Mental health symptoms and employment in adolescents with mental illness in the justice system

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The mission of the Transitions to Adulthood Center for Research is to promote the full participation in socially valued roles of transition-age youth and young adults (ages 14-30) with serious mental health conditions. We use the tools of research and knowledge translation in partnership with this at risk population to achieve this mission. Visit us at: http://www.umassmed.edu/TransitionsACR

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Context for the research presented today

• Juvenile justice system is the de facto treatment system for many adolescents with mental health disorders

• Current emphases
  - diversion
  - more mental health services for these adolescents

• Challenges
  - integration of services
  - positive outcomes (not just the mirror of offending)

• Little is known about mental health symptoms and employment
  - very few substantial research studies of juvenile offenders with mental health problems
  - literature on employment in the area of adult services
Pathways to Desistance Study

Two-site study that follows 1,354 serious adolescent offenders as they make the transition from adolescence into early adulthood, using regular interviews and official records over a seven year period.
Research on Desistance

• Why does it matter?
  – Theoretical reorientation: emphasis on promoting positive change rather than fixing deficits
  – Practical possibilities: improving risk assessments and targeting interventions
Supported by

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• William T. Grant Foundation
Working Group Members

- Edward Mulvey
- Laurence Steinberg
- Elizabeth Cauffman
- Laurie Chassin
- George Knight
- Carol Schubert
- Sandra Losoya
- Robert Brame
- Jeffrey Fagan
- Alex Piquero
Study design

- Two sites: Philadelphia and Phoenix
- Enroll serious adolescent offenders
  - 1,354 felony offenders, aged 14 -18
  - Females and adult transfer cases
- Regular interviews over seven years
  - Initial interviews
  - Time point interviews (background characteristics, psychological mediators, family context, relationships, community context, life changes)
  - Release interviews
- Other sources of information
  - Collateral interviews
  - Official records
<table>
<thead>
<tr>
<th></th>
<th>Month 1</th>
<th>Month 2</th>
<th>Month 3</th>
<th>Month 4</th>
<th>Month 5</th>
<th>Month 6</th>
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<td><strong>Subject 1</strong></td>
<td>900 West Huntington</td>
<td>St Gabe’s Hall</td>
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<td>St Gabe’s Hall</td>
<td>Vision Quest</td>
<td>Youth Forestry Camp</td>
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Who are these adolescents?

- **At Enrollment**
  - 16 years old on average
  - 86% males
  - Average of two prior court appearances
    - 32% had no prior petitions to court
    - Most of priors were for a person crime
- **Ethnically diverse**

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<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Percentage</th>
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<tbody>
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<td>Caucasian</td>
<td>25%</td>
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<tr>
<td>African American</td>
<td>29%</td>
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<tr>
<td>Latino</td>
<td>2%</td>
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<tr>
<td>Other</td>
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Assessing Mental Health

- Mental Health Disorders were assessed for the year prior to the baseline interview
  - Major Depression
  - Dysthymia
  - Mania
  - Mood/anxiety problems
  - PTSD
  - ADHD
  - Alcohol/Drug abuse and dependence

- Assessment methods
  - Composite International Diagnostic Interview (CIDI; 1990)
  - Disruptive Behavior Disorders scale (Pelham, 1992)
Sample Characteristics for these analyses

- 572 youth who met diagnostic criteria
  - mental health disorder: n=102
  - substance use disorder: n=358
  - Co-occurring: n=112
- Age: 16.61 (s.d. =1.08) years old
- Male: 57%
- Race/ethnicity: 74% minority
- Most serious adjudicated felony as index offense
  - Person Crime: 38%
  - Property: 24%
  - Drug: 22%
  - Weapon: 9%
  - Other: 6%
- Average number of prior petitions to court: 2.22
- Average age at first prior petition: 14.90 (s.d. = .07)
Measures over time

• Mental Health Symptoms
  ➢ Brief Symptoms Inventory (BSI; Derogatis & Melisaratos, 1983)
    o 53-item self-report inventory
    o rate the extent to which they have been bothered (0 ="not at all" to 4="extremely")
  ➢ Use the Global Severity Index (GSI)

• Employment
  ➢ Based on reports from life event calendar (legitimate or “under the table” work)
  ➢ Four aspects of employment
    o Weeks worked of weeks in community
    o Wages earned per week
    o Whether worked at all
    o Whether made any money at all
Mean BSI-Global Severity Index at each wave
(n=572)
Percent of Youth Employed at Each Interview Wave

(n=582)

<table>
<thead>
<tr>
<th>Interview Wave</th>
<th>Percent of Youth Employed</th>
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<tbody>
<tr>
<td>1</td>
<td>31.3</td>
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<tr>
<td>2</td>
<td>41.5</td>
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<td>3</td>
<td>42.8</td>
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<td>5</td>
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<td>6</td>
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<td>8</td>
<td>58.8</td>
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<tr>
<td>9</td>
<td>65.0</td>
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<td>10</td>
<td>59.4</td>
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Figure 1. Cross lag panel model applied across six waves of observations

- Age \( T \) → Mental Health Symptoms \( T \) → Employment Outcome \( T \) → Age \( T + 1 \)
- Age \( T + 1 \) → Mental Health Symptoms \( T + 1 \) → Employment Outcome \( T + 1 \) → Age \( T + 1 \)
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- Employment Outcome \( T \) → Mental Health Symptoms \( T + 1 \)
Figure 1. Cross lag panel model applied across six waves of observations

