DCYF Juvenile Detention Alternatives Initiative Steering Committee Meeting

RIPL - *RESEARCH IMPROVING PEOPLE'S LIVES*

NOVEMBER 8, 2018

RIPL – \'ri-pel\ – ripple effect

Mission: We use data and science to impact policy and improve lives

Prioritize

We define policy goals with partners in policy making: governor's team, agency directors, program managers.

Learn

We understand current programs through the lens of data and science to understand key successes and challenges

Innovate

We collaborate with policy makers to design and test improvements based on our findings, to enable efficient, effective policy which improves lives

Four Initiatives

1. Closing the Achievement Gap
   - Providing all children with the opportunity to reach their potential
2. Social Program Impact
   - Improving the effectiveness and efficiency of our social safety net
3. Criminal Justice
   - Improving criminal justice programs to prevent crime and reduce recidivism
4. Regulation that Works
   - Ensuring regulations meet valuable goals while minimizing negative repercussions

Data Science: Building RIIPL with Ideal Data

Created one-of-a-kind, combined database of all administrative records for over 20 years

Connected hundreds of previously independent datasets, siloed across agencies

Developed an Algorithm for identifying individuals across datasets and anonymizing records

Optimized the database for insights, datamining and machine learning at high speed

Data Science: Building RIPL Securely

The Stronghold system keeps our data secure and compliant with FISMA, HIPAA, FERPA

Multiple firewalls and no outbound internet access keep our data where they belong

Scrambling of sensitive data, 2-factor and 2-party identification, separate stores for identifiable information keep our data anonymous and confidential

Real time monitoring and auditing, data use tracking, automated alerts and reporting

Project Motivation

DCYF operates the Rhode Island Training School (RITS)

- Mission is to "provide care in a secure facility to youth who are detained or adjudicated by order of the Family Court… [to] promote public safety and rehabilitation of residents."

National criticism that juvenile detention fail to sufficiently rehabilitate incarcerated youth.

- Advocacy organizations and state governments have sought alternatives to incarceration for youth convicted a crime.
- Studies find positive and negative effects from youth being sentenced to juvenile incarceration compared to alternative punishments and interventions.

DCYF is interested in measuring the impact is of juvenile detention and its alternatives on youth outcomes.

Research Questions

What is the impact of participation in RITS and its alternative, Temporary Community Placement (TCP), on youth outcomes?

- Future health?
- Employment?
- Educational outcomes?
- Future involvement with the criminal justice system?

Challenge – separating causation from correlation

Overview

We use nearly two decades of administrative data from the state of Rhode Island to impact of RITS and TCP on future outcomes.

- Sentenced youth in the DCYF system born between 1981-1999 who were sentenced to RITS, TCP, and probation.

Define five subpopulations:

- Youth who only served sentence(s) in RITS ("RITS Only")
- Youth who only served sentence(s) in TCP ("TCP Only")
- Youth who served sentence(s) in both RITS and TCP ("Both")
- Youth who served sentence(s) in neither RITS or TCP, or those who only served sentence(s) on probation ("Neither")

We analyze long-term outcomes of these subpopulations

- Compare them to a broader Rhode Island subpopulation ("Non-Offenders") who are observed in the RI 360 database during the same birth and outcome year.

Data

Anonymized administrative records housed in a secure facility at the Rhode Island Innovative Policy Lab (RIIPL) (Hastings et al., 2018)

Rhode Island Department of Children, Youth, and Families (DCYF) sample: 9,307 youth born between 1981 and 1999

- 3,916 youth in the "RITS Only" subgroup.
- 191 youth in the "TCP Only" subgroup.
- 2,382 youth in the "Both" subgroup.
- 2,818 youth in the "Neither" subgroup.

Data

Using anonymous identifier, we join DCYF sample to administrative records:

- Medicaid claims (available for birth cohorts 1981-1991, outcome years 2006-2016)
  - Enrollment, mental health claims, and substance abuse claims between age 18-25.
- Birth records for Rhode Island births (available for birth cohorts 1989-1997, outcome years 2007-2015)
  - Teen parenthood.

DLT and National Student Clearing House Records (available for birth cohorts 1986-1994, outcome years 2007-2015)

- Employment in RI and enrollment in college at ages 18, 21, 25

DCYF sentencing and DOC records (available for birth cohorts 1981-1991, outcome years 2006-2016)

- Recidivism rates within the DCYF juvenile justice or RI Department of Corrections for one year, two years, and three years after first sentence.

