Juvenile crime in times of crisis:

a causal case-control analysis comparing the Veneto and Sicily regions

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I dati territoriali a supporto delle decisioni pubbliche.

Micro, macro e meta dati a sistema

Università di Verona, October 22 2014

Questions

- How are poverty and juvenile crime related?
- Are the multiple dimensions of poverty also causing juvenile crime? What causes crime?
- Are the identified causes deteriorating with the economic crisis? What impact can we predict?
- What type of prevention and cure can we implement?

George Orwell's Foreword

(Down and Out in Paris and London, 1933)

- *"Poverty is what I'm writing about.*
- *For, when you are approaching poverty, you make one discovery, which outweighs some of the others. You discover boredom and mean complications and the beginnings of hunger, but you also discover the great redeeming feature of poverty: the fact that it annihilates the future.*
- *Being a beggar, he said, was not his fault, and he refused either to have any compunction about it or to let it trouble him. He was the enemy of society, and quite ready to take to crime if he saw a good opportunity."*

Organization

- The social consequences of economic crisis:
  - a risk factor for our children
  - a threat for the viability of the juvenile justice system
- Social exclusion in Veneto and Sicily: main traits
  - The multidimensions of poverty of the socially excluded: social alarm in times of crisis
  - Causal analysis: evidence from a case-control experiment

Children and Youth in Crisis

(The World Bank, 2013)

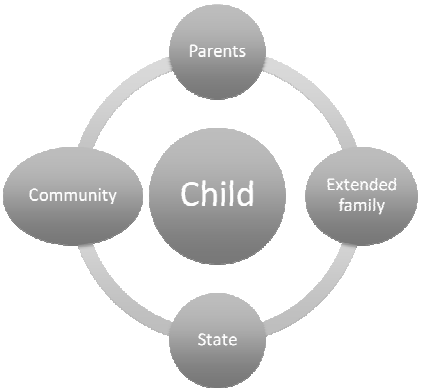
- The successful development of children and young people requires that we protect and nurture a set of interrelated physiological, cognitive, and socio-emotional systems.
  - What happens to these children in early life can have long-term consequences and can even carry over to the next generation.
- Depending on the timing, transmission mechanisms, and context, the consequences for children's physical, cognitive, and socio-emotional development may be costly and irreversible.
- Multidisciplinary approach required: economics, sociology, anthropology, and psychology.

Investing in the human capital accumulation of our young people (Jim Heckman, 2009)

- A "good" society should learn
  - how to "produce" young people not only good at school but also "brave captains"… and
  - how to achieve a more equitable distribution of BOTH material AND relational well-being.
- In order to
  - minimize private and social costs (such as crime) associated with young people that, when adults, may show limitations in productive capacities because not capable to establish good relationships or evolve addictive behaviors.

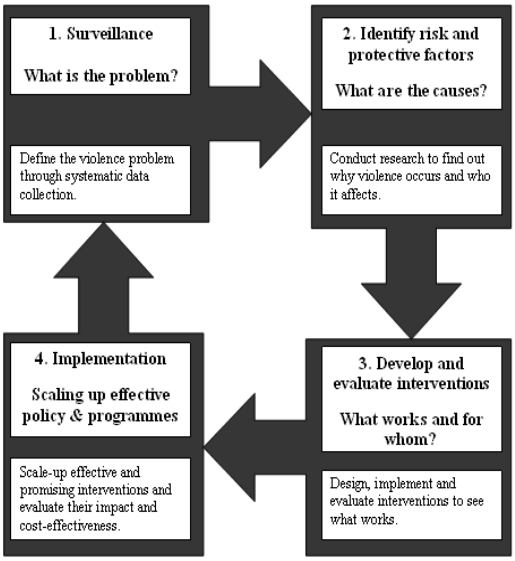
The crisis

- The deepening economic crisis pervading Europe in the last five-years is seriously undermining both the **quantity and quality** of the actions and services provided by the juvenile justice system in dealing with juvenile offenders.
- In Italy all knots of the Child Safety Net (social capital) are increasingly fragile



The Public Health Approach

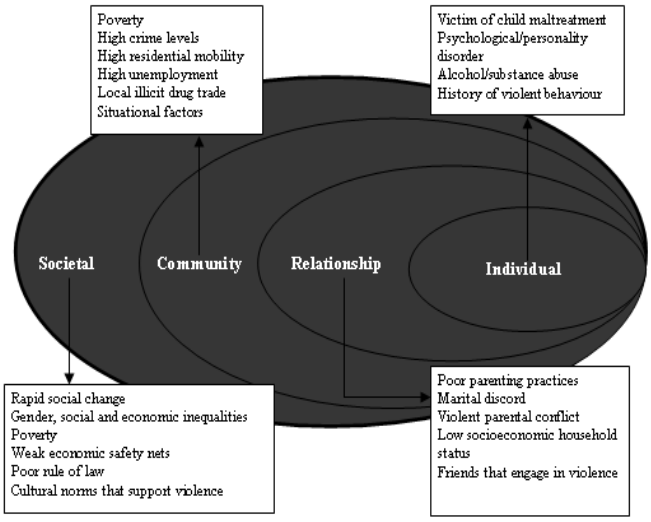
(World Health Organization)



Public Health Approach in 4 Steps

- To define the problem through the **systematic collection of information** about the magnitude, scope, characteristics and consequences of violence.
- To establish **why** violence occurs **using research to determine the causes** and correlates of violence, the factors that increase or decrease the risk for violence, and the factors that could be modified through interventions.
- To **find out what works** to prevent violence by designing, implementing and evaluating interventions.
- **To implement effective and promising interventions** in a wide range of settings. The effects of these interventions on risk factors and the target outcome should be monitored, and their impact and cost-effectiveness should be evaluated.

The Ecological Approach



The social alarm rings

- The sustainability of the juvenile justice system and the realization of its social mandate are in jeopardy.
- The problem is especially exacerbated in aging societies where the allocation of public resources is often biased towards the old generations at the cost of the young ones.

The social and justice divide

- Greater divide between the northern and southern regions of Europe that are differently hit by the economic crisis both in
  - Quality of our children
  - Quality of the family and public care of our children
- Greater justice divide both in
  - E-quality of access to justice and care
  - E-quality of the juvenile justice systems
- Greater divide in social costs if southern societies fail to reintegrate their "about to be lost" generations

Main motivation of the study

- In the present socioeconomic context in which not only physical but also human and social capital is highly devalued, it is urgent to single out the relative *causal* importance of
  - individual characteristics, traits, and responsibilities,
  - family background,
  - income, education and unemployment, especially youth
  - community circumstances
- in determining youth offensive behavior in order to design youth programs effective in reducing the role of circumstances and in guaranteeing equal opportunities.

Main question

What

causes

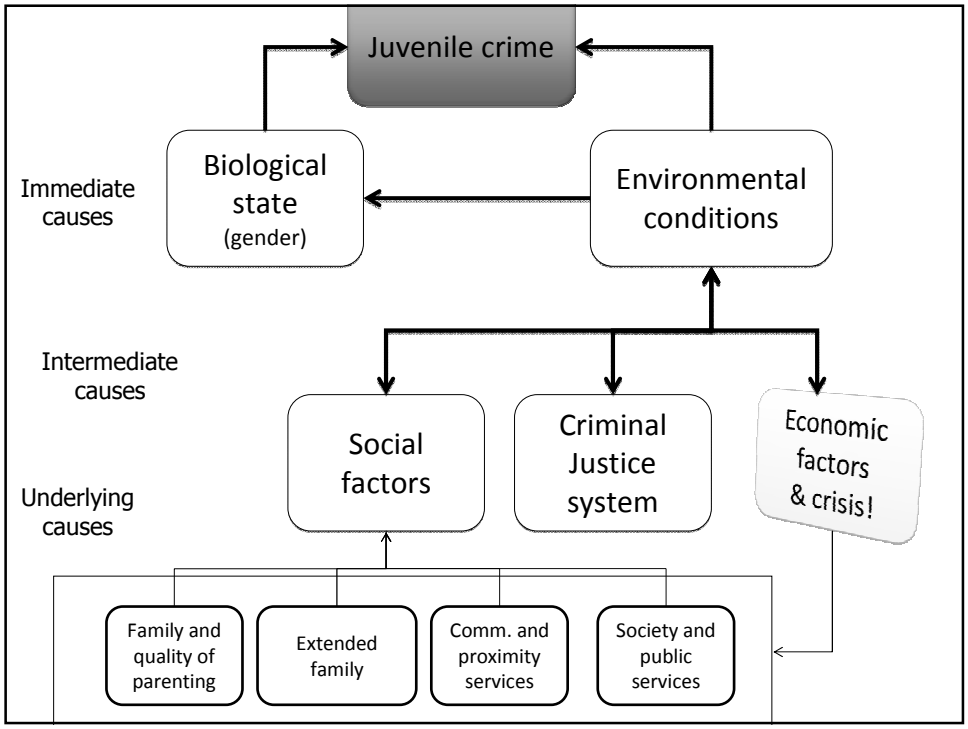
juvenile crime?

