

The Influence of Correctional Education, Skills, and Lifelong Learning on Social Outcomes

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Research Questions

1. How do formal education, literacy and numeracy skills, and adult lifelong learning associate with prison inmates' social outcomes such as political efficacy, interpersonal trust, and health?
2. How the impact of formal education, literacy and numeracy skills, and adult lifelong learning on social outcomes compares across the prison and household populations?

Social Outcome

- The Social Outcomes of Learning (SOL) refers to the potential role that education plays on promoting *health*, active *civic engagement*, and active *social engagement* (OECD, 2007)

BACKGROUND

Political Efficacy

- Positive association between education and political efficacy (Dinis da Costa et al., 2014; Hayes & Bean, 1993)
- Low levels of trust could impede upon relationship development between inmates and staff (Harvey, 2012), creating a barrier in the building of social capital (Lafferty, 2016)

Trust

- Education could be an important predictor of trust (Helliwell & Putnam, 2007)
- Meta-analysis showed that for each additional year of schooling, an individual's social trust increased by 4.6% (Huang et al., 2009)

Health

- Research has shown that there is a relationship between cognitive skills, education and health (Mirowsky & Ross, 2005; Wolfe & Haveman, 2001).
 - EX: Increase in problem solving skills could be transferred to numerous facets of life including health promotion and health maintenance (Mirowsky & Ross, 2005)

DATA & METHODOLOGY

Dependent Variable: Political Efficacy

Definition: “the extent to which people feel they understand and can affect politics” (OECD, 2011, p. 46)

PIAAC Background Question: People like me don't have any say about what the government does.

- (Strongly agree=1; Agree=2; Neither agree nor disagree=3; Disagree; Strongly disagree=4)

Dependent Variable: Social Trust

Definition - “confidence in the reliability of a person or system” (OECD, 2011, p. 46)

PIAAC Background Question: If you are not careful, other people will take advantage of you.

- (Strongly agree=1; Agree=2; Neither agree nor disagree=3; Disagree; Strongly disagree=4)

Dependent Variable: Health

Definition: PIAAC provides a subjective measure of individuals' general health (p. 46)

PIAAC Background Question: In general, would you say your health is excellent, very good, good, fair, or poor?

- Excellent=1 ; Very good=2; Good=3; Fair=4; Poor=5
- **Recode**: Poor=1; Fair=2; Good=3; Very good=4; Excellent=5

Independent Variable: Education

Definition: “The highest level of education ever completed.” (OECD, 2011, p. 25)

PIAAC Question: Education level of the respondent
(derived variable)

- <High school=1 (reference group); High school=2; >High school=3

Independent Variable: Literacy Skills

Definition: “understanding, evaluating, using and engaging with written texts to participate in society, to achieve one’s goals, and to develop one’s knowledge and potential.”
(OECD, 2012, p. 20)

Based on the PIAAC framework

- <176, (176 to < 226), (226 to <276), (276 to < 326), (326 to < 376), 376 plus
- Recoded: Treated as continuous variable

Independent Variable: Numeracy Skills

Definition: “PIAAC defines numeracy as the ability to access, use, interpret and communicate mathematical information and ideas, in order to engage in and manage the mathematical demands of a range of situations in adult life.” (OECD, 2012, p. 34)

Based on the PIAAC framework

- <176, (176 to < 226), (226 to <276), (276 to < 326), (326 to < 376), 376 plus
- Recoded: Treated as continuous variable

Independent Variable: Adult Lifelong Learning (ALL)

Definition: OECD (2001) defines lifelong learning as individuals acquiring skills over their lifetime by non-formal learning and formal learning

Household Population PIAAC Question

Are you currently studying for any kind of formal degree or certificate?

- Yes=1, No=2 (reference group)

ALL Continued

Prison Population PIAAC Questions

Employment readiness class - During your current period of incarceration, have you participated in a job skills or job training program, for example, a computer skills program that teaches Microsoft Word? Please exclude prison jobs.

- Yes=1, No=2 (reference group)

ALL Continued

Prison Population PIAAC Questions

Formal education - During your current period of incarceration, what is the highest level of education you completed?