Methodology

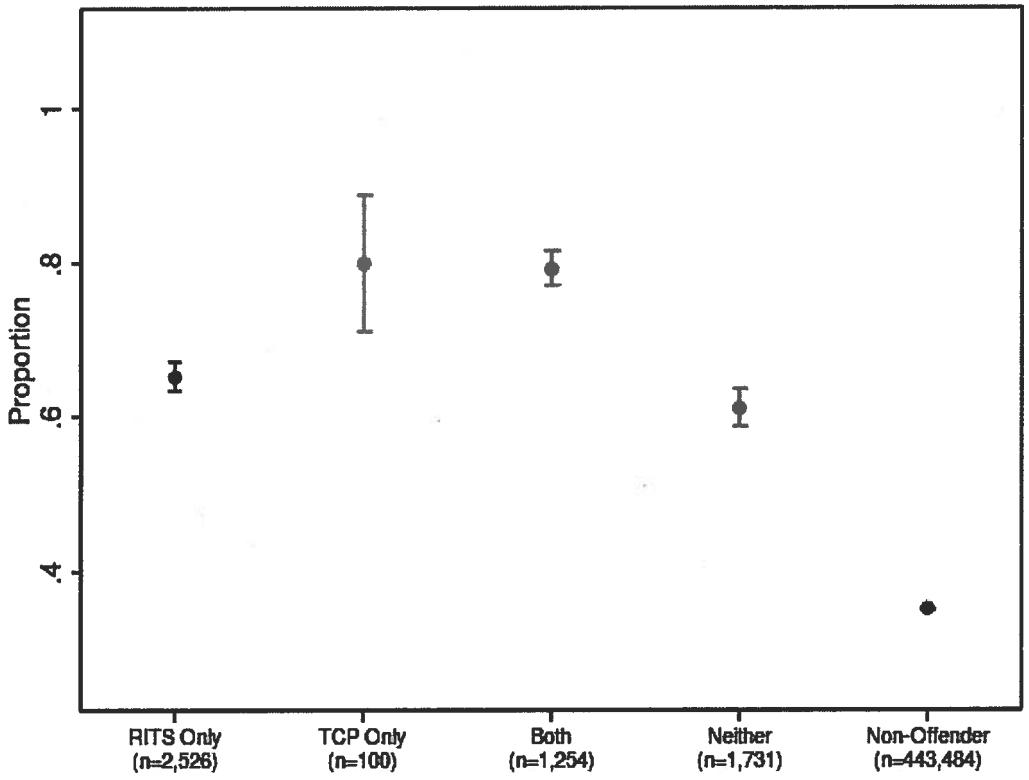
- We select baseline characteristics which are most predictive of the outcome of interest and each of the sentenced DCYF youth subpopulations, using machine learning algorithm Double LASSO.
- We then analyze the outcomes of interest by creating the regression adjusted mean outcomes, adjusting for the most predictive characteristics as selected by the Double LASSO algorithm.
- This procedure minimizes bias due to observable characters more effectively than OLS approaches where controls are selected based subjectively on researcher intuition.
- It is important to keep this in mind as we interpret results: measured differences in outcomes are not due to differences in observable characteristics such as race, gender, or test scores, but may still be due to unobserved characteristics such as parents' education or elementary school attended.