The determinants of juvenile crime

Levitt and Lochner

in "Risky Behavior among Youths: An Economic Analysis" ed. J. Gruber 2001

- Biological factor
  - gender
- Social factors
  - Quality of parenting
  - Female-headed households and city crime
  - Outside the family: degree of "social control" exerted by a community
- Criminal justice systems: prevention and cure
  - Punishment vs restorative justice
  - recidivism
- Economic factors: affecting the attractiveness of alternatives to crime /income+ poverty effects



Levitt and Lochner's conclusions

(based on correlation not causal evidence)

- Individual-level analysis highlights the importance of such criminogenic factors as
  - gender, family environment, and cognitive ability in predicting criminal involvement.
  - unstable homes
  - children in poverty and local income inequality.
- criminal-justice system in restraining criminality is important.
- None of these determinants of crime, however, do a particularly good job of explaining the time-series pattern of juvenile crime over the last two decades.

So, low private, social and human capital are preconditions to crime: but how?

- **Weaker families and their networks**, community and proximity services, society, public services and third sector
- **Greater income poverty and inequality**
  - New poverties for our young people:
    - parents,
    - care,
    - good adults/children relationships,
    - education opportunities;
  - Social diseases:
    - drug and alcohol consumption, internet dependence, peer negative examples, domestic violence
- Are these factors statistically significant causes of juvenile crime both against persons and property?

The epidemiology of juvenile crime
Lessons from Veneto and Sicily

- Let us examine the risk factors that a crisis may exacerbate learning from the evidence of a recent field study conducted in Veneto and Sicily
- From a policy point of view, it is an instructive North-South comparison.

The
case-control study
The experimental setting

What is a cohort study

- A cohort study or panel study is a form of longitudinal study used in medicine, social science, criminology and other sciences. It is an analysis of risk factors.
- It follows a group of people who initially do not have a medical or social disease and uses statistical analysis to determine the absolute risk of subject contraction.
- An interesting example is the Elfe (France) case that is the first longitudinal study in France that aims to follow 20,000 French children from birth to adulthood by analysing multiple aspects of the life of the child in terms of health, environmental health and social sciences.

Longitudinal studies of large cohorts: the French ELFE example

- The French Longitudinal Study about Infants (ELFE) observes for 20 years a cohort of 20,000 children starting from 2011 aiming at understanding how perinatal conditions and other environmental aspects such as family, socio-economic characteristics, geographic and chemical factors, and *economic crises* may affect the development , health and child socialization from the foetal state to adolescence. FP7
- Top topics of the ELFE study:
  - Environmental aspects of children subject to major changes such as dietary changes, physical activities, new pollutants, changes in family composition and structure, increase in working mothers, job precariousness, and education careers;
  - The relationships between these factors and the development of cognitive, non-cognitive, language, socio-relational abilities and deviant behaviour and conditions;
  - Study of the complex relationships between biological, social and behavioural factors.
- The project is multidisciplinary: more than 100 among social scientists, epidemiologists, nutritionists, physicians. It is based on a public/private partnership. Estimated cost: 7 mil Euro for the first two years, 3 mil for the following years.

Diapositiva 22

3 I bambini sono selezionati da un campione di 300 maternità della Francia metropolitana. Circa il 50% sono parte del Pannello Demografico dell'INSEE. Alle famiglie vengono somministrati una combinatione di interviste personali, telefoniche e via web. I bambini sono sottoposti a esami medici e tests a partire dal giorno di nascita.
Martina Menon; 19/09/2012

FP7 Nature and nurture of crime, intergeneration transmission of crime
Federico Perali; 06/11/2012

15 main topics + crime

- Demography and family
- Socialization, education
- Physical growth and puberty
- Respiratory desease
- Cancer
- Perinatal period
- Infectious desease
- Physical exposures contaminants
- Economics, precariousness
- Psychomotor development
- Food, nutrition, metabolism
- Asthma and allergies
- Accidents and trauma
- Health care and dental health
- Chemical exposures
- Exposures to environmental

Comparison of the characteristics of cohort and case control observational studies

- Cohort
  - Complete source population
  - Can calculate incidence rates or risks and their differences and ratios
  - Very expensive
  - Convenient for studying many diseases
  - Not always observe the outcome of interest
  - Can be *pro* or retrospective
- Case-control
  - Sampling from source population
  - Can calculate only the ratio of incidence rates or risks (unless the control sampling fraction is known)
  - Less expensive (esp. If control comes from existing data but less precise e.g. no peer effects or noncogn ab)
  - Convenient for studying many exposures
  - Can be pro or *retrospective*

The case-control study

about juvenile crime in Veneto and Sicily

Studies about socially excluded parts of society are rare in Italy

- Cases
  - Representative sample: 257 obs. Sicily, 159 obs. Veneto of young offenders. We administered a questionnaire to the subject and one to their family gathering information about
    - Socio-economic and psychological characteristics
    - Relational aspects and social capital
    - Consumption, income, intrahousehold distribution of resources and time use

Bayesian sampling

We analyze the ex post representativeness of the sample observed

Expected sample size weighting by population proportions is
Triveneto: 142; Sicily 235

Table 3. Youth taken under care: sample observations and estimated size using Bayesian approach.

Type of crime	Observed sample size				Estimated size			
	Triveneto		Sicily		Triveneto		Sicily	
	N	%	N	%	N	%	N	%
Violent crime	36	22.64	58	22.66	50	26.04	39	21.31
Property crime	65	40.88	139	54.30	98	51.04	113	61.75
Drugs	50	31.45	36	14.06	39	20.31	23	12.57
Others	8	5.03	23	8.98	5	2.60	8	4.37
Total	159	100.00	256	100.00	192	100.00	183	100.00

Sampling Strategy

- Phase I. Random data collection but without precise information about the strata of type of crimes
  - The available information refer to the number of crimes and juvenile denounced by region of residence and committed crime that is not our population of interest: youth taken under care.
- Phase II. From the priors of phase I, use as a cross-check both
  - simple random sampling without replacement
  - Mixed Bayesian/Likelihood (MBL) approach with the Average Coverage Criterion method (ACC) to calculate the required sample size to reach a given coverage probability on average for a posterior credible interval of fixed length

Bayesian sampling

We analyze the ex post representativeness of the sample observed

Geographical area	Type of crime	Field* (1° phase)	Final sample size*		Sampling design: Simple random sampling without replacement		Sampling design: Mixed Bayesian/Likelihood approach	
		% (a)	Freq. (b)	% (c)	Freq. (e)	% (f)	Freq. (g)	% (h)
Triveneto	Against persons	0.21	36	0.23	40	0.24	51	0.24
	Against property	0.39	65	0.41	59	0.35	74	0.35
	Drugs	0.35	50	0.31	56	0.34	71	0.34
	Others	0.05	8	0.05	12	0.07	15	0.07
	Total	1.00	**159**	1.00	**167**	1.00	**211**	1.00
Sicily	Against persons	0.22	58	0.23	45	0.28	52	0.28
	Against property	0.56	139	0.54	65	0.40	77	0.41
	Drugs	0.16	36	0.14	36	0.22	41	0.22
	Others	0.06	23	0.09	15	0.09	18	0.10
	Total	1.00	**256**	1.00	**161**	1.00	**188**	1.00

