The Effect of Education on Crime Victimization and Crime Reporting among Mexican Young Adults

Research Proposal

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Presentation Outline

Introduction

Motivation

Effect of crime victimization
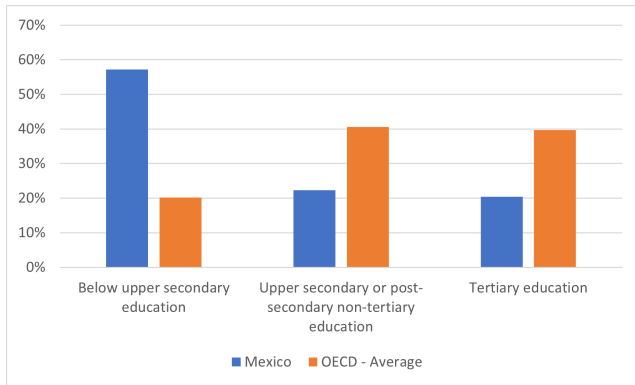
▶ In 2020, nearly a quarter of all Mexican adults were the victim of at least one crime [1].

▶ High exposure to crime has significant detrimental effects on Mexican residents' health and well-being [5][21][22][23].

Crime reporting

▶ A key feature of preventing crime is gaining information on the crimes committed, which usually comes from victims or witnesses of a crime.

▶ However, Mexico has extraordinarily low rates of crime reporting with an estimated 90% of crimes being unreported in 2020 [1].

Motivation

Educational Attainment Among Adults, 2021

- ▶ Previous literature shows that education decreases one's likelihood in engaging in criminal activity.
- ▶ It is possible that education also changes and individual's likelihood of victimization and victim behavior.

Source: Author creation with 2021 OECD data

Literature Review

Theory: Education and Crime Victimization

## Income and employment opportunities

- ► Educational attainment increases employment opportunities and income, which may enable individuals to move to low-crime-density areas or pay for additional security measures [2][13].

- ► On the other hand, increased income through education may make an individual a target for certain crimes such as robbery and extortion.

Network effects

- ► Higher-educated individuals are less likely to commit crimes [15][19].

- ► If individuals have similar education attainment as those in their network, then higher-educated individuals may be less likely to be victimized by those in their network.

Theory: Education and Crime Victimization

Victimization Rate (%) by State, 2020
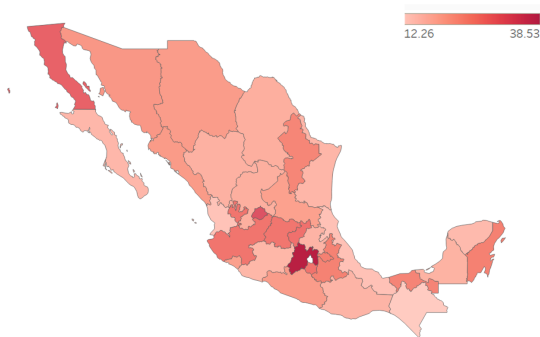
Source: Author creation with 2021 ENVIPE data

Theory: Education and Crime Reporting

Crime exposure

- ▶ Educational attainment may change an individual's likelihood of being exposed to crime.
- ▶ Kruger et al (2016) show that exposure to crime reduces the probability of reporting [17].

Institutional knowledge, trust, and civic engagement

- ▶ Educational attainment generally increases institutional knowledge [8][9][20].
- ▶ The effect of educational attainment on institutional trust and civic engagement is ambiguous empirically and may depend on the quality of institutions [8][20].

Theory: Education and Crime Reporting

Opportunity costs of failing to report

▶ If higher educational attainment increases employment opportunities and wages, the opportunity cost of failing to report may be higher for higher-educated individuals [2][13].

Network effects

▶ Huang et al (2012) shows that educational attainment promotes social trust and membership into voluntary groups [14].

▶ Increased social ties may increase the likelihood of receiving advice to report

▶ Increased social ties may make it more likely that a victim's perpetrator is within their network and thus may reduce the victim's likelihood of reporting for fear of social exclusion or retaliation.

Previous literature: Education and Crime Victimizations

Education and crime levels

▶ Multiple papers show that higher education reduces crime rates. However, these papers either look at the individual perpetrating the crime or regional crime levels and not consider individual crime victimization [10][19][15][18].

Education and individual crime victimization

▶ Only a few papers look at the relationship between education and individual-level crime victimization. These papers are often isolated to a sub-population, a certain type of crime, and generally do not have causal interpretation [12][24][25].

▶ Weitzman (2018) uses a similar education reform in Peru to explore the effects of women's education on their risk of IPV [24].

Positive correlation between education and crime reporting

▶ Romero and Ramírez-Álvarez (2022) find that higher education is associated with a higher probability of reporting burglary or thefts in Mexico. However, the only covariates of education controlled for are age and employment status [6].