Summary Statistics

Table 1. Summary Statistics

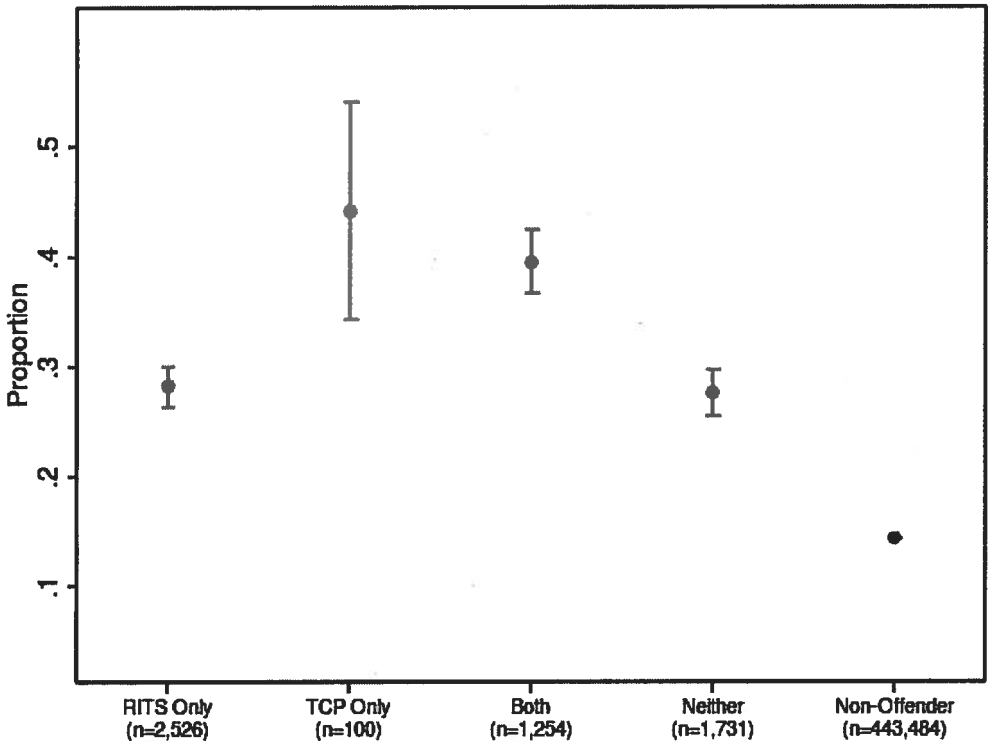
	RITS Only	TCP Only	Both	Neither	Average RI 8th Grader
N	3,916	191	2,382	2,818	99,736
Gender					
Female	20.89	34.58	10.53	21.72	48.28
Race					
White	40.47	72.12	45.98	62.72	68.63
Hispanic	24.27	11.54	21.41	18.60	18.51
Black	29.92	12.50	28.09	15.01	8.89
Asian	3.22	2.88	2.44	1.90	3.21
Native American	1.48	0.96	1.44	1.48	0.76
Test Scores					
Standardized Read	-0.631	-0.384	-0.689	-0.394	0.000
Standardized Math	-0.513	-0.471	-0.516	-0.285	0.000

Proportion of youth who enroll in Medicaid, age 18-25



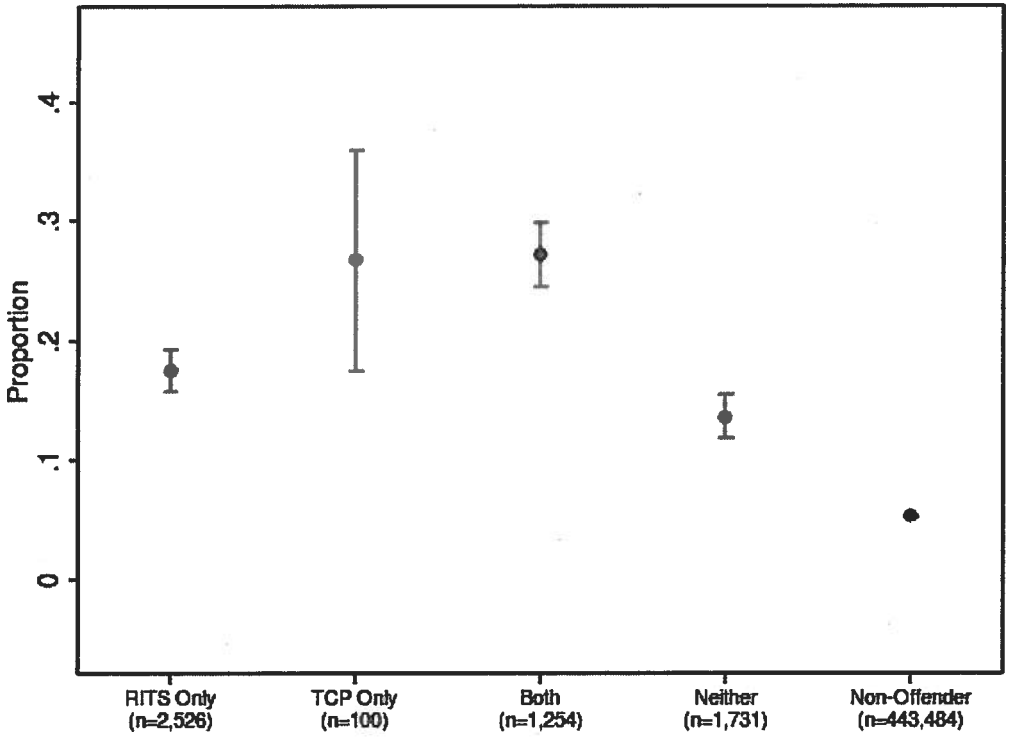
Subgroup	Proportion
RITS Only	0.653
TCP Only	0.799
Both	0.793
Neither	0.611
Non-Offender	0.394