*Source: * Juvcrime data.*

From the case to the control

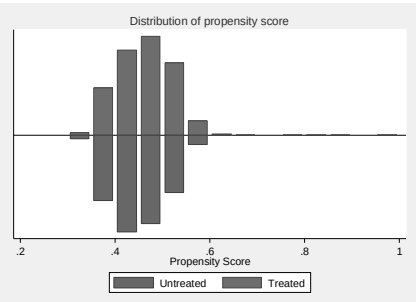
- Control
  - We matched the data of
  - ISTAT consumption survey,
  - ISTAT living standard survey EUSILC,
  - ISTAT time use survey
  - CISF (Survey on Family Conditions and social capital)

  - The vars in the questionnaires for the cases and the control are defined the same

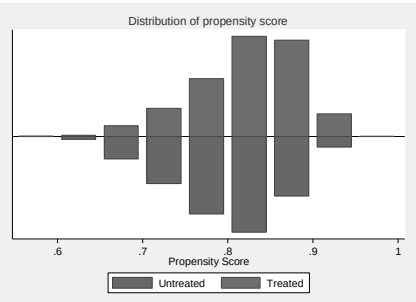
Common Support

Observations with the same covariate values have a positive probability of being both treated and untreated

Consumption vs Living Conditions



Social capital



Conditional Independence

Given a set of common covariates which are not affected by treatment, the potential outcomes are independent of treatment assignment

Components 0-5 years old	Treatment (EUSILC)		Untreatment (Consumption)		Total	
	N	Col %	N	Col %	N	Col %
No	16951	88.53	20477	89.75	37428	89.19
Yes	2196	11.47	2339	10.25	4535	10.81
Total	19147	100	22816	100	41963	100

Components 0-5 years old	Treatment (EUSLIC)		Untreatment (CISF)		Total	
	N	Col %	N	Col %	N	Col %
No	10783	84.75	2502	88.85	13285	85.49
Yes	1940	15.25	314	11.15	2254	14.51
Total	12723	100.00	2816	100.00	15539	100.00

Balance - I

- **Balance of propensity score across treatment and comparison groups**
  - The propensity score should have a similar distribution ("balance") in the treatment and comparison groups by blocks.
- **Balance of covariates across treatment and comparison groups within blocks of the propensity score**
  - After the propensity score is balanced within blocks across the treatment and comparison groups, we perform a check for balance of individual covariates across treatment and comparison group within blocks of the propensity. This ensures that the propensity score's distribution is similar across groups within each block and that the propensity score is properly specified.

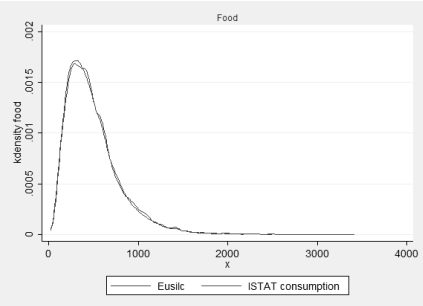
Balance – II

(EUSILC-Consumption)

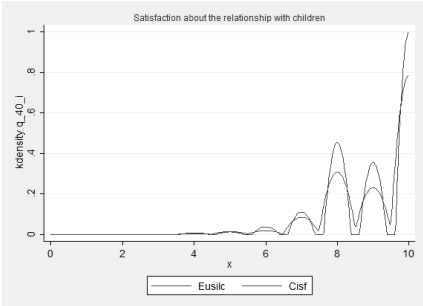
	Blocks										
	2	3	4	5	6	7	8	9	10	11	12
Balance of propensity score across treatment and comparison groups	-0.077	1.368	1.332	-0.076	-1.218	-2.238	-0.654	-0.425	-1.980	-0.593	-1.381
Balance of covariates across treatment and comparison groups within blocks of the propensity score											
Geographical area											
Northeast	-1.287	-1.200	0.747	-1.346	0.336	0.681	2.501	0.279	1.127	-0.586	-0.775
Central Italy	.	.	-0.984	0.576	-0.330	-0.104	-2.117	-0.254	-0.719	-0.840	-0.775
Southern Italy	-0.987	2.089	-2.197	0.194	-1.116	-0.561	-2.189	.	-0.873	.	.
Islands	1.471	-1.586	-0.961	-0.169	-0.731	-0.589	0.033	.	-0.873	-0.622	.
Components 0-5 years old	0.591	-0.539	-0.717	-0.429	0.036	0.884	0.483	-1.016	1.029	1.066	-0.775
Components 6-14 years old	0.842	0.284	0.746	0.081	-0.563	0.813	-1.892	-1.766	0.331	-1.568	-0.775
Self-employed	1.210	0.907	0.343	1.842	-1.040	-0.768	-0.226	-2.346	-0.877	-1.031	.
Single-parent	-0.279	2.350	0.287	0.627	-1.750	-0.062	-0.050	0.357	-0.100	-0.048	.
Owner occupancy	1.121	-1.716	2.048	0.118	-1.077	2.482	-1.434	-0.905	-1.465	-2.269	.
Avg family education -											
Middle	-0.253	0.823	1.416	0.226	-0.529	1.156	0.550	-0.329	0.480	-1.090	.
Middle-High	-2.494	1.061	-0.595	1.186	0.733	-0.961	1.547	-0.014	-0.117	-0.992	-0.775
High	0.685	1.555	-1.714	1.661	-1.370	-0.612	0.042	0.601	-1.080	0.079	-1.549
University	-0.007	-2.082	-0.495	0.456	0.388	0.774	-0.636	0.276	1.533	0.798	.
Family income	2.326	1.124	-0.092	2.256	-0.981	0.050	-0.217	-1.203	-1.518	-0.508	-0.793

Matching: Quality Control

Consumption – Living Conditions



Satisfaction with children



Incidence of adult crime in Veneto and Sicily

Denounced crime and crime ratios / 100000 residents

Year 2005 Source: Istat	Crime against persons	Crime against property	Total	Crime ratio for crimes against persons	Crime ratio for crimes against property	2005 Population
Veneto	8.00	81.64	156249	263.87	2692.14	4738313
Sicily	13.38	73.46	206556	551.04	3024.15	5017212
Italy	11.57	76.54	2579390	508.06	3360.16	58751711

Incidence of juvenile crime in Veneto and Sicily

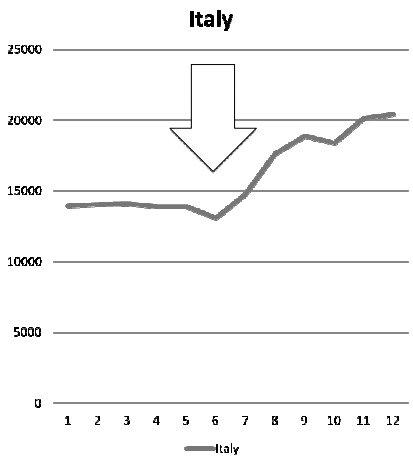
Denounced juvenile crimes and crime ratios / 100000 residents aging 14-17

