Individual Causes of Offending and National Crime Rates

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Example:Unemployment and Crime

- Are national crime rates just the sum of individual offending frequencies?

- Are national correlates of crime just some combination of individual correlates of offending?

- Example: Assume that individuals (adults aged 18-60) are more likely to commit crimes when they are unemployed than when they are employed (controlling for other influences on offending)

Unemployment and Crime

- Assume that, because of a recession, national unemployment rates increase
- Consequently, more individuals will become unemployed
- Consequently, they will commit more crimes
- Consequently, the national crime rate will increase
- But by how much?

Unemployment and Crime

- The extent of the national increase in crime will depend on the effect size linking individual unemployment and individual offending:

- How much greater are individual offending frequencies during periods of unemployment compared with periods of employment?

- And on the importance of other influences on the national crime rate

Unemployment and Crime

- Further considerations:

- The national crime rate in one year is the sum of individual offending frequencies of people in the country in that year, including temporary visitors (so is not just the sum of offending frequencies of residents)

- Changes in the national crime rate may reflect compositional changes (immigration, emigration, deaths, new cohort of 18-year-olds coming in, 60-year-old cohort aging out)

Unemployment and Crime

- Changes in the national unemployment rate may have different effects on different demographic categories

- e.g. An increase from 7% to 8% in the national rate may coincide with an increase from 25% to 35% in the rate for males aged 18-24

- Unemployment may have different effects on different types of crimes

- Unemployment may have different effects in different areas

Influences on Individual Offending

- Distal influences
- Proximal influences
- Immediate situational influences
- How have these changed since 1995?

- NB. Some problems in distinguishing proximal and immediate situational influences

Distal Influences: Risk Factors

- Important risk factors include:
- Biological: low resting heart rate
- Individual: impulsiveness, low school attainment
- Family: poor parental supervision, harsh or inconsistent parental discipline, disrupted families, convicted parent,large family size
- Socioeconomic: low family income
- Neighborhood: high crime neighborhood
- Well established over many years
- Need research on protective factors as well

Replication

- Good replication of results over time and place

- e.g. Farrington & Loeber (1999) comparison of Cambridge Study (London boys growing up in the 1960s) and Pittsburgh Youth Study (Pittsburgh boys growing up in the 1990s)

- Most risk factors that predicted delinquency in London also predicted delinquency in Pittsburgh: impulsiveness, low achievement, poor supervision, parental conflict, low family income, disrupted families, large family size (all odds ratios about 2)

- Exception: physical punishment by parents (racial difference)

Effect Sizes

- We need systematic reviews and meta-analyses to specify effect sizes of different risk factors as predictors of individual offending, especially after controlling for other predictors of offending

- e.g. Derzon (2010) Strongest family predictors of criminal/violent behavior:

- Parental education (r=.30 for criminal)

- Parental supervision (r=.29 for violent)

- Child rearing skills (r=.26 for criminal)

- Parental discord (r=.26 for criminal)

- Family size (r=.24 for violent)

- Weak predictors: young parents, broken homes, SES

Resting Heart Rate

- Ortiz & Raine (2004): systematic review and meta-analysis of 40 studies relating resting heart rate to antisocial behavior: mean effect size $d = -.44$

- Portnoy & Farrington (2013): systematic review and meta-analysis of 115 effect sizes: mean effect size $d = -.20$ for all types of antisocial behavior

- Effect size greatest for violence: $d = -.36$

- Effect size does not vary with age or gender

- Effect size is larger in earlier studies (maybe because of increasing exercise confounding physiological arousal?)

- Only 7 longitudinal studies spanning 5 years or more

- Can convert effect sizes into % changes in offending

Causes of Offending

- We don't know if risk factors have causal effects on offending
- Idea of cause: changes within individuals in X are followed by changes within individuals in offending frequencies
- What is the causal lag?
- What is the effect size?
- What are mediating mechanisms?

Causal Lag

- Murray et al. (in press): study of effect of parental imprisonment on the boy's theft (Pittsburgh Youth Study)

- Find: theft rate is about 0.5 per year before the year of parental imprisonment, then 0.5 in year +1 after, 0.7 in year +2, peaking at 1.8 in year +3, then back to 0.5 in year +4

- After propensity score matching on 14 background factors (family, peer, prior behavior)

Within-individual change

- Most studies in criminology are of variations between individuals, not of changes within individuals
- You can't necessarily draw conclusions about changes within individuals from variations between individuals
- E.g. If unemployed people have a higher offending frequency than employed people (after controlling for measured variables) you can't necessarily conclude that changing people from unemployed to employed would cause them to commit fewer crimes
- Need studies of within-individual change to draw conclusions about causes of offending

Within-Individual Change

- Farrington, Loeber et al. (2002) in Pittsburgh Youth Study:

- 7 waves of data

- Peer delinquency is strongest correlate of the boy's delinquency between individuals

- However, peer delinquency does not predict the boy's delinquency within individuals

- Poor parental supervision, low parental reinforcement, and low parental involvement with the boy all predict the boy's delinquency within individuals

- Need systematic review of results of within-individual analyses

Proximal/Life Event Influences

- Unemployment
- Drugs
- Alcohol
- Peer influence
- Boredom/Frustration
- Marriage
- Divorce/separation
- Conviction
- Imprisonment
- What are effect sizes? To what extent do they vary with level or prevalence (e.g. of unemployment or divorce)?

Unemployment

- Farrington et al. (1986) in Cambridge Study
- Compare convictions during a boy's periods of unemployment (during 3 years after leaving school) with convictions during his periods of employment
- Find: 3 times as many convictions during periods of unemployment
- Increase in offenses of material gain
- Increase especially for highest risk boys

Immediate Situational Influences

- Opportunities/victims, e.g. availability of cell phones, iphones, ipads, etc.

- Surveillance, e.g. CCTV, lighting, witnesses

- Physical security, e.g. of cars

- Subjective probabilities and utilities of costs and benefits, emotions, motives

- Likelihood of detection, police activities

- What are effect sizes? How does the potential to offend become the actuality of criminal acts?

- Need to combine research and theories on the development of individual potential with research and theories on immediate situational influences

What has changed since 1995?

- Crime has decreased; changes in types of crime?
- Disrupted families have increased, marriage has decreased
- Family size has decreased
- Family income has increased (after inflation)
- Opportunities have increased (how measure?)
- Surveillance and physical security have increased
- Imprisonment has increased
- Drugs? Alcohol? Unemployment? Parental supervision? Parental discipline? Resting heart rate?
- Need research to establish true changes

Conclusions

- Need to establish what factors have causal influences on individual offending, what is the effect size, what is the causal lag, what are mediating mechanisms

- How do the prevalence or levels of these factors change over time nationally? Easiest to study if fluctuations (e.g. in unemployment rates) rather than long-term trends

- What is the likely effect of these changes on national crime rates? Distal factors change only slowly and therefore can't explain large changes in crime rates

- To what extent can changes and effects be predicted?

- Effects on demographic categories, effects of compositional changes, effects in sub-areas