Proportion of youth with a mental health Medicaid claim, age 18-25



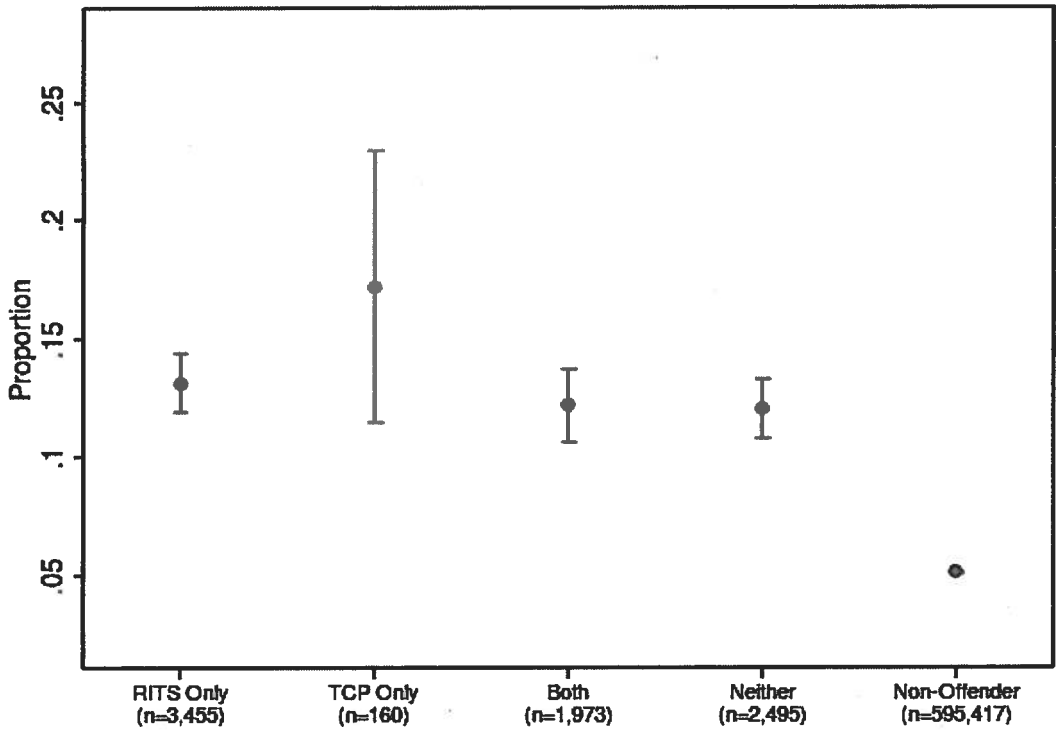
Subgroup	Proportion
RITS Only	0.282
TCP Only	0.442
Both	0.396
Neither	0.276
Non-Offender	0.143

Proportion of youth with a substance abuse Medicaid claim, age 18-25



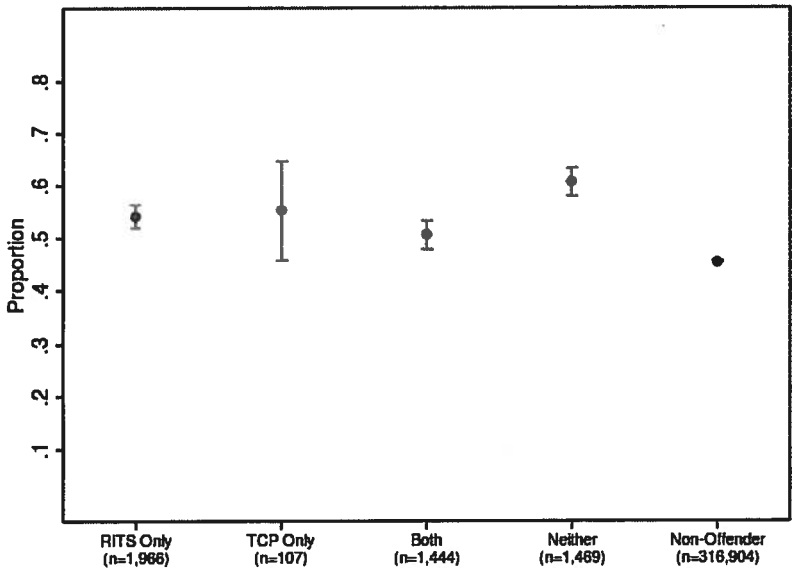
Subgroup	Proportion
RITS Only	0.175
TCP Only	0.267
Both	0.272
Neither	0.136
Non-Offender	0.052