- Grade 1-6=1; Grade 7-9=2; High school diploma or GED=3; Pre-associate no certificate=5; Certificate from college or trade school=6; Associate degree=7; Bachelor degree=8; Master's degree=9; Professional degree=10; Doctorate degree=11; No further education=12
- Recoded= No=No further education, Yes=Participated in any form of education

Control Variables

	PIAAC Question	Original Code	Recoded
Recidivism	Before your current incarceration, did you ever serve time in prison, jail, or some other correctional facility?	*Yes = 1; No=2	NA
Release Time	When do you expect to be released from prison?	< 6 month = 1; 6-12 months=2; 1-2 years=3; >2years=4; 2-5 years=5; >5years=6; Never=7	*<2 years=1; ≥2years=2
Parent Education	Highest of mother or father's level of education (derived)	*< High school=1; High school=2; > High school=3	NA
Gender	Person resolved gender from BQ and QC check (derived)	*Male = 1; Female = 2	NA
Age	Age in 10 year bands extended to include ages over 65 (derived)	< 24 = 1; 25-34 = 2; 35-44 = 3; 45-54 = 4; 55-65 = 5; > 66 = 6	*25 – 44 =1; others=2
Race	Background - race/ethnicity (derived)	Hispanic = 1; *White = 2; Black = 3; Other Race = 4	NA

