

The Influence of Mental Health Disorders on Education and Employment Outcomes For Serious Adolescent Offenders Transitioning to Adulthood

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Acknowledgements

The Learning & Working Center at Transitions ACR is a national effort that aims to improve the supports for youth and young adults, ages 14-30, with serious mental health conditions to successfully complete their schooling and training and move into rewarding work lives. We are located at the University of Massachusetts Medical School, Worcester, MA, Department of Psychiatry, Systems & Psychosocial Advances Research Center.

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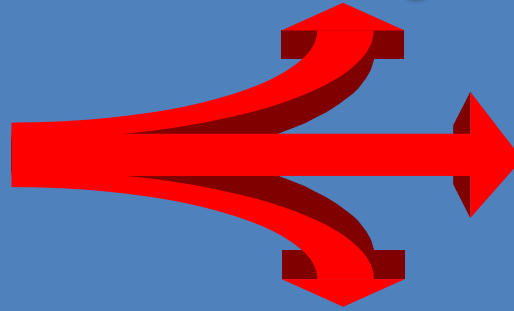
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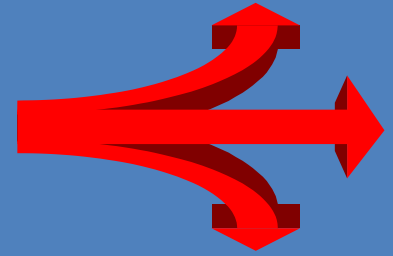
Research Context

- **Justice-involved youth have multiple risk factors for poor education and employment outcomes**
 - **6 times more likely to have learning disability compared to general population** (Sedlak & Bruce, 2010)
 - **50 - 70% of juvenile offenders have a diagnosable psychiatric disorder** (Meservey & Skowyra, 2015), **compared with 9 - 21% in the general adolescent population** (Merikangas et al, 2010)
 - **interruptions and/or deficits in skills or material possessions (human capital) or relationships (social capital) that could lead to later employment opportunities** (Mulvey & Schubert, 2011)
 - **stigma of the arrest leads to reduced employment opportunities** (Pager, 2003) **and the start of a process of cumulative disadvantage** (Sampson & Laub, 1997)
- **Juvenile offenders with mental health disorders may have a particular disadvantage**
- **Few studies have examined workforce participation for justice involved youth with and without mental health disorders**

Pathways to Desistance Study

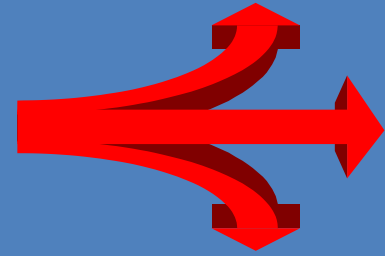


Pathways Study Goals



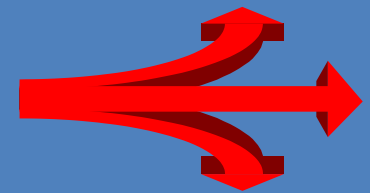
- Richer information about serious adolescent offenders
- Picture of the desistance process
 - Individual maturation
 - Life changes
 - Systems involvement
- Improved practice and policy in juvenile justice
 - Risk assessment
 - Targeted interventions and sanctions

Pathways 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

Interview Components



Background Characteristics

- Personal characteristics (e.g. family, marital relationships)
- Academic achievement and commitment
- Routine activities
- Offense history
- Alcohol and drug use/abuse
- Exposure to violence
- Psychopathy
- Emotional reactivity
- Acculturation
- Personality

Psychological Mediators

- Psychological development
- Mental health symptoms/threat control
- Head injury
- Use of social services
- Perceptions of opportunity
- Perceptions of procedural justice
- Perceived thrill of doing crime
- Moral disengagement
- Religious orientation
- Costs and rewards of offending

Family Context

- Parental Monitoring
- Parental Relationships
- Parent orientation

Personal Relationships

- Relationships with romantic partner & friends
- Peer delinquency and gang involvement
- Contact with caring adult