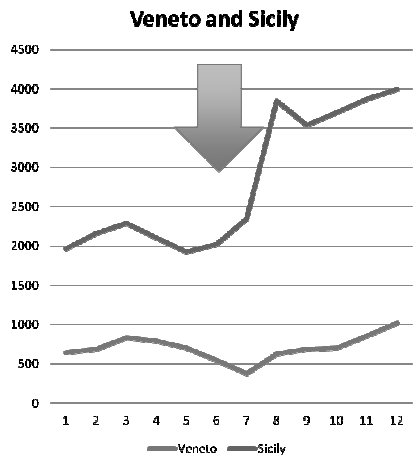
Year 2007 Source: Istat	Crime against persons	Crime against property	Total	Crime ratio for crimes against persons	Crime ratio for crimes against property	2007 Population Age 14-17
Veneto	20.91	66.86	2224	133.55	427.09	348173
Sicily	32.16	35.46	5460	373.96	412.30	469564
Italy	32.00	48.66	49004	343.63	522.46	4563966

A Glance at the data

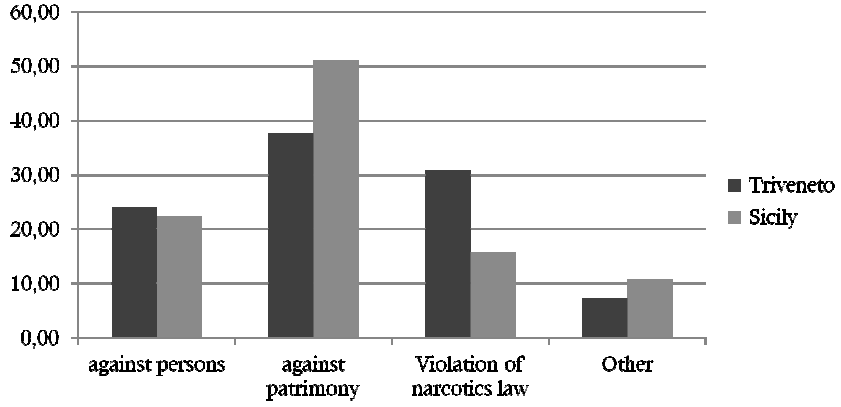
Evolution of juvenile crime during the crisis

Young people taken under care by social service

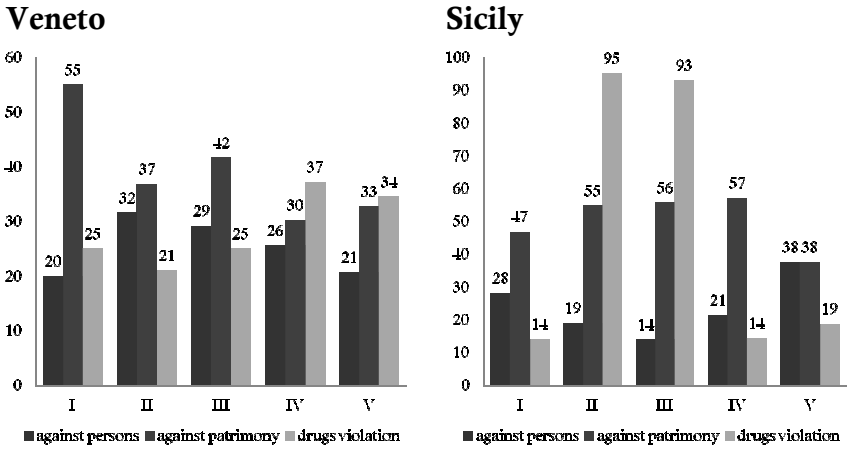




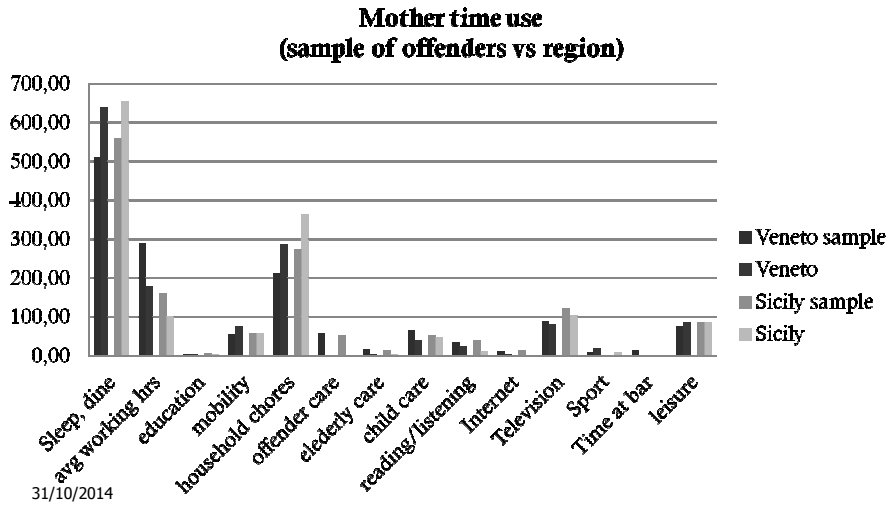
Distribution of crime in the Veneto and Sicily samples



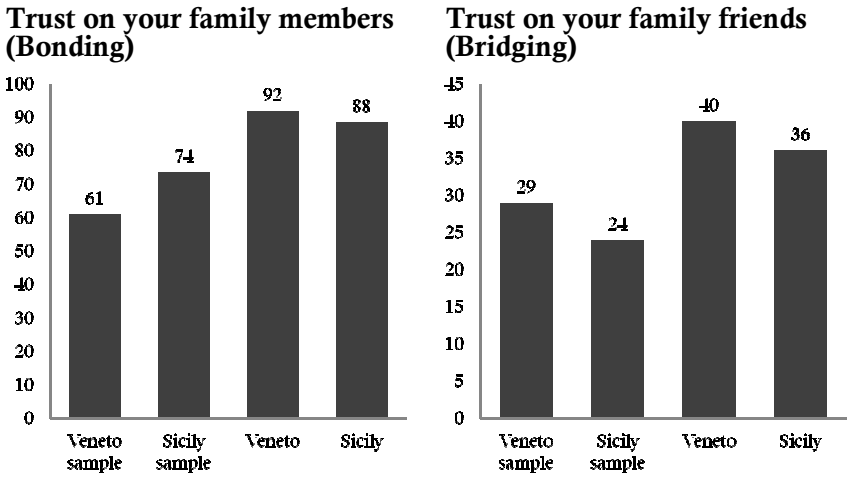
Juvenile offense and income



Juvenile offense and parental caring
(time use of the mother)

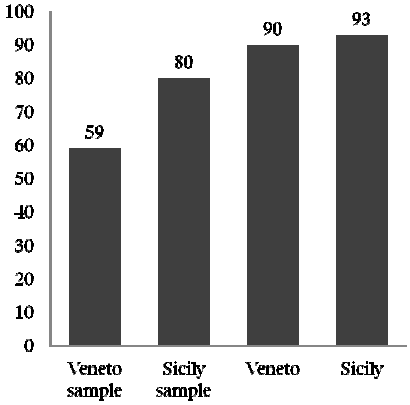


Juvenile Offense and Social Capital
(% high)

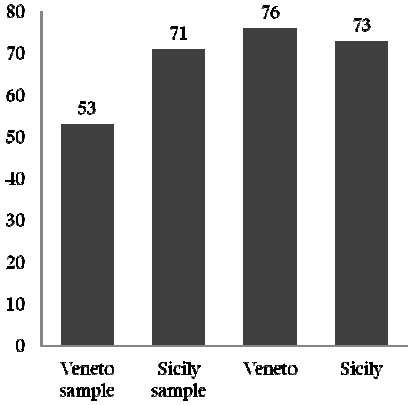


Juvenile Offense and Relational Well-being

Satisfaction about relations with your child (% high)

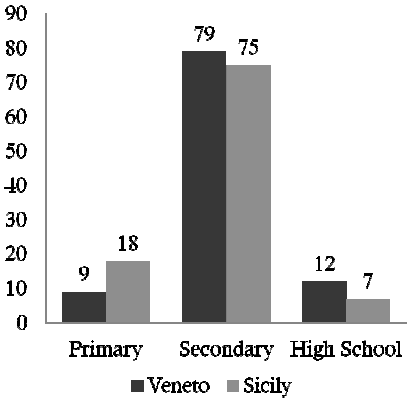


Satisfaction about time spent together (% high)