Proportion of youth who are parents before age 20



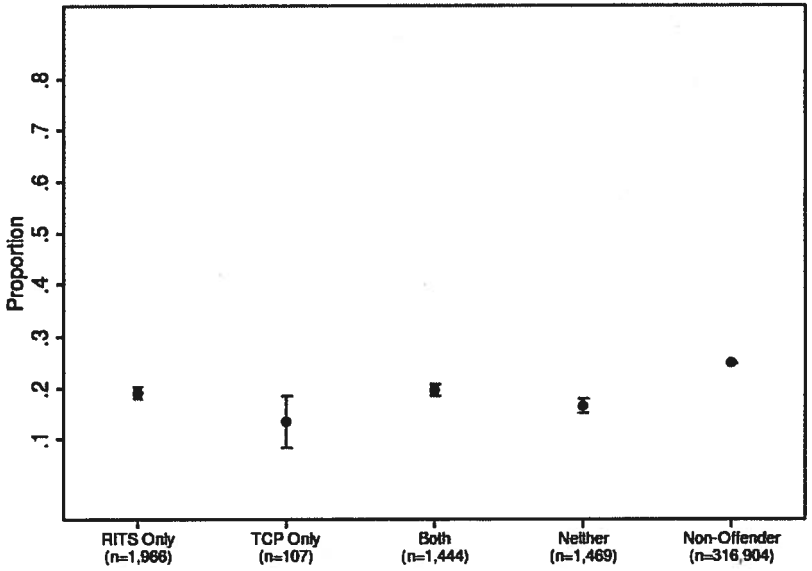
Subgroup	Proportion
RITS Only	0.132
TCP Only	0.172
Both	0.122
Neither	0.120
Non-Offender	0.051

Proportion of youth who are employed at age 18



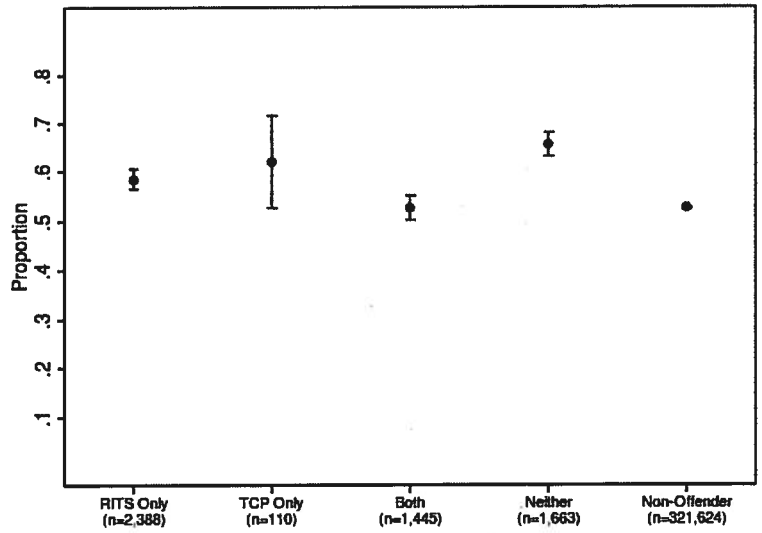
Subgroup	Proportion
RITS Only	0.540
TCP Only	0.554
Both	0.507
Neither	0.609
Non-Offender	0.455

