Developing a Theory of Effective Juvenile Delinquency Programming Through an Examination of Change-levers Rather Than Program Types

Preliminary evidence from a large juvenile delinquency meta-analysis

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Two Basic Insights

- Delinquency treatment programs (generally) do not target delinquency directly
  - Almost always try to increase or decrease something else
- The number of unique programs to address juvenile delinquency is endless
  - The theoretically meaningful list of proximal outcomes is limited
  - We can conceptualize these as “change-levers”

Programs for Juveniles Evaluated on CrimeSolutions.gov

- 311 unique programs focused on juveniles
- 62 are listed as effective
- Most have few studies evaluating their effectiveness
- Evidence-base is large but spread thinly across programs

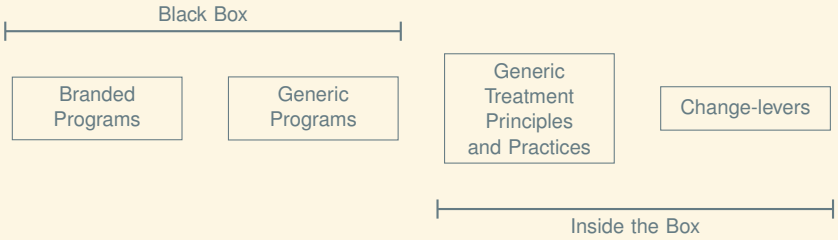
Programs for Juveniles Listed on CrimeSolutions.gov

Rating	No. of Programs	No. of Studies		
		1	2	3
Effective	62	22	23	17
Promising	185	161	17	7
Ineffective	64	51	10	3
Total	311	234	50	27

Challenges of Branded Programs

- Generally few evaluation studies
- Few are effective in natural settings when brought to scale
- Failure attributed to poor implementation
- Making local adaptations is risky

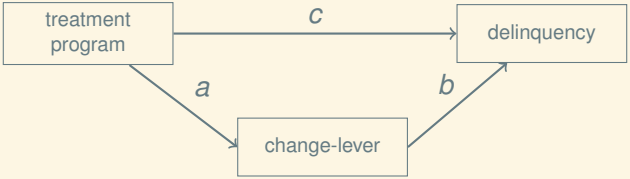
Frameworks for Thinking about Effective Programs



Treatment Principles and Practices and Change-levers

- Risk-Needs-Responsivity (RNR) model (Andrews, Bonta and colleagues)
- Standardized Program Evaluation Protocol (SPEP) (Lipsey)
- Combining principles/practices with evidence on change-levers is potentially powerful
- Change-levers focus on mediational effects
  - Effect of program on delinquency can be explained by intermediate outcome
  - Treatment effects on a change-lever may produce change on delinquency

Visualization of a change-lever



Methods

Analyses used data from Mark Lipsey's large meta-analysis of juvenile delinquency programs.

- Based on a subset of 548 independent study samples of 361 primary research reports.
- Coded both delinquency and non-delinquency outcomes.
- Analysis examines whether a program's ability to change a non-delinquency outcome is related to its ability to change a delinquency outcome.

Study Eligibility Criteria

259 independent studies met the following eligibility criteria and were included in the analyses presented today:

- The research was conducted in an English-speaking country and reported in English.
- The interventions were designed to reduce delinquency.
- The juveniles were between 12 and 21 years of age and were delinquent or exhibiting anti-social behavior.
- The program's effect was measured on at least one delinquency outcome variable (e.g., rearrest, reconviction, return to court supervision, and so forth).
- The outcomes of the target intervention program were directly compared to those of a control group of similar juveniles who did not receive the intervention.
- For the purposes of this talk, at least one non-delinquency outcome effect size was coded.

Effect Sizes

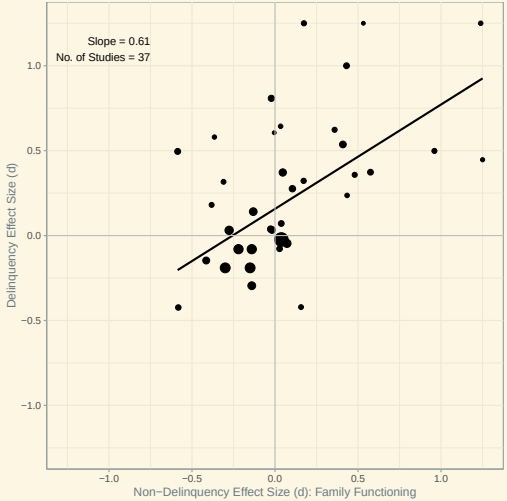
Standardized mean difference effect sizes were used with positive values reflecting positive change.

- For non-delinquency effect sizes, we selected the first post-treatment measurement time-point for each outcome.
- For delinquency effect sizes, preference was given to the most general measure of offending taken, ideally measured as some point post-treatment (e.g., 6-months).
- Non-delinquency effect sizes were categorized into one of 45 measurement constructs.