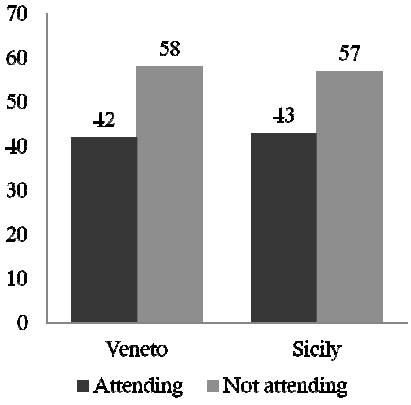


Juvenile offense and Human Capital - I

Degree

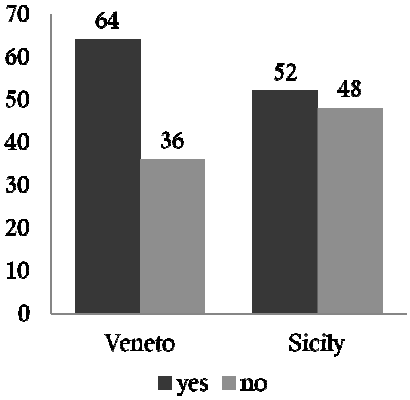


Actual school status
(52% simply did not want to go)

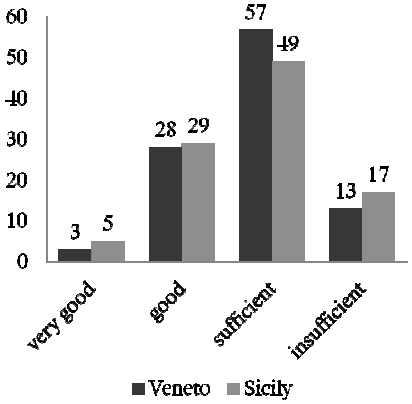


Juvenile offense and Human Capital - II

Behavioral problems at school

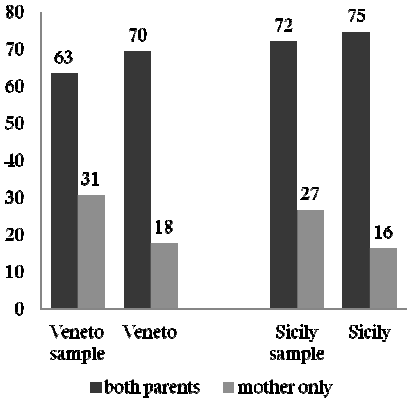


School performance

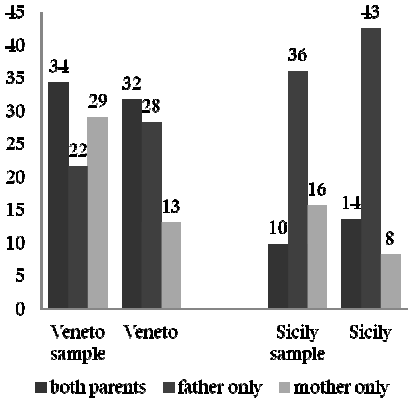


Juvenile Offense and
presence of parents / working condition

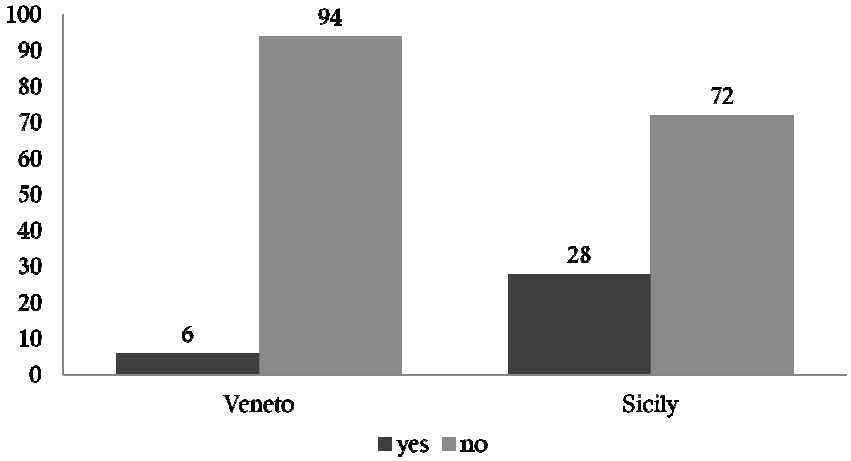
Presence of parents



Working conditions



Intergenerational Trasmission of Crime (fathers&son): nature or nurture?



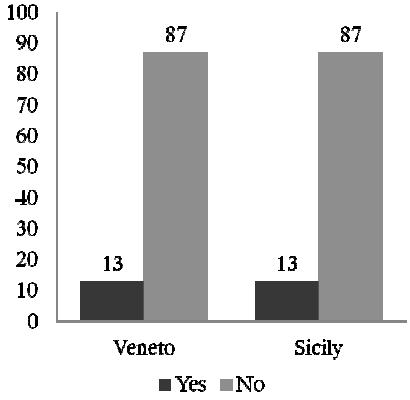
Juvenile Offence and Drug Addiction

Are you actually assuming drugs?
(information in the case but not in the controls)

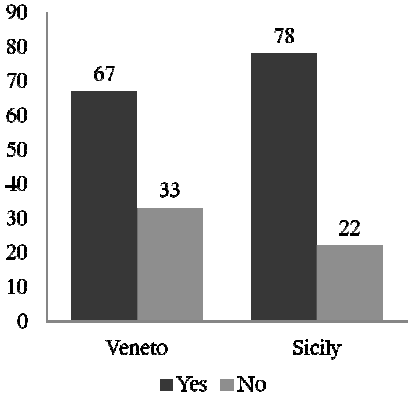
Offense type	Veneto			Sicily		
	Yes	Not, but had drugs in the past	Never	Yes	Not, but had drugs in the past	Never
against person	5	15	26	6	23	35
	10,87	32,61	56,52	9,38	35,94	54,69
	15,63	15,00	44,83	27,27	15,33	31,25
against patrimony	15	29	27	12	79	54
	21,13	40,85	38,03	8,28	54,48	37,24
	46,88	29,00	46,55	54,55	52,67	48,21
Violation narcotics law	6	50	3	2	32	11
	10,17	84,75	5,08	4,44	71,11	24,44
	18,75	50,00	5,17	9,09	21,33	9,82
Others	6	6	2	2	16	12
	42,86	42,86	14,29	6,67	53,33	40,00
	18,75	6,00	3,45	9,09	10,67	10,71
Total	32	100	58	22	150	112
	16,84	52,63	30,53	7,75	52,82	39,44
	32	100	100	22	150	100