Community Context

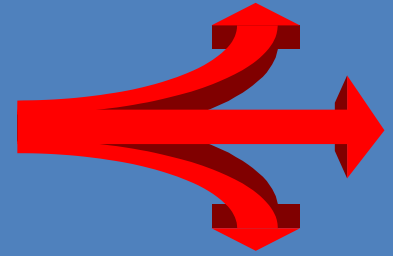
- Neighborhood conditions
- Community involvement
- Personal capital and social ties

Life Changes

Monthly data available regarding:

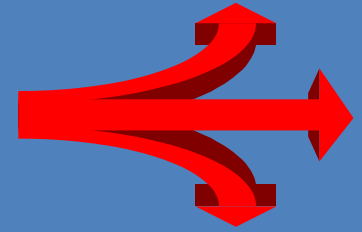
- Living arrangements
- School involvement
- Legal involvement
- Work
- Romantic relationships
- Social service involvement/sanctions

Living situation calendar

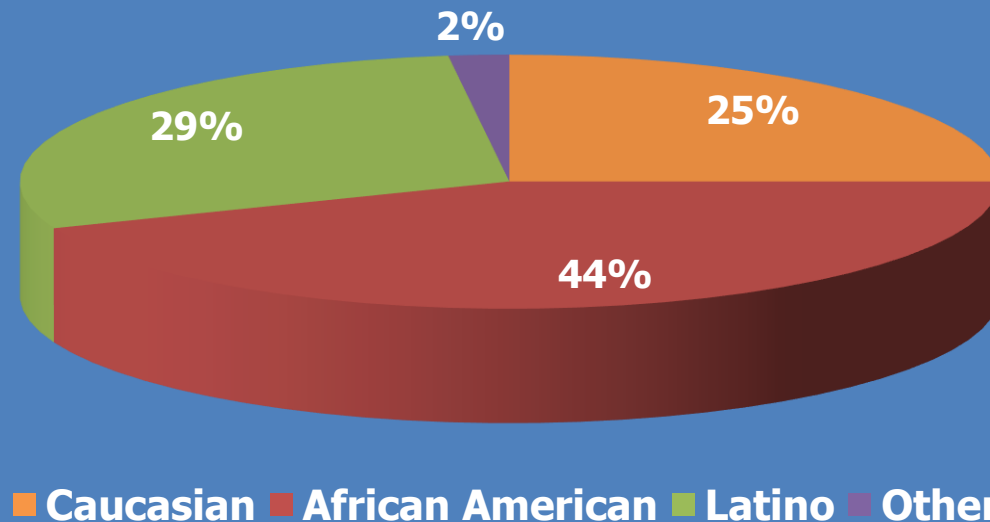


	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Subject 1	900 West Huntington	St Gabe's Hall	900 West Huntington	St Gabe's Hall	Vision Quest	Youth Forestry Camp
Subject 2	2429 W. Augusta	Madison Street Jail	1808 S. Wilmot	1808 S. Wilmot	1808 S. Wilmot	Tucson Prison
Subject 3	5050 Master	4th and Norris	4th and Norris	4th and Norris	House of Corrections	House of Corrections

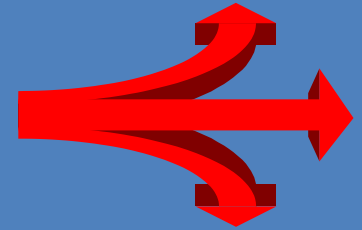
Who are these adolescents?