Note: * indicates the reference group

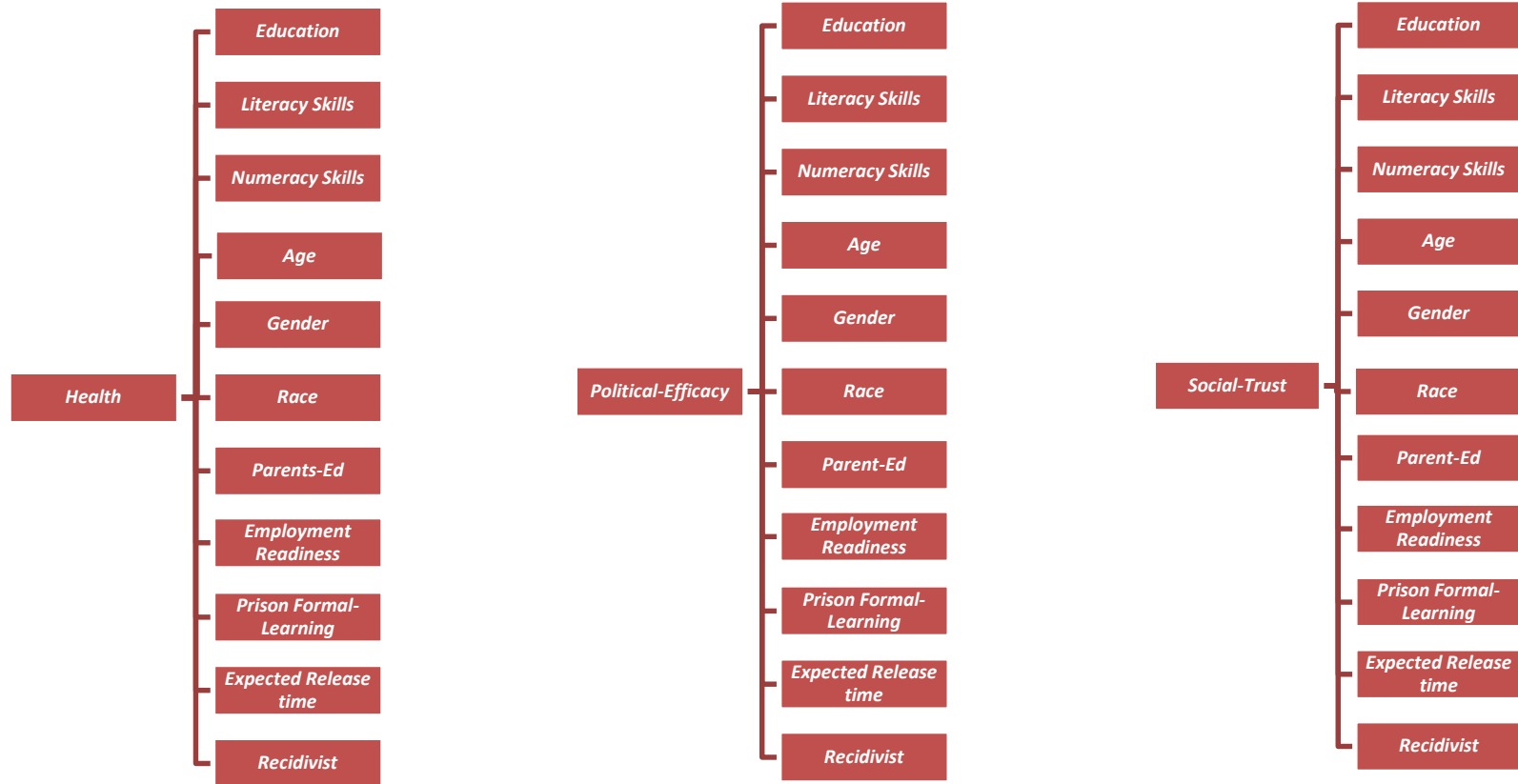
Sample

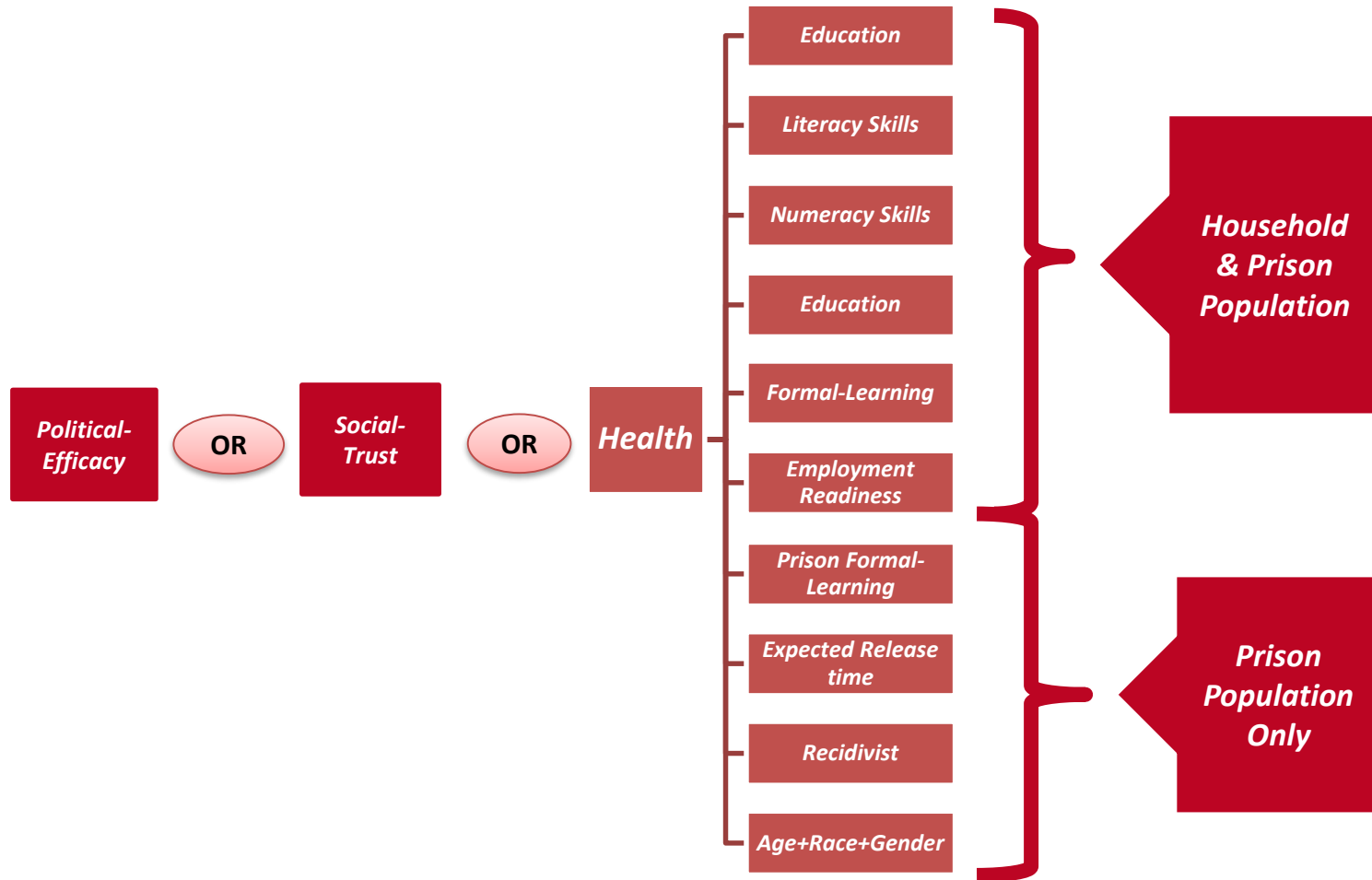
- 2012/2014 U.S. PIAAC Household Study
 - 8,600 adults (ages 16-74)
- 2014 U.S. PIAAC Prison Study
 - 1,270 adult inmates (ages 18–74)

Procedure

1. Mean comparison between household and prison populations
2. Comparison of populations at various numeracy (NUM) & literacy (LIT) levels ([< 225 = Low], [226-325 = Medium], [> 326 = High])
3. A series of hierarchical regression models for the social outcomes of political-efficacy, trust, and health

RQ1. How do formal education, literacy and numeracy skills, and adult lifelong learning associate with prison inmates' social outcomes such as political efficacy, interpersonal trust, and health?