Juvenile Offenses and associated consequences I

Job loss

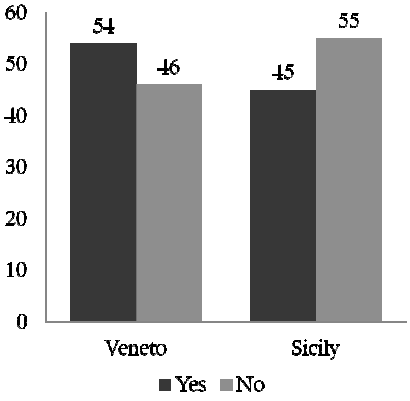


Economic troubles

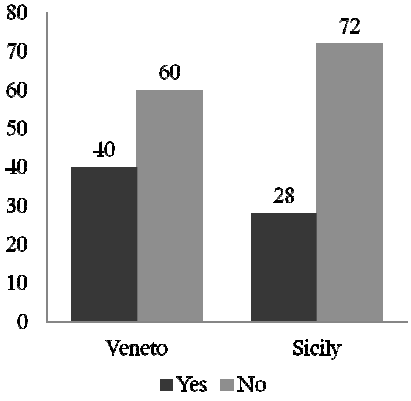


Juvenile Offenses and associated consequences II

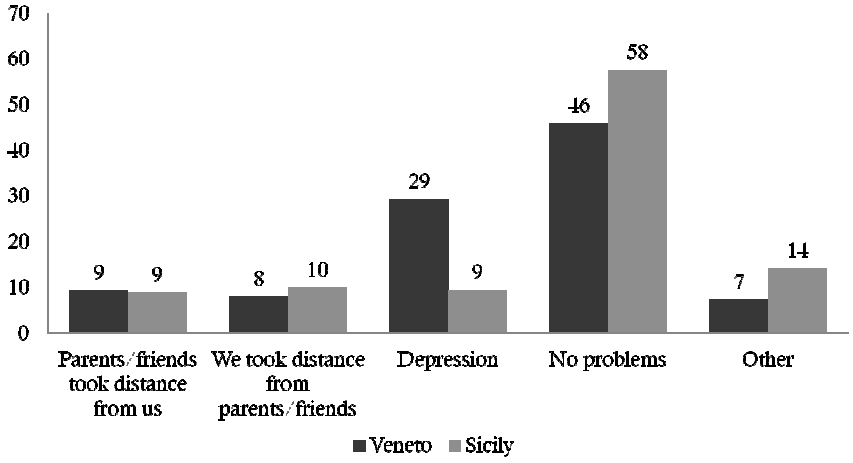
Change in time use



Separation



Juvenile Offenses and associated consequences III



What is the role of
family and society's circumstances?

How do (poverty) circumstances differ

between Veneto and Sicily?

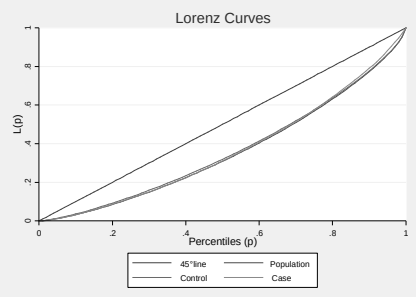
Child poverty approaches

(Roelen and Gassmann 2008)

- One dimensional measure of child poverty
  - Poverty of what?
- Household as a unit of analysis
- Exclusion of vulnerable groups not covered by household surveys

Distribution of equivalent income in Veneto and Sicily – case vs control

Veneto
(Gini: .272 case,.269 control)



Sicily
(Gini: .291case,.313 control)

Multidimensional poverty

in Veneto and Sicily's sample of young offenders

- The multidimensional poverty index (MPI) reflects deprivations in basic services and human functionings associated with Human Development. Not just income.
- The MPI has traditionally three equally weighted dimensions:
  (e.g. **health, education, and standard of living**).
  - A household is identified as MP if it is deprived in some combination of indicators whose weighted sum exceeds 30 percent of deprivations.
  - The MPI is the product of two measures:
    - Headcount, % of people who are poor, and
    - Average Intensity of Deprivation reflecting the proportion of dimensions in which households are deprived. So MPI is an adjusted measure of the incidence of poverty H.

Dimensions of poverty

Dimension	Description	Poverty line
Income	Equivalent household income	Half the median value of equivalent income (EUSILC)
No of parents	Number of parents in the household	A family with single-parent
Relation with children	Satisfaction about the relationship with children (range 0-10)	Less than six
Crime area	The family lives or not in an area that presents problems of crime, violence or vandalism	Family lives in a crime area
Education	Education of parents and children dropout	Low education of parents and at least one child has dropout
Parents work	Both parents (or single-parent) working or not full time	Both parents (or single-parent) working full time

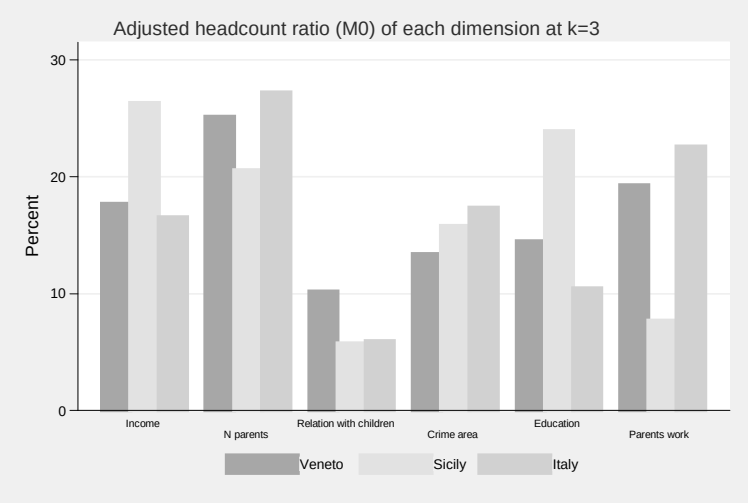
Proportion of poor in each dimension

Dimension	Veneto		Sicily		Italy
	Control	Case	Control	Case	Control
Income	5.14	32.61	26.43	70.79	12.00
N parents	13.94	38.41	13.22	30.34	15.49
Relation with children	2.71	18.84	2.24	7.87	2.72
Crime area	7.67	14.49	11.47	25.28	10.88
Education	4.49	33.33	7.48	51.12	5.36
Parents work	33.68	36.23	23.44	14.04	31.57

Multidimensional poverty headcount ratio (H0) for different values of k

Cutoff	Veneto		Sicily		Italy
	control	case	control	case	control
1	49.77	87.68	63.34	92.13	56.54
2	15.15	54.35	18.45	66.29	17.49
3	2.25	23.91	1.75	31.46	3.43
4	0.47	7.25	0.50	9.55	0.46
5	0.00	0.72	0.25	0.00	0.08
6	0.00	0.00	0.00	0.00	0.03

Contribution of each dimension at k=3 (Adjusted headcount ratio M0)



The case-control study **Results**

The case-control study
Odds Ratio

The **odds ratio** (OR) is one of the indices used in case-control retrospective studies to define the cause-effect ratio between two factors, e.g. a risk factor and a disease or an offense in our case.

•The OR compares the occurrence frequency of an event (e.g. a disease or crime) respectively in the exposed subjects (who committed a crime) and in those non exposed to the risk factor of interest.

•The OR is defined as the odds of the social problem (disease) between exposed subjects divided by the odds of the problem among non exposed subjects.

- If OR=1, the odds in the control is equal to the odds of the exposed cases, that is the risk factor does not affect the occurrence of the problem;
- If OR>1, then the risk factor can be a cause of the problem;
- If OR<1, then the risk factor is in effect a defense against the problem.

The attributable fraction - AF

- AF: the proportion of disease burden causally explained by, or attributable to, the risk factor(s) being considered.
- AF: the proportion of disease risk that would be eliminated from the population if exposure to the risk factor were eliminated.