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



Assessing Mental Health

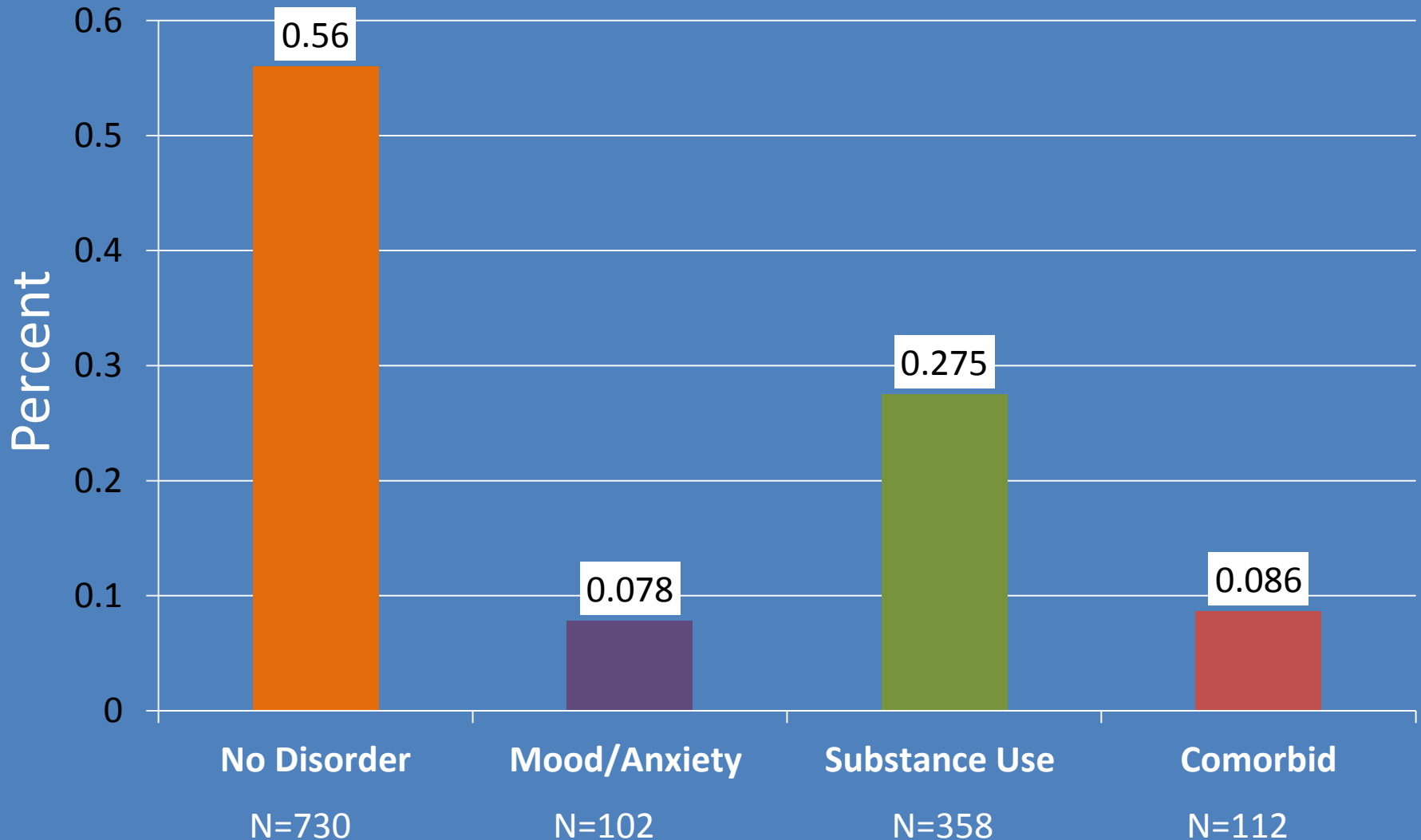


- Mental Health Disorders were assessed for the year prior to the baseline interview
 - Major Depression
 - Dysthymia
 - Mania
 - PTSD
 - ADHD
 - Alcohol/Drug abuse and dependence
- Mood/anxiety problems
- Assessment methods
 - Composite International Diagnostic Interview (CIDI; 1990)
 - Disruptive Behavior Disorders scale (Pelham, 1992)

Question #1:

Do youths with mental health problems in the juvenile justice system have different risk factors as well as education and employment outcomes compared to youths in the system without mental health problems?