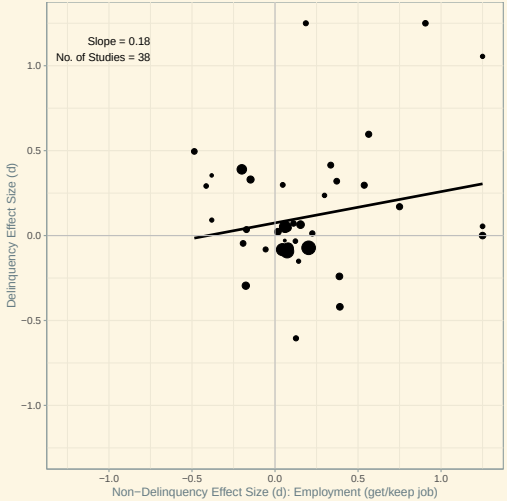
Analyses

- Used random-effects meta-regression to examine the relationship between non-delinquency and delinquency effect sizes by construct
- Regression coefficients reflect the proportion improvement in delinquency relative to improvement on the non-delinquency measure

Scatterplot Showing Relationship Between Delinquency and Family Functioning



Scatterplot Showing Relationship Between Delinquency and Employment (getting/keeping job) Effect Sizes



Weighted Correlation Between Delinquency Effect Size and Non-delinquency Effect Size (random effects models)

Non-Delinquency Construct	Reg. Coef.	95% CI		No. of Studies
		Lower	Upper	
Psychological adjustment				
Behavioral Problems	0.86	0.44	1.28	26
Attitudes Regarding Delinquency	0.43	0.23	0.64	45
Personality	0.39	0.17	0.62	47
Self-Esteem, Self-Concept	0.35	0.14	0.55	47
Mood & Anxiety	0.30	0.09	0.51	43
Interpersonal adjustment				
Family Functioning	0.61	0.32	0.91	37
Attitudes about interpersonal issues	0.45	0.20	0.70	32
Social Skills	0.29	0.01	0.57	26
Peer Relations	0.09	-0.16	0.33	43

Weighted Correlation Between Delinquency Effect Size and Non-delinquency Effect Size (random effects models)

Non-Delinquency Construct	Reg. Coef.	95% CI		No. of Studies
		Lower	Upper	
School Adjustment				
Dropping out of school	0.57	0.28	0.86	39
Attendance, Tardiness	0.38	0.23	0.53	65
Sch. Adj. Noncriminal/Non-antisocial	0.34	0.05	0.63	31
Attitudes Regarding School	0.29	0.07	0.51	45
Academic Improvement				
School Achievement	0.24	-0.12	0.61	23
School Grades	0.08	-0.11	0.27	49
Vocational Adjustment				
Employment (get/keep job)	0.18	-0.08	0.45	38
Attitudes Toward Work	-0.46	-0.98	0.05	20

Change-levers with Largest Effects on Delinquency

- Behavioral problems
- Family functioning
- Dropping out of school
- Attitudes regarding delinquency
- Attitudes about interpersonal issues

Change-levers with Smallest Effects on Delinquency

- Peer relations
- School achievement
- School grades
- Vocation/work related

How Well Does This Map Onto Effective Programs?

Blueprints for Violence Prevention identifies 8 model programs with impacts on delinquency:

- 5 focus on family functioning in some fashion
- 2 focus on social-emotional learning
- 1 focuses on life skills training

This is fairly consistent with what we would expect based on the change-lever analysis.

Benefits of a Change-lever Framework

- Facilitates theory development related to juvenile justice programming by identifying potential causal pathways for effective programs
- Facilitates implementation: Provides a clear focus for what immediate change a program is trying to bring about
- Foundation of a predictive model for assessing the promise of new programs that have yet to be evaluated

Elements of Program Theories

- Most program theories have the following basic components:
  1. Set of program activities (active ingredients)
  2. Expected immediate changes in the individual, family, peer-group, school, etc.
  3. Expected long-term changes
  4. Theoretical rationale that explains how these interrelate
- Assessing causal mechanisms (change-levers) critical to assessing program theories
- Kazdin (2007) argues that knowledge regarding the causal mechanisms (change-levers) can facilitate implementation in real-world settings

Limitations and Next Steps

- Ecological fallacy: in these data we don't know if those who improved on the change-lever are the same youth who improved on delinquency
- Can be addressed with primary data
  - Need to better exploit data in existing evaluations
- Likely to be many effective change-levers making it more difficult to establish that any change-lever alone is truly causal
- Next steps
  - Code non-delinquency outcomes for more studies
  - Examine these relationships for prevention programs, adult corrections, etc.
  - Examine these mediators with individual level data

Thank you!

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