▶ Botero et al (2013) find that college-educated people are more likely to complain about government services, as well as report police abuse, buglary, and assault, compared to non-college-educated people. The paper controls for possible covariates such as trust, social status, and income. However, these are likely to be endogenous [4].

Previous literature: Education and Crime Reporting

Negative correlation between education and crime reporting

▶ Chen and Ullman (2014) find that, among female victims of assault in the United States, college-educated women are less likely to report the assault compared to non-college-educated women [7]. Since the paper is simply looking at correlation, there are many observable and unobservable confounders that are not accounted for.

▶ Goudriaan et al (2006) find that victims with lower educational attainment are more likely to report a crime in the Netherlands [11]. While they do control for individual and neighborhood-level covariates, they do not consider unobservable confounders.

Data and Empirical Strategy

Data

Main data set

- National Survey on Victimization and Perception of Public Safety (ENVIPE): 2016-2021
- Surveys a nationally representative sample of housing units, and conducts survey for all individuals 18 or older in unit
- Individual sample size: 544,354 individuals
- Crime sample size: 253,417 crimes

Empirical Strategy

Overview

▶ In order to explore the causal effect of education and avoid endogeneity concerns, I will employ a two-stage least squares approach that exploits cohort discontinuity in exposure to a 2012 education reform in Mexico as an instrument for educational attainment.

▶ The reform increased compulsory schooling from upper secondary to high school [3]. The first cohort exposed to the reform was those who began high school in the 2012-2013 school year. In Mexico, high school begins at age 15 so those born in 1997 or later were exposed to the reform.

▶ I estimate a 3-year optimal bandwidth using the Imbens and Kalyanaraman (2012) method [16].

Empirical Strategy

Share of individuals who completed high school, by birth cohort
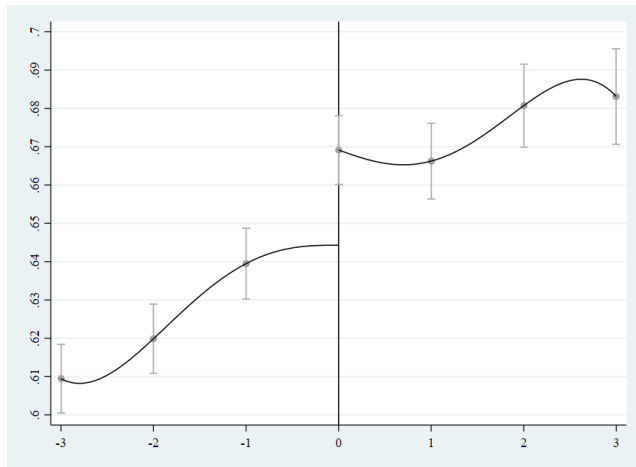
Empirical Strategy

McCrary test
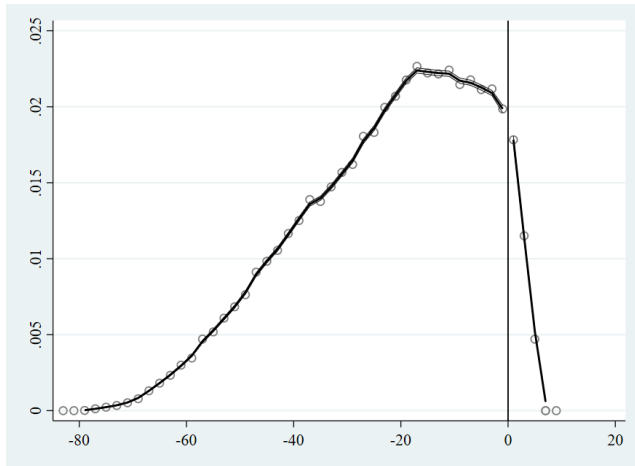
Empirical Strategy: Individual-level

- ▶ Using the discontinuity of high school completion within a 3-year birth bandwidth, I estimate the causal effects of educational attainment on crime victimization.
- ▶ I include controls for sex, as well as year and state fixed effects.
- ▶ I estimate the following 2SLS regressions with longitudinal data:
  First stage:

$$H_{ibst} = \alpha_0 + \alpha_1 T_b + \alpha_2 f(birthyear)_i + \alpha_3 S_i + \lambda_s + \delta_t + u_{ibst} \tag{1}$$

  Second stage:

$$Y_{ibst} = \beta_0 + \beta_1 H_{ibst} + \beta_2 f(birthyear)_i + \beta_3 S_i + \lambda_s + \delta_t + \epsilon_{ibst} \tag{2}$$

Empirical Strategy: Crime-level

▶ Using the discontinuity of high school completion within a 3 year birth bandwidth, I estimate the causal effects of educational attainment on crime reporting among crime victims.