Degree of exposure to risk factors

	Triveneto			**Sicily**		
	% Exposed			% Exposed		
Risk factors	Case	Control		Case	Control	
Income	0.76	0.38		0.94	0.72	
Single or no parent	0.38	0.14		0.30	0.13	
Education	0.65	0.59		0.85	0.62	
At least one child drop-out	0.43	0.06		0.55	0.08	
Working father	0.81	0.79		0.63	0.78	
Working mother	0.67	0.60		0.26	0.30	

Young offense and income, family structure, human capital and work condition

	Triveneto			Sicily		
Causes	Odds Ratio	Attr. Frac. Ex.	2-sided Fisher's exact P	Odds Ratio	Attr. Frac. Ex.	2-sided Fisher's exact P
Income	5.28	0.81	0,000	6.59	0.85	0,000
Single or no parent	3.85	0.74	0,000	2.86	0.65	0,000
Education	1.28	0.22	0.2297	3.65	0.73	0.0000
At least one child drop-out	11.88	0.92	0.0000	13.22	0.92	0.0000
Working father	1.13	0.11	0.7900	0.49	0.51	0.0015
Working mother	1.36	0.26	0.1465	0.80	0.20	0.3122

Young offense and income

	Triveneto			Sicily		
	Odds Ratio	Attr. Frac. Ex.	2-sided Fisher's exact P	Odds Ratio	Attr. Frac. Ex.	2-sided Fisher's exact P
Violent crime - Income	**11,2**	0,91	0,0000	3,43	0,71	0,0135
Property crime - Income	5,49	0,82	0,0000	**12,42**	0,92	0,0000
Drugs - Income	3,96	0,75	0,0000	3,53	0,72	0,1192

Young offense, social capital and relational well-being

	Triveneto			Sicily		
	Odds Ratio	Attr. Frac. Ex.	2-sided Fisher's exact P	Odds Ratio	Attr. Frac. Ex.	2-sided Fisher's exact P
Trust in family members for daily necessities (bonding)	14,58	0,93	0,0000	2,04	0,51	0,0264
Trust in friends of family members (bridging)	1,78	0,44	0,0015	3,64	0,73	0,0000
Satisfaction about the relationship with children	8,33	0,88	0,0000	3,72	0,73	0,0022
Satisfaction about the time spent together	6,41	0,84	0,0000	3,07	0,67	0,0002

Young offense, social capital and relational well-being

	Triveneto			Sicily		
	Odds Ratio	**Attr. frac. ex.**	**2-sided Fisher's exact P**	**Odds Ratio**	**Attr. frac. ex.**	**2-sided Fisher's exact P**
Crime – trust in family members for daily necessities (bonding)	9.77	0.90	0.0000	9.23	0.89	0.0000
Crime – trust in friends of family members (bridging)	2.14	0.53	0.0001	2.66	0.62	0.0000
Crime – satisfaction about the relationship with children	8.96	0.89	0.0000	2.64	0.62	0.0002
Crime – satisfaction about the time spent together	2.44	0.59	0.0000	1.29	0.23	0.1225

After the separate effects, the ***joint*** causal effects

Variable Definition

Family size	Number of family members
Age (hh head)	Household head's age in years
Citizenship (hh head)	= 1 if hh head has Italian citizenship
Only child	= 1 if family with one child
Single parent	= 1 if single parent family
Father highest degree	
Elementary	=1 if elementary school certificate
Middle school	= 1 if middle school certificate
High school	= 1 if high school certificate
University	= 1 if university degree
Missing (no father)	= 1 if no education information because there is no father
Mother highest degree	
Elementary	=1 if elementary school certificate
Middle school	= 1 if middle school certificate
High school	= 1 if high school certificate
University	= 1 if university degree
Missing (no mother)	= 1 if no education information because there is no mother
Dropout	= 1 if at least one child drops out from school
Father working status	= 1 if father works
Mother working status	= 1 if mother works
Neighbourhood with crime	= 1 if neighbourhood has criminal problems
Homeownership	= 1 if family owns the house either outright or through a mortgage
Family income	
Lower class	= 1 if first tertile
Middle class	= 1 if second tertile
Upper class	= 1 if third tertile
Trust family	Trust in family members - Likert scale 0-10
Trust friends	Trust in friends - Likert scale 0-10
Generalized trust	People are trustworthy - Likert scale 0-10
Satisfaction with children	Parents' satisfaction with children relationship - Likert scale 0-10

Descriptive Statistics - Triveneto

TriVeneto	Control		Case	
No. of observations (%)	1,069	(88.57)	138	(11.43)
	Mean	S.D.	Mean	S.D.
Family size	3.536	0.833	3.877	1.535
Age (hh head)	50.387	9.137	48.572	8.205
Citizenship (hh head)	0.960	0.197	0.746	0.437
Only child	0.453	0.498	0.333	0.473
Single parent	0.139	0.347	0.384	0.488
Father education				
Elementary	0.107	0.309	0.058	0.235
Middle school	0.282	0.450	0.290	0.455
High school	0.405	0.491	0.283	0.452
University	0.207	0.405	0.370	0.484
Missing (no father)	0.117	0.321	0.326	0.470
Mother education				
Elementary	0.107	0.309	0.109	0.312
Middle school	0.303	0.460	0.341	0.476
High school	0.466	0.499	0.370	0.484
University	0.124	0.330	0.181	0.387
Missing (no mother)	0.022	0.148	0.087	0.283
Dropout	0.061	0.239	0.435	0.498
Father working status	0.695	0.461	0.543	0.500
Mother working status	0.590	0.492	0.616	0.488
Working mother and single	0.090	0.286	0.239	0.428
Neighbourhood with crime	0.077	0.266	0.145	0.353
Homeownership	0.792	0.406	0.536	0.501
Family income				
Lower class	0.192	0.394	0.630	0.484
Middle class	0.385	0.487	0.254	0.437
Upper class	0.423	0.494	0.116	0.321
Trust family	9.167	1.120	7.804	2.092
Trust friends	7.223	2.094	5.761	2.701
Generalized trust	5.977	1.540	5.290	2.438
Satisfaction with children	9.022	1.058	7.428	2.267

Descriptive Statistics - Sicily

Sicily				
	Control		Case	
No. of observations (%)	401	(69.26)	178	(30.74)
	Mean	S.D.	Mean	S.D.
Family size	3.731	0.907	4.084	1.319
Age (hh head)	51.122	9.925	47.084	7.994
Citizenship (hh head)	0.990	0.100	0.961	0.195
Only child	0.344	0.476	0.191	0.394
Single parent	0.132	0.339	0.303	0.461
Father education				
Elementary	0.170	0.376	0.270	0.445
Middle school	0.367	0.482	0.348	0.478
High school	0.267	0.443	0.073	0.261
University	0.197	0.398	0.309	0.463
Missing (no father)	0.110	0.313	0.292	0.456
Mother education				
Elementary	0.190	0.392	0.354	0.480
Middle school	0.359	0.480	0.427	0.496
High school	0.347	0.476	0.146	0.354
University	0.105	0.307	0.073	0.261
Missing (no mother)	0.022	0.148	0.045	0.208
Dropout	0.085	0.279	0.551	0.499
Father working status	0.691	0.463	0.444	0.498
Mother working status	0.297	0.457	0.247	0.433
Working mother and single	0.057	0.233	0.112	0.317
Neighbourhood with crime	0.115	0.319	0.253	0.436
Homeownership	0.713	0.453	0.427	0.496
Family income				
Lower class	0.504	0.501	0.916	0.279
Middle class	0.334	0.472	0.056	0.231
Upper class	0.162	0.369	0.028	0.166
Trust family	9.307	1.161	8.472	2.161
Trust friends	6.970	1.883	4.702	3.384
Generalized trust	5.833	1.780	4.685	2.977
Satisfaction with children	9.309	1.034	8.742	1.785

Risultati della Ricerca

Causal effects (Odds Ratio - Triveneto): family circumstances and education

	Model 1	Model 2	Model 3
Family size	1.977***	2.290***	2.562***
	(0.340)	(0.433)	(0.529)
Age (hh head)	1.028**	1.060***	1.064***
	(0.0146)	(0.0171)	(0.0202)
Citizenship (hh head)	0.167***	0.254***	0.336**
	(0.0595)	(0.0931)	(0.147)
Only child	1.469	1.557	1.459
	(0.499)	(0.593)	(0.608)
Single parent	10.13***	6.074***	7.388***
	(4.617)	(3.208)	(4.305)
Father education - ref. group "Elementary"			
Middle school	1.672	1.370	1.656
	(0.798)	(0.641)	(1.033)
High school	1.248	1.573	2.654
	(0.603)	(0.725)	(1.589)
University	1.016	1.170	1.913
	(0.560)	(0.661)	(1.359)
Mother education - ref. group "Elementary"			
Middle school	1.555	1.493	1.258
	(0.661)	(0.652)	(0.705)
High school	1.118	1.099	1.190
	(0.481)	(0.475)	(0.643)
University	1.487	2.066	1.651
	(0.735)	(1.117)	(1.018)
Dropout	8.587***	8.301***	9.213***
	(2.259)	(2.295)	(2.963)
Father working status	1.438	2.067*	3.367***
	(0.480)	(0.766)	(1.323)
Mother working status	1.646**	2.770***	2.482***
	(0.404)	(0.743)	(0.794)
Neighbourhood with crime	2.431***	2.129**	1.636
	(0.837)	(0.817)	(0.682)
Homeownership	0.612**	0.827	0.878
	(0.150)	(0.211)	(0.246)