RQ2. How the impact of formal education, literacy and numeracy skills, and adult lifelong learning on social outcomes compares across the prison and household populations?

RESULTS

Mean Comparison Between Household (HH) & Prison Social Outcomes

Social Outcome	Prison	SE	HH	SE	t-value
Political Efficacy	2.66	.04	3.02	.02	8.35***
Social Trust	1.97	.03	2.32	.02	8.61***
Health Perception	3.53	.04	3.58	.02	1.48

The reference groups are: prisoner. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Comparison Between Household (HH) & Prison Social Outcomes at Different Levels of Literacy Skills

Political Efficacy			
	Prison Population	Household Population	
Literacy	Mean	Mean	DIFF
Low	2.67	2.70	.03
Medium	2.66	3.02	.36***
High	2.60!	3.44	.85***!
Social Trust			
	Prison Population	Household Population	
Literacy	Mean	Mean	DIFF
Low	2.03	2.04	.01
Medium	1.95	2.31	.36***
High	1.88!	2.75	.88***
Health			
	Prison Population	Household Population	
Literacy	Mean	Mean	DIFF
Low	3.36	3.10	-.26***
Medium	3.59	3.63	.04
High	3.65!	4.02	.37**

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The reference group = PP. Below 225 (Low), 226-325 (Medium), Above 326 (high). ! (low sample size, interpret with caution)

Comparison Between Household (HH) & Prison Social Outcomes at Different Levels of Numeracy Skills

Political Efficacy			
	Prison Population	Household Population	
Numeracy	Mean	Mean	DIFF
Low	2.68	2.77	.09
Medium	2.65	3.08	.43***
High	2.54	3.36	.82***
Social Trust			
	Prison Population	Household Population	
Numeracy	Mean	Mean	DIFF
Low	2.00	2.07	.07
Medium	1.93	2.36	.44***
High	2.05	2.77	.72***
Health			
	Prison Population	Household Population	
Numeracy	Mean	Mean	DIFF
Low	3.40	3.10	-.09***
Medium	3.67	3.63	-.01
High	3.43	4.02	.60**

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The reference group = PP. Below 225 (Low), 226-325 (Medium), Above 326 (high). ! (low sample size, interpret with caution)

Hierarchical Regression Results

(Formal	Prison Population			Household Population		
	Political Efficacy	Social Trust	Health	Political Efficacy	Social Trust	Health
Educational attainment > High School	.08**	.12***	.00	.19***	.11***	.11***
Literacy	-.10*	-.10*	.00	.15***	.06	.16***
Numeracy	.06	.01	.12*	.03***	.06	.04
Prison Variable: Adult lifelong learning (Job Skill Programs)	.06**	.08**	.05**	NA	NA	NA
Prison Variable: Adult lifelong learning (Formal Education)	.06**	.05	-.01**	NA	NA	NA
Household Variable: Adult lifelong learning (Formal Education)	NA	NA	NA	.02	.03***	.11***

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Summary of Findings

- Significant differences between the two populations for social trust and political efficacy
 - Prisoners had lower levels of social trust and political efficacy
- Significant differences between two populations when comparing proficiency skills and social outcomes
 - Overall, the household population had higher social trust and political efficacy at all three literacy and numeracy skill levels (not significant at lowest level)
 - Health exhibited different behavior.
 - Prisoners at lowest skill levels had higher perceptions of health than their household counterparts.
 - Household at highest skill levels had higher perceptions of health than their prisoners counterparts

DISCUSSION

Discussion

- ***Political efficacy:***
 - The negative correlation between prisoners' political efficacy and literacy skills may be explained by the United States use of felony disenfranchisement, or laws denying those with a felony conviction the right to vote (Uggen, Larson, & Shannon, 2016)

Discussion

- ***Social trust:***
 - The lower degree of prisoners trust could be explained by the general level of trust among prison population (Liebling & Arnold, 2012)
 - Many prisoners come from disadvantaged and marginalized groups, Such groups often lack social trust (Gereke, Schaub, & Baldassarri, 2018)
 - Individuals with low degree of trust show lower degree of participation in civic groups and trust in the government (Miles, 2004).

Discussion

- **Health**

- Both population showed to have a higher self-rating of health with higher numeracy skills. Available research has shown that individuals' capacity to use numbers in daily life is an important skill and a commonly required task in healthcare (Rothman, Montori, Cherrington, & Pignone, 2008)
- Institute of Medicine Committee on Health Literacy (2004) argue that individuals' ability to read and understand nutrition information, interpret ones' clinical data such as blood pressure and blood sugar readings, properly adjust medications, and estimate the proportions of medication adjustment are important yet understudied topic