▶ I include controls for sex, as well as year and state fixed effects. Any crimes where victimization is significantly affected by educational attainment are dropped from crime-level analyses.

▶ I estimate the following 2SLS regressions with longitudinal data:
First stage:

$$H_{cibst} = \alpha_0 + \alpha_1 T_b + \alpha_2 f(birthyear)_i + \alpha_3 S_i + \lambda_s + \delta_t + u_{cibst} \tag{3}$$

Second stage:

$$Y_{cibst} = \beta_0 + \beta_1 H_{cibst} + \beta_2 f(birthyear)_i + \beta_3 S_i + \lambda_s + \delta_t + \epsilon_{cibst} \tag{4}$$

Preliminary Results

Education and Victimization

	OLS			2SLS		
	(1)	(2)	(3)	(4)	(5)	(6)
Crime victimization						
High school completed	0.122***	0.122***	0.122***	-0.165**	-0.288***	-0.302***
	(0.003)	(0.003)	(0.003)	(0.083)	(0.100)	(0.101)
Observations	71,904	71,904	71,904	71,904	71,904	71,904
Control group mean	0.192	0.192	0.192	0.192	0.192	0.192
First-stage regressions						
Exposed to compulsory schooling policy				0.043***	0.039***	0.039***
				(0.004)	(0.004)	(0.004)
Observations				72,478	72,478	72,478
Control group mean				0.640	0.640	0.640
First stage F-stat				138.928	107.346	106.520
Fixed effects		x	x		x	x
Sex			x			x

Victimization by Crime Type

	Robbery	Fraud or extortion	Physical Assault or threat	Kidnap	Sexual assault	Other
High school completed	-0.055	-0.535***	-0.002	-0.016*	0.153***	0.000
	(0.071)	(0.087)	(0.057)	(0.008)	(0.044)	(0.010)
Observations	72,204	72,323	72,371	72,462	72,416	71,852
Control group mean	0.099	0.058	0.068	0.002	0.017	0.001
Fixed effects	x	x	x	x	x	x
Sex	x	x	x	x	x	x

Education and Crime Reporting

	OLS			2SLS		
	(1)	(2)	(3)	(4)	(5)	(6)
Crime Reporting						
High school completed	-0.015***	-0.014**	-0.014**	-1.073*	-1.352	-1.352
	(0.005)	(0.005)	(0.005)	(0.562)	(0.883)	(0.879)
Observations	28,502	28,502	28,502	28,502	28,502	28,502
Control group mean	0.204	0.204	0.204	0.204	0.204	0.204
First-stage regressions						
Exposed to compulsory schooling policy				0.013**	0.010*	0.010*
				(0.005)	(0.006)	(0.006)
Observations				28,502	28,502	28,502
Control group mean				0.746	0.746	0.746
First stage F-stat				6.114	3.364	3.398
Fixed effects		x	x		x	x
Sex			x			x

Crime Victimization Channels

	Moved in last year	Student	Working	Unsafe household
High school completed	-0.572***	5.092***	-4.255***	-0.538***
	(0.086)	(0.466)	(0.411)	(0.088)
Observations	72,451	72,478	72,478	72,446
Control group mean	0.175	0.019	0.597	0.156
Fixed effects	x	x	x	x
Sex	x	x	x	x

Crime Reporting Channel: Perception of law enforcement

	No confidence in police	Police are corrupt	Police are not effective	No confidence in legal system	Legal system is corrupt	Legal system is not effective
High school completed	-7.267*	-2.202*	-6.721*	-3.042*	-3.678*	-3.311*
	(3.972)	(1.282)	(3.678)	(1.698)	(2.130)	(1.829)
Observations	28,502	28,502	28,502	28,502	28,502	28,502
Control group mean	0.376	0.850	0.270	0.122	0.428	0.093
Fixed effects	x	x	x	x	x	x
Sex	x	x	x	x	x	x

Crime Reporting Channel: Reason for not reporting

	Fear of retaliation	Fear of extortion	Petty crime	Complicated and lengthy reporting process	Fear or distrust in police	Other reason
High school completed	0.181	0.061	3.856*	-3.113*	-1.291	1.256
	(0.295)	(0.083)	(2.117)	(1.797)	(0.832)	(0.847)
Observations	28,502	28,502	28,502	28,502	28,502	28,502
Control group mean	0.069	0.003	0.125	0.299	0.164	0.201
Fixed effects	x	x	x	x	x	x
Sex	x	x	x	x	x	x

Conclusion

- ▶ I explore the effect of educational attainment on crime victimization and crime exposure among young adults in Mexico.
- ▶ A 2012 increase in compulsory schooling is exploited to determine the causal effect of education.
- ▶ Preliminary results show that high school completion reduces crime victimization, but has no effect on crime reporting when victimized.

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