“Autoregressive”
Figure 1. Cross lag panel model applied across six waves of observations

"Concurrent"
Figure 1. Cross lag panel model applied across six waves of observations
Table 1. Path coefficients for Cross Lag Panel Analysis of Mental Health Symptoms and Employment Outcomes

|                              | Weeks Worked |   |   | Wages |   |   | Wages (Dichotomized) |   |   | Wages (Dichotomized) |
|------------------------------|--------------|--|--|--|-----|--|--|---------------------|--|--|---------------------|
| Autoregressive Estimates     |              |   |   |      |     |   |      |                     |   |   |                     |
| Employment (T) → Employment (T+1) | .50***       | .53*** | .43*** | .44*** |     |   |     |                     |   |   |                     |
| GSI (T) → GSI (T+1)          | .48***       | .49*** | .46*** | .48*** |     |   |     |                     |   |   |                     |
| Cross-Lags Estimates         |              |   |   |      |     |   |      |                     |   |   |                     |
| Employment (T) → GSI (T+1)   | -.01         | -.02   | .02   | .03   |     |   |     |                     |   |   |                     |
| GSI (T) → Employment (T+1)   | -.05**       | -.04*  | -.04** | -.04*  |     |   |     |                     |   |   |                     |
| Concurrent Associations      |              |   |   |      |     |   |      |                     |   |   |                     |
| Employment (T) → GSI (T)     | .01          | .01    | .02    | .02    |     |   |     |                     |   |   |                     |
| Covariates                  |              |   |   |      |     |   |      |                     |   |   |                     |
| Age (T) → Employment (T)     | .07***       | .08*** | .06*** | .07*** |     |   |     |                     |   |   |                     |
| Age (T) → GSI (T)            | .01          | .01    | .01    | -.01   |     |   |     |                     |   |   |                     |

Notes: *** = p ≤ 0.001; ** = p ≤ 0.01; * = p ≤ 0.05
Symptom level and employment outcomes change some, but not a great deal, from one six-month recall period to the next one.
Table 1. Path coefficients for Cross Lag Panel Analysis of Mental Health Symptoms and Employment Outcomes

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Notes: *** = p ≤ 0.001; ** = p ≤ 0.01; * = p ≤ 0.05
Symptom level and employment outcomes are not highly related within any given recall period.
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Notes: *** = p ≤ 0.001; ** = p ≤ 0.01; * = p ≤ 0.05
Employment measures are not significantly related to symptom level in the next recall period

BUT

Symptom levels are significantly related to employment outcomes in the next period (i.e., less symptoms, better employment outcomes)
Limitations

• Sample may not be highly generalizable

• Different clinical profiles or diagnoses may show distinct patterns of effects

• Other aspects of working can be more important to examine than money earned or job regularity; e.g., sense of belonging. These may be important outcomes in themselves or mediators of longer term outcomes.

• The role of mental health or substance use treatment is not considered
Conclusions

• Intraindividual analyses provide a strong test of the effects of mental health symptomatology and employment

• Unlike the results seen in the adult literature, having a job for a longer time period or making more money does not affect overall symptomatology

• Symptom levels (either deteriorating or improving) do appear to affect job performance

• Supportive employment with regular access to mental health services could have a positive impact on this group of adolescents
The Pathways to Desistance study is a multi-site, longitudinal study of serious adolescent offenders as they transition from adolescence into early adulthood. Between November, 2000 and January, 2003, 1,354 adjudicated youths from the juvenile and adult court systems in Maricopa County (Phoenix), Arizona (N = 654) and Philadelphia County, Pennsylvania (N = 700) were enrolled into the study.

The enrolled youth were at least 14 years old and under 18 years old at the time of their committing offense and were found guilty of a serious offense (predominantly felonies, with a few exceptions for some misdemeanor property offenses, sexual assault, or weapons offenses).

Each study participant was followed for a period of seven years post enrollment with the end result a comprehensive picture of life changes in a wide array of areas over the course of this time.

The study was designed to:

- To identify distinct initial pathways out of juvenile justice system involvement and the characteristics of the adolescents who progress along each of these pathways.
- To describe the role of social context and developmental changes in promoting desistance or continuation of antisocial behavior.
- To compare the effects of sanctions and selected interventions in altering progression along the pathways out of juvenile justice system involvement.

http://www.pathwaysstudy.pitt.edu
Research on Pathways to Desistance
[Maricopa County, AZ and Philadelphia County, PA]: Subject Measures, 2000-2010
(ICPSR 29961)

Alternate Title: Pathways to Desistance (Subjects)

Principal Investigator(s): Mulvey, Edward P., University of Pittsburgh

Summary:
The Pathways to Desistance study was a multi-site study that followed 1,354 serious juvenile offenders from adolescence to young adulthood in two locales between the years 2000 and 2010. Enrolled into the study were adjudicated youths from the juvenile and adult court systems in Maricopa County (Phoenix), Arizona (N=654) and Philadelphia County, Pennsylvania (N=700). Respondents were enrolled and baseline interviews conducted from November 2000 to January 2003. Follow-up interviews were then sche...