Prevalence of Disorders



Percent of 1,302 (52 missing dx information)

Characteristics by Disorder

	Any Disorder (n=572)	SU only (n=358)	Mood/ Anxiety only (n=102)	Comorbid (n=112)	No Disorder (n=730)
Age	16.56 (1.08)	16.71 (1.05)	16.03 (1.05)	16.63 (1.05)	16.40 (1.10)
Gender (% male)	83.5	87.2	70.5	88.3	88.3
Ethnicity (% minority)	72.6	77.2	69.5	61.3	83.3
Site (% from AZ)	58.2	59.2	50.5	44.4	44.4

Potential Barriers to Education and Employment

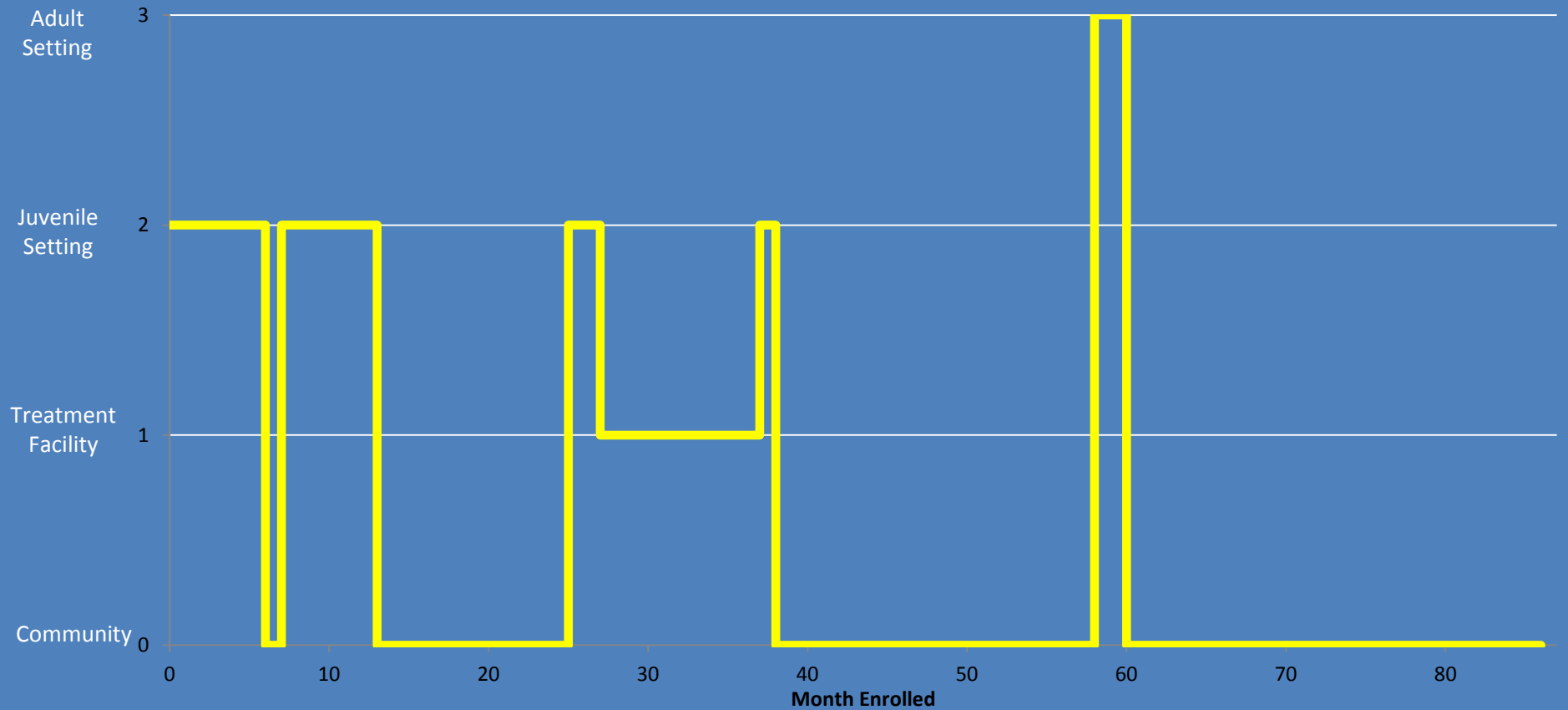
	Any Disorder (n=572)	No Disorder (n=730)
<i>At baseline...</i>		
# Priors Court Petitions	2.22	1.66
Age at First Prior	14.90	14.96
<i>Over 7 years...</i>		
% Rearrested	76.2	72.9
Average # of rearrests	3.58	3.04