Proportion of youth who are enrolled in college at age 18



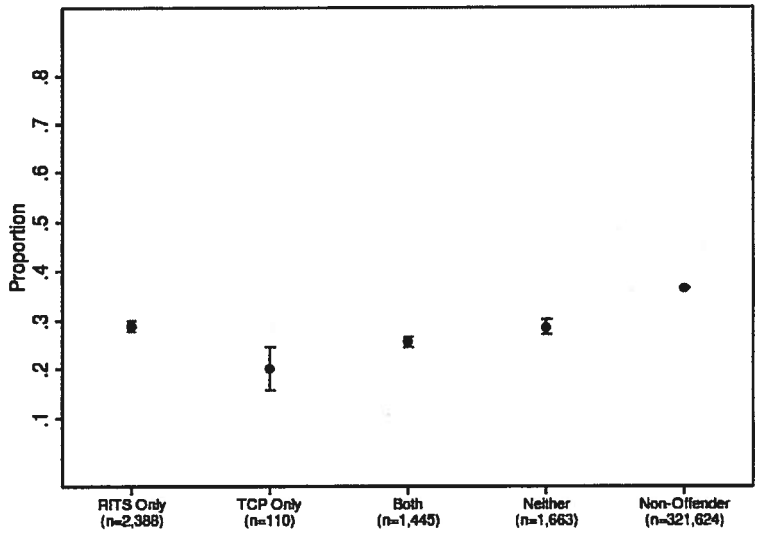
Subgroup	Proportion
RITS Only	0.191
TCP Only	0.134
Both	0.196
Neither	0.166
Non-Offender	0.248

Employment and Education Outcomes



Proportion of youth who are employed at age 21

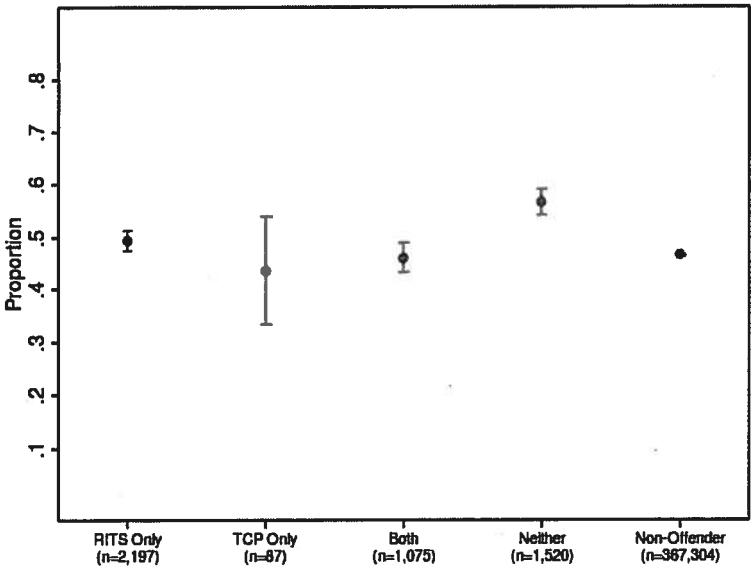
Subgroup	Proportion
RITS Only	0.586
TCP Only	0.622
Both	0.527
Neither	0.656
Non-Offender	0.527



Proportion of youth who are enrolled in college at age 21

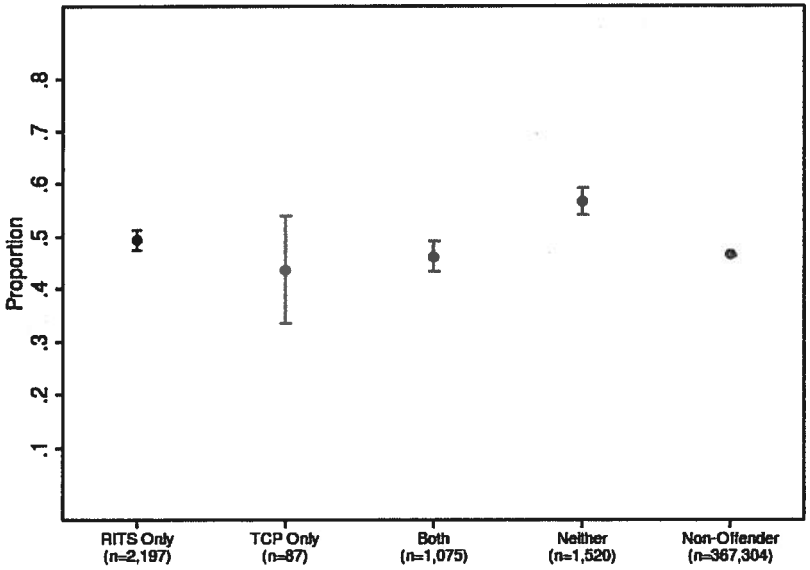
Subgroup	Proportion
RITS Only	0.285
TCP Only	0.200
Both	0.255
Neither	0.287
Non-Offender	0.366

