)

Application

- Less repetition, more 2-y vocational
- Specifically less popular tracks

Year 1 status

- Confirms lower repetition and higher vocational
- Reduces dropout rate, increases apprenticeship
- Increases proportion assigned to one of their choices



Choice and assignment outcomes (selected students)

Application

- Less repetition, more 2-y vocational
- Specifically less popular tracks

Year 1 status

- Confirms lower repetition and higher vocational
- Reduces dropout rate, increases apprenticeship
- Increases proportion assigned to one of their choices

Year 2 status

- Is the former outcome beneficial? (or postpones dropout?)
- Confirm success in vocational education and lower dropout

Choice and assignment outcomes (selected students)

	Applications		Y1 status		Y2 status	
	C. mean	Impact	C. mean	Impact	C. mean	Impact
						<i>first year completed</i>
3y academic	16.9	-0.1				
3y vocational	65.2	-0.2				
2y vocational	15.8	4.8**				
most popular tracks	11.2	0.6				
non popular tracks	8.3	4.2**				
Repeat	10.6	-3.0*				
Starting 1st year						
Apprenticeship						
Dropout						

Choice and assignment outcomes (selected students)

	Applications		Y1 status		Y2 status	
	C. mean	Impact	C. mean	Impact	C. mean	Impact
					<i>first year completed</i>	
3y academic	16.9	-0.1	18.5	0.0		
3y vocational	65.2	-0.2	50.4	0.8		
2y vocational	15.8	4.8**	3.8	3.3**		
most popular tracks	11.2	0.6				
non popular tracks	8.3	4.2**				
Repeat	10.6	-3.0*	12.7	-3.5**		
Starting 1st year						
Apprenticeship			5.8	3.1**		
Dropout			8.8	-3.8**		

Choice and assignment outcomes (selected students)

	Applications		Y1 status		Y2 status	
	C. mean	Impact	C. mean	Impact	C. mean	Impact
					<i>first year completed</i>	
3y academic	16.9	-0.1	18.5	0.0	10.6	1.0
3y vocational	65.2	-0.2	50.4	0.8	38.1	-0.4
2y vocational	15.8	4.8**	3.8	3.3**	3.1	3.5**
most popular tracks	11.2	0.6				
non popular tracks	8.3	4.2**				
Repeat	10.6	-3.0*	12.7	-3.5**		
Starting 1st year					19.6	-2.2
Apprenticeship			5.8	3.1**	6.9	2.7*
Dropout			8.8	-3.8**	21.7	-4.9**

Network (selected students)



Network (selected students)

	No selected friends		Some selected friends	
	C. mean	Impact	C. mean	Impact
	Application			
3y academic	20.2	-1.1	14.2	0.5
3y vocational	63.1	-1.3	67.7	-1.0
2y vocational	15.2	6.1*	14.9	5.4*
Repeat	11.1	-3.2	10.8	-3.2

Network (selected students)

	No selected friends		Some selected friends	
	C. mean	Impact	C. mean	Impact
Application				
3y academic	20.2	-1.1	14.2	0.5
3y vocational	63.1	-1.3	67.7	-1.0
2y vocational	15.2	6.1*	14.9	5.4*
Repeat	11.1	-3.2	10.8	-3.2
Year 1 status				
3y academic	47.0	0.2	52.8	2.8
3y vocational	21.2	1.8	16.3	-1.4
2y vocational	5.0	1.7	3.1	5.1**
Repeat	11.6	-3.4	13.2	-4.1*
Apprenticeship	7.6	0.2	4.9	3.9**
Dropout	7.6	-0.5	9.7	-6.3**

Concluding remarks

- Choice complexity : a source of dropout and repetition
- Simple program facilitated by the principal can change behavior significantly
- Network results consistent with principal acting as an antidote against peer pressure : move towards optimal decision
- Strength of RCT to convey such message...