Potential Barriers to Education and Employment

	Any Disorder (N=572)	No Disorder (N=730)
<i>At baseline...</i>		
Neighborhood Disadvantage	.55	.70
<i>Over 7 years...</i>		
% Placed	90.7	83.8
Average # of Placements	5.91	4.62
% Homeless at Some Point	24.8	14.7
Average # of Distinct Addresses	14.52 (22.77)	11.77 (27.91)

Institutional placements over 84 months

Subject 691



Age 15

Potential Barriers to Education and Employment

	Any Disorder (N=572)	No Disorder (N=730)
<i>At baseline...</i>		
Ever Suspended	93.7%	89.5%
Ever Expelled	46.0%	33.6%
Average IQ	86.3 (12.91)	83.7 (13.21)
<i>Over 7 years...</i>		
Number of Distinct Schools	5.19 (3.06)	5.43 (3.20)
% Completing HSD or Post Secondary Ed	33.7	42.1

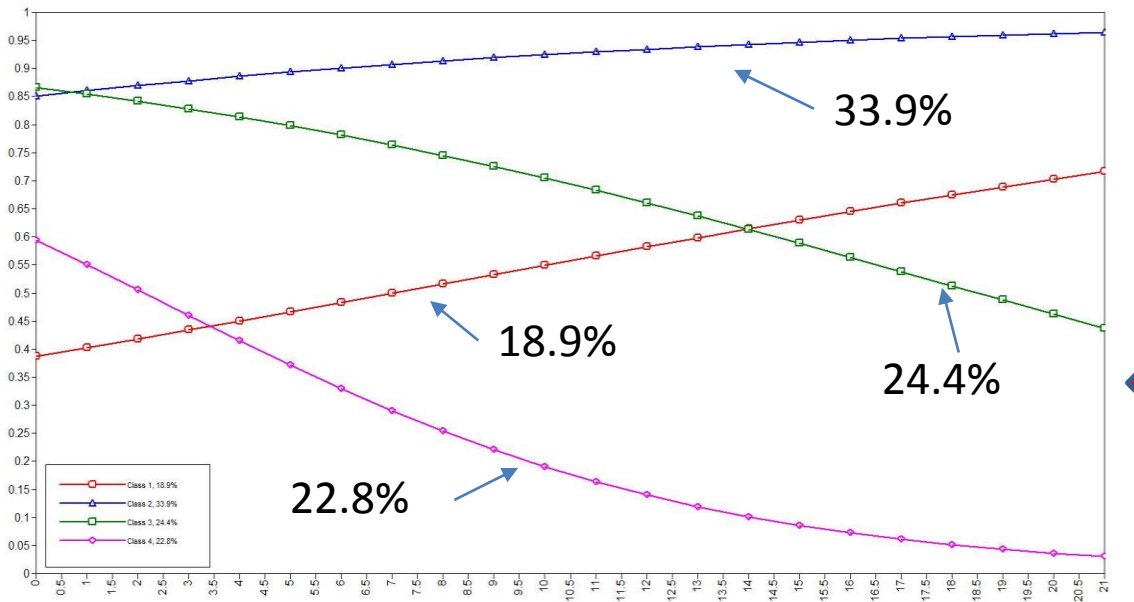
Potential Barriers to Education and Employment

	Any Disorder (N=572)	No Disorder (N=730)
<i>At baseline...</i>		
Ever worked (%)	71.1	62.7
Ever fired (%)	21.5	12.9
<i>Over 7 years...</i>		
# of Distinct Jobs	5.52 (4.16)	5.00 (3.81)

Conclusion:

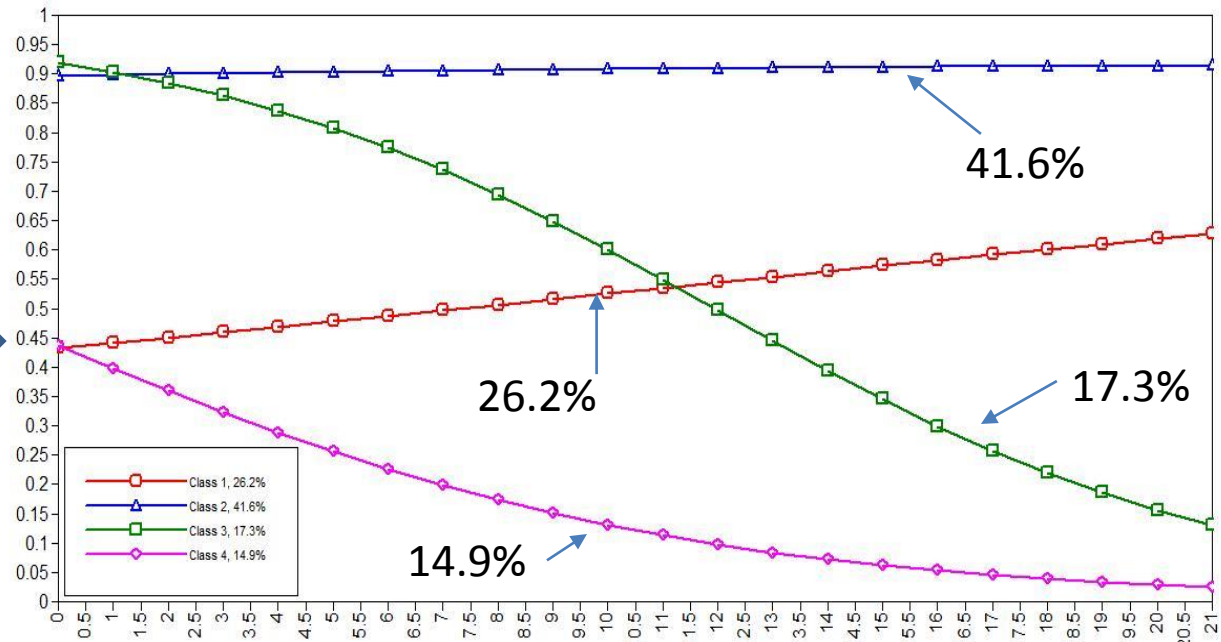
Youth involved in the juvenile justice system - with or without MH disorders - have multiple risk factors that are related to education and employment outcomes.

Patterns of Gainful Activity



Gainful activity month:
going to school without
missing more than 5 days
OR working at least part
time

Mental Health Group



No Disorder Group

Conclusion:

The overall patterns of employment and education appear the same in the adolescent offenders with and without mental health diagnoses.

Group Comparisons of those with and without MH disorders

Employment

- Average hourly wage
- # of weeks kept job
- Overall job satisfaction
- Money made from illegal work
- # of distinct jobs

Education

- Number of months missed 5+ days
- Reason missed school
- Average School bonding
- Average School Attachment
- Age received GED / HSD
- Highest Academic Achievement

Education Achievement and MH Status

Three “levels” of education achievement:

- More than minimal: HS diploma or some post secondary
- GED
- Neither

	No Disorder (% of No disorder grp)	Any Disorder (% of Disorder grp)
None	34	34
GED	23	31
More than minimal	43	35