Proportion of youth who are employed at age 25



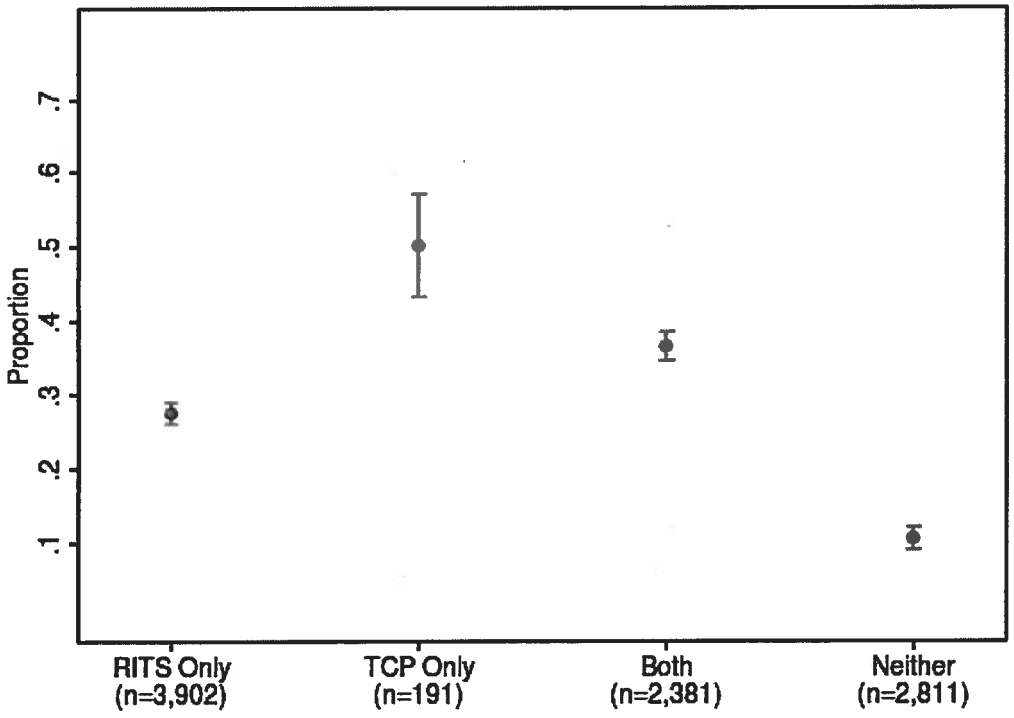
Subgroup	Proportion
RITS Only	0.495
TCP Only	0.437
Both	0.462
Neither	0.568
Non-Offender	0.467

Proportion of youth who are enrolled in college at age 25



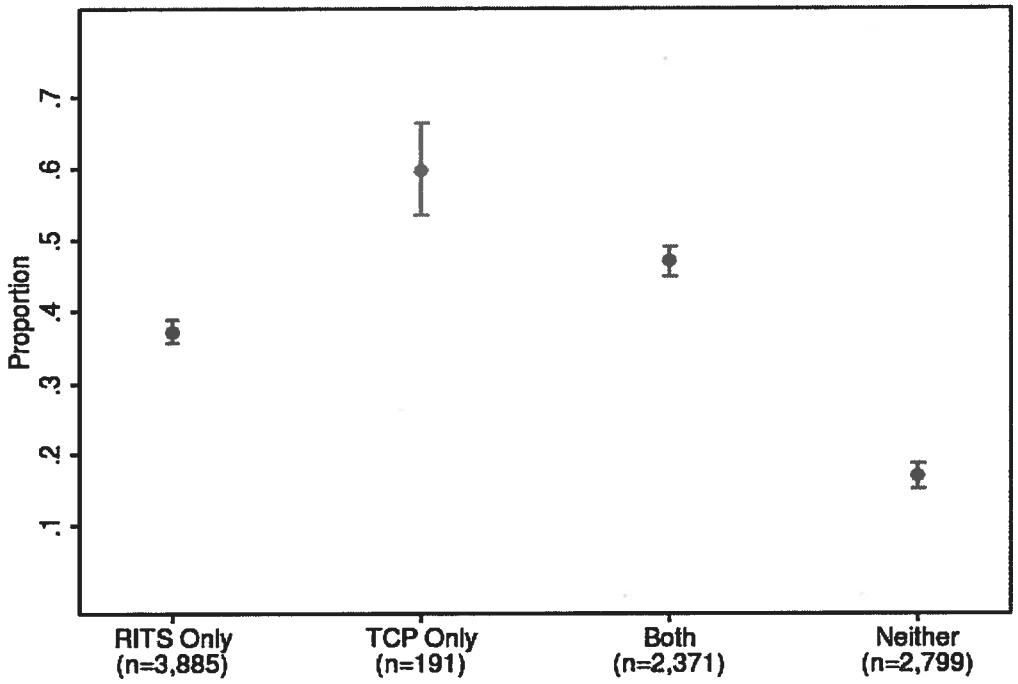
Subgroup	Proportion
RITS Only	0.177
TCP Only	0.145
Both	0.173
Neither	0.186
Non-Offender	0.198