Causal effects (Odds Ratio): income and social capital

Family income - ref. group "Lower class"			
Middle class		0.192***	0.194***
		(0.0523)	(0.0583)
Upper class		0.0660***	0.0609***
		(0.0258)	(0.0281)
Trust family			0.747***
			(0.0699)
Trust friends			0.909*
			(0.0483)
Generalized trust			0.893*
			(0.0591)
Satisfaction with children			0.553***
			(0.0602)
No. of observations	1207	1207	1207
Pseudo Adjusted R2	0.235	0.302	0.418

Robust standard errors in parentheses.
* p<0.1, ** p<0.05, *** p<0.01.

31/10/2014

Causal effects (Odds Ratio - Sicily): family circumstances and education

	Model 1	Model 2	Model 3
Family size	1.284	1.276	1.263
	(0.239)	(0.241)	(0.248)
Age (hh head)	0.947***	0.968**	0.958**
	(0.0133)	(0.0148)	(0.0167)
Citizenship (hh head)	0.386	0.502	0.655
	(0.306)	(0.379)	(0.540)
Only child	0.827	0.628	0.641
	(0.329)	(0.267)	(0.305)
Single parent	1.867	0.626	0.693
	(1.004)	(0.459)	(0.538)
Father education - ref. group "Elementary"			
Middle school	0.978	1.058	0.770
	(0.328)	(0.372)	(0.308)
High school	0.544	0.765	0.813
	(0.247)	(0.356)	(0.427)
University	0.965	2.503	2.185
	(0.494)	(1.753)	(1.565)
Mother education - ref. group "Elementary"			
Middle school	0.789	0.766	0.679
	(0.254)	(0.247)	(0.244)
High school	0.421**	0.414**	0.275***
	(0.164)	(0.166)	(0.120)
University	0.650	1.216	1.029
	(0.312)	(0.675)	(0.598)
Dropout	7.388***	8.251***	8.651***
	(2.057)	(2.380)	(2.630)
Father working status	0.337***	0.415***	0.455**
	(0.105)	(0.129)	(0.162)
Mother working status	1.176	2.339**	1.733
	(0.349)	(0.839)	(0.635)
Neighbourhood with crime	2.048**	2.353***	1.878*
	(0.618)	(0.737)	(0.641)
Homeownership	0.894	1.091	1.280
	(0.225)	(0.295)	(0.365)

Causal effects (Odds Ratio): income and social capital

Family income - ref. group "Lower class"			
Middle class		0.0947***	0.108***
		(0.0389)	(0.0454)
Upper class		0.0699***	0.138**
		(0.0715)	(0.135)
Trust family			0.863
			(0.0883)
Trust friends			0.806***
			(0.0461)
Generalized trust			0.941
			(0.0620)
Satisfaction with children			0.794**
			(0.0851)
No. of observations	579	579	579
Pseudo Adjusted R2	0.259	0.322	0.374

Robust standard errors in parentheses.
* p<0.1, ** p<0.05, *** p<0.01.

31/10/2014

Causal effects (Logit): family circumstances and education

	VENETO	SICILY	S vs V
Family size	2.186***	1.220	1.792*
Dropout	1.962	1.683	1.166
Only child	0.852	0.463	1.839
Single parent	5.196**	0.912	5.700*
Owner occupancy	0.751	0.988	0.760
Mother education - ref. group "elementary"			
Middle	0.988	0.681	1.451
High school	0.553	0.247**	2.240
University	0.958	0.467	2.050
Father education - ref. group "elementary"			
Middle	1.151	0.572	2.012
High school	1.399	0.467	2.996
University	0.681	0.914	0.744
Citizenship (=1 if Italian)	0.264*	0.772	0.342
Age	1.068**	0.952*	1.122***
Working father	2.326*	0.437*	5.323*
Working mother	3.368**	2.289*	1.471
Envir_crime	2.070*	2.251*	0.919

Causal effects (Logit):
income and social capital

	VENETO	SICILY	S vs V
Quintile of hh income			
Second quintile	0.388*	0.365**	0.00420*
Third quintile	0.0854***	0.0498***	0.00679
Fourth quintile	0.0689***	0.193**	0.00141*
Fifth quintile	0.0213***	0.120	0.000701*
Social capital			
Trust in family members	0.836*	0.891	0.938
Trust in friends	1.034	0.808***	1.281**
Generalised trust	0.866*	0.944	0.917
Volontariness	0.890	1.071	0.831
Satisf. with children relation	0.555***	0.954	0.582***

Summary of results

- Household income with both violent and, with a higher probability, property crime
- Education level of the parents
- Non intact households with only a single parent
- Social capital in terms both of trust on family members and friends of family members
- Quality of relationships within the household in terms of both the level of satisfaction about the relationship with children and time spent together.

Major lesson to be learned

- Economic crises, in addition to reductions in public expenditures for social services, can affect a child or adolescent through a variety of settings, including the family, the school, and the community.
- The loss of family income, or wealth, that may result from an economic crisis is but one among the many pathways through which children and youth may be affected.

Better data for evidence based policies and practices!

- In practice it is crucial to accurately identify the most important constraints affecting households and individuals within households through time.
- And more detailed information about parental stress, family coping strategies, income fluctuations and work status, and investments of time, as well as of financial resources in the human capital of their children, should be taken into account
- … possibly within a cohort framework.

After the etiology …

better prevention, diversion and cures via community sanctions to realise youth potential

Prevention

"Neglecting the human capital of the young generation is costly for the individual and society. The WB" (e.g. increase in risky behaviors such as substance abuse and delinquency)

- *Household Support Programs (Family relational well-being and bonding SC)*: Interventions that encourage positive development of adolescents
  - Adapt income transfer programs to support healthy parent-child relationships and convey productive messages.
- *Support Positive Relationships with Adults Outside the Family (Trust and Bridging SC)*
  - Establish mentoring relationships with adults in community, school, and work settings (Adolescents seek adult role models outside their family context).
- *Leveraging the School as a Protective Setting* :
  - Prevent youth from dropping out of school and encourage continued education and training.
- *Supporting Adolescents' Transition to Work*
  - Enhance young people's connection to the labor market during the transition to work.

Diversion

- The majority of children who commit an offence will do so once: 90% are first-time offenders and 80% will never be in conflict with the law again.
- Diversion policies aimed at rebuilding family and community ties have a very positive impact on the child, the victim and the community.
- Diversion is cost-effective, it is non-stigmatising and reduces the likelihood of children reoffending.
- But still costs and is mainly under NGO's cofunded by the State … bank foundations help only in Northern Italy

Community sanctions

- Target investments in schools or community programs where many children can be reached at once to mitigate some of the negative effects experienced within the family.
  - MST (Multi-systemic therapy involving family, school, peers)
  - FFT (Functional family therapy – family focused programme aiming at reducing risk factors and recidivism)
- Program monitoring and evaluation in terms of reduced incidence of crime and recidivism
- Again, very costly …

An istitutional view: a costless cure

- Policy objectives
  - Stronger families (female-headed hhs strong predictor of city crime rate) and higher quality of parenting
  - Stronger communities
- How? Investing in institutional innovations such as
  - Better laws without perverse incentives for families to break
  - Fund community foundations: the State is moneyless, communities are better endowed with money, time, knowledge readily available to meet the needs of their own children and youth and to implement prevention, diversion and community sanctions effectively.