Chi square = 11.76(2); p=.003

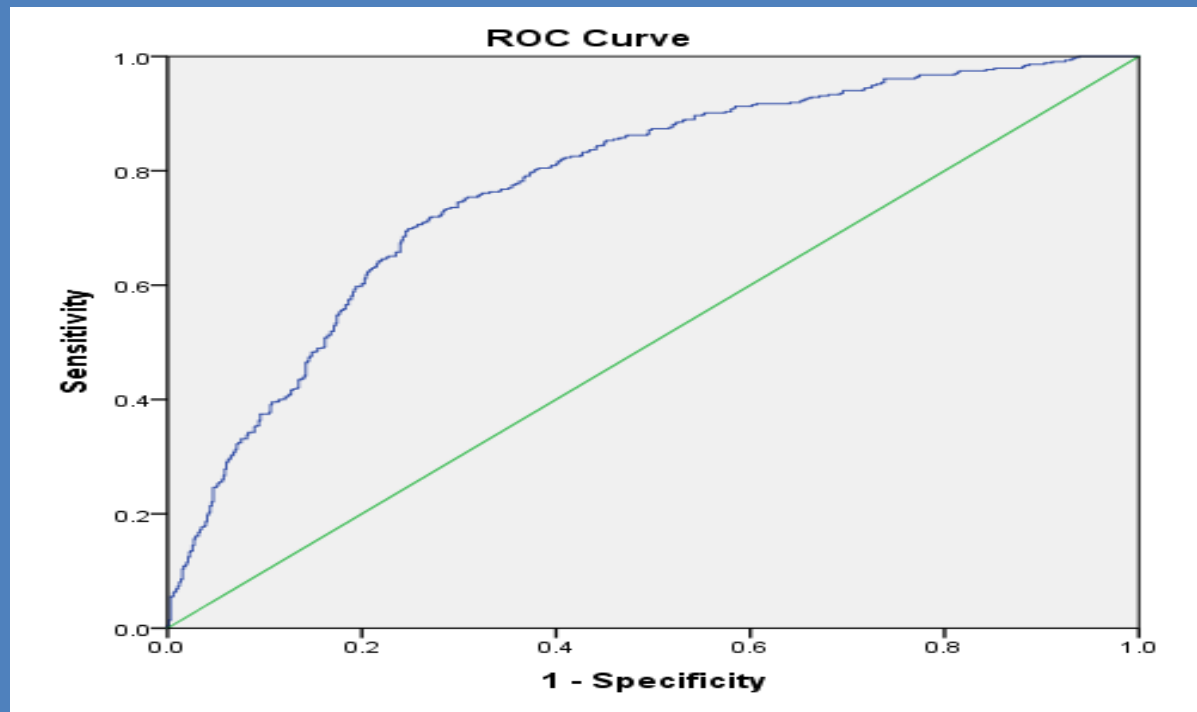
Question #2:

***Does MH Status Influence
Employment Outcomes Over and
Above Educational Achievement?***

Methods – Step 1

- Generated a “propensity score “ for likelihood of obtaining more than minimal education
 - 51 background characteristics from the baseline interview
 - acceptable accuracy for propensity score

AUC: .78



Methods – Step 2

- A series of negative binomial regression analyses
- Academic achievement and propensity for more than minimal education in as covariates
- Two employment outcomes (over follow up period)
 - wages
 - weeks worked

Results

- **Total Wages earned**

- Predicted by academic achievement ($p < .001$)
 - Even when controlling for predicted probability for more than minimal education
- No interaction with disorder status (disorder/no disorder)
 - Effect operates the same in both groups (no moderation)

- **Total Weeks worked**

- Predicted by academic achievement ($p < .001$)
 - Even when controlling for predicted probability for more than minimal education
- No interaction with disorder status (disorder/no disorder)
 - Effect operates the same in both groups (no moderation)

Conclusion:

Having a mental health disorder was not independently linked to poorer employment outcomes. Educational achievement carries the weight.

Summary so far

- Obtaining a GED has no effect on employment outcomes
- The effect of more than minimal education is equally positive for justice-involved youth with and without a MH disorder
- Justice-involved youth with a MH disorder are less likely to have more than minimal education
- Efforts should be made to promote educational achievement beyond a GED, particularly for youth with a MH disorder

Question #3:

For youths with mental health problems in the justice system, what is the role of mental health status on employment? Do symptoms negatively affect employment? Does employment negatively affect symptoms?