Proportion of youth who recidivated within one year



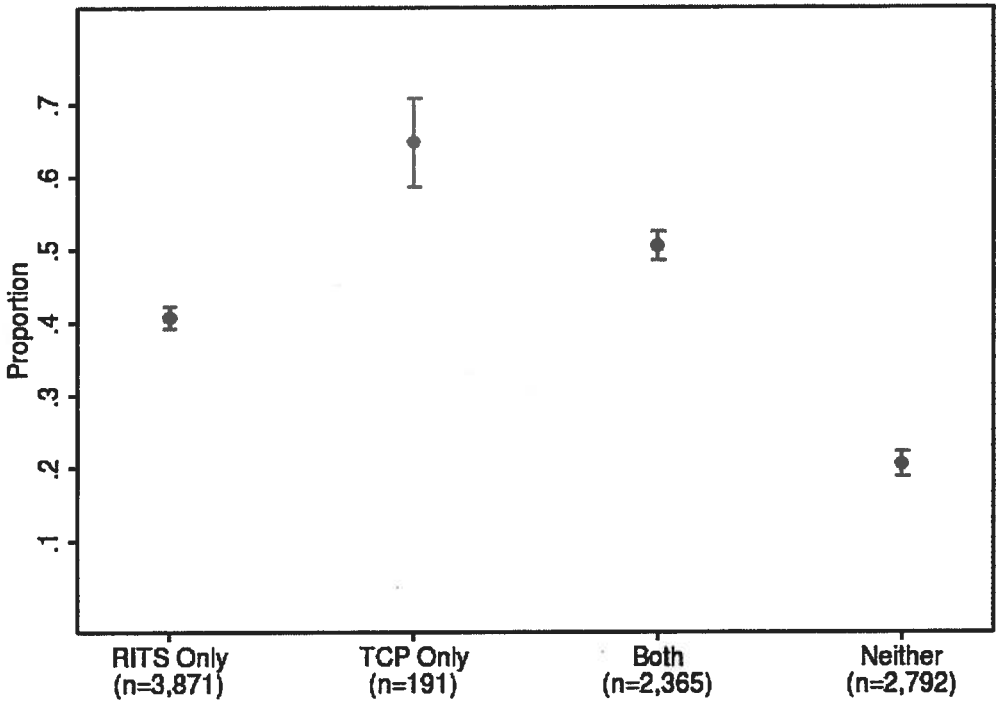
Subgroup	Proportion
RITS Only	0.276
TCP Only	0.503
Both	0.366
Neither	0.104

Proportion of youth who recidivated within two years



Subgroup	Proportion
RITS Only	0.372
TCP Only	0.600
Both	0.469
Neither	0.170

Proportion of youth who recidivated within three years



Subgroup	Proportion
RITS Only	0.407
TCP Only	0.647
Both	0.505
Neither	0.205

Conclusion

- We evidence that there are significant difference in outcomes when comparing RITS Only to TCP Only subpopulations of sentenced DCYF youth.
  - It appears that RITS Only youth have better observed health, education, enrollment, and recidivism outcomes than TCP only.
  - Important to remember that TCP population is a very small proportion of the sentenced DCYF population (3,916 RITS you and 191 TCP youth) in our sample. We also observe large standard errors in the TCP outcomes.

- All sentenced DCYF subpopulations do worse on outcomes than the Non-Offender DCYF subpopulation, conditional on observable characters – except on measures of education and employment, where they perform similarly.
  - We only capture employment in RI, not other states.

- We do not observe the mechanisms driving these differences.
  - There are programs within the RITS and TCP that could be driving the differences in outcomes, rather than facility itself.
  - Examples of these programs could include formal education, individual mental health and counseling services, and group services tailored to the youth's needs.
  - Comparing outcomes across these different services and youth participation could lead to more evidence to inform policy.