Sample Characteristics for these analyses

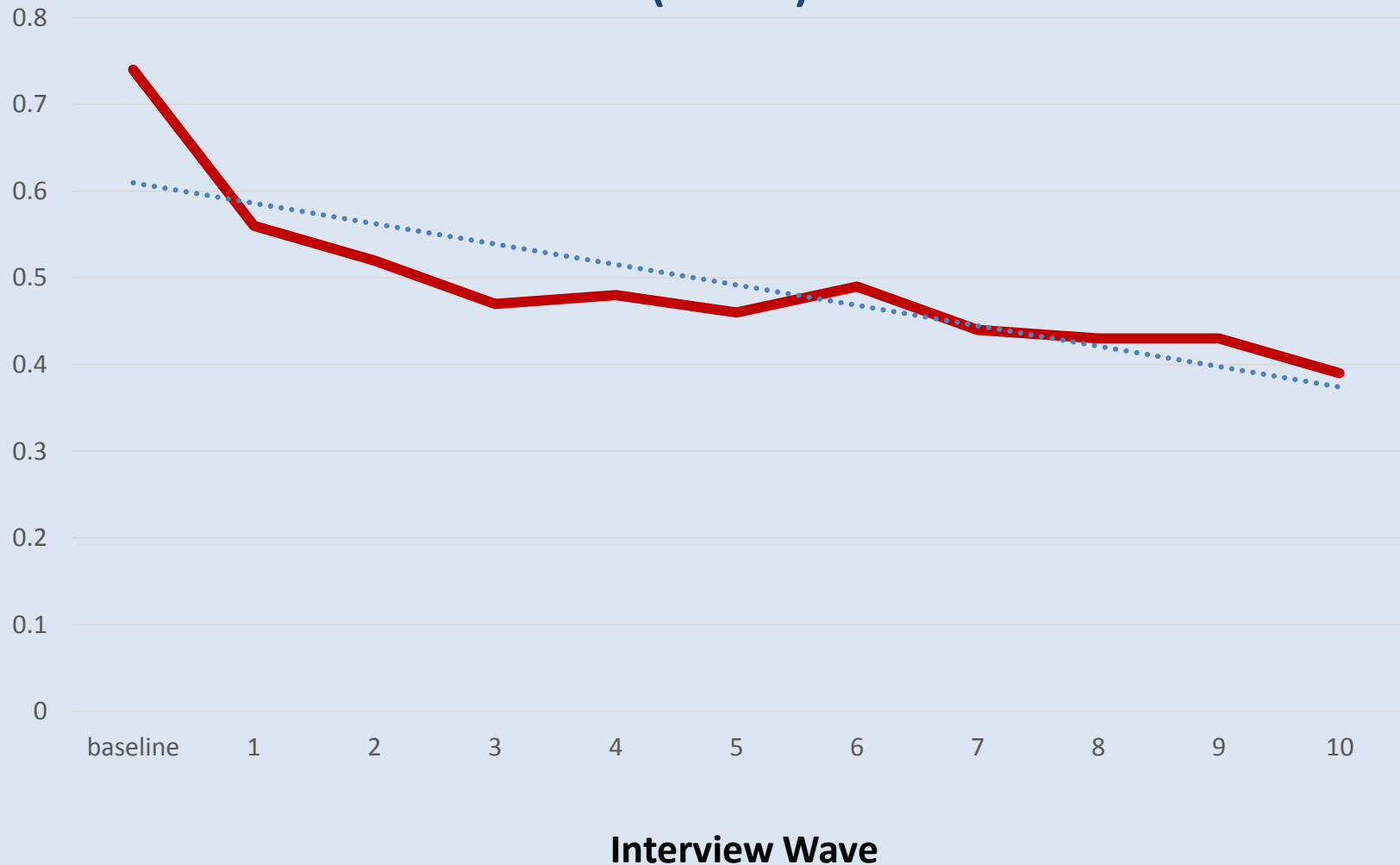
- 572 youth who met diagnostic criteria
 - mental health disorder: n=102
 - substance use disorder: n= 358
 - Co-occurring: n=112
- Age: 16.61 (s.d. =1.08) years old
- Male: 57%
- Race/ethnicity: 74% minority
- Most serious adjudicated felony as index offense
 - Person Crime: 38%
 - Property: 24%
 - 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)**
 - 53-item self-report inventory
 - 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**
 - Weeks worked of weeks in community
 - Wages earned per week
 - Whether worked at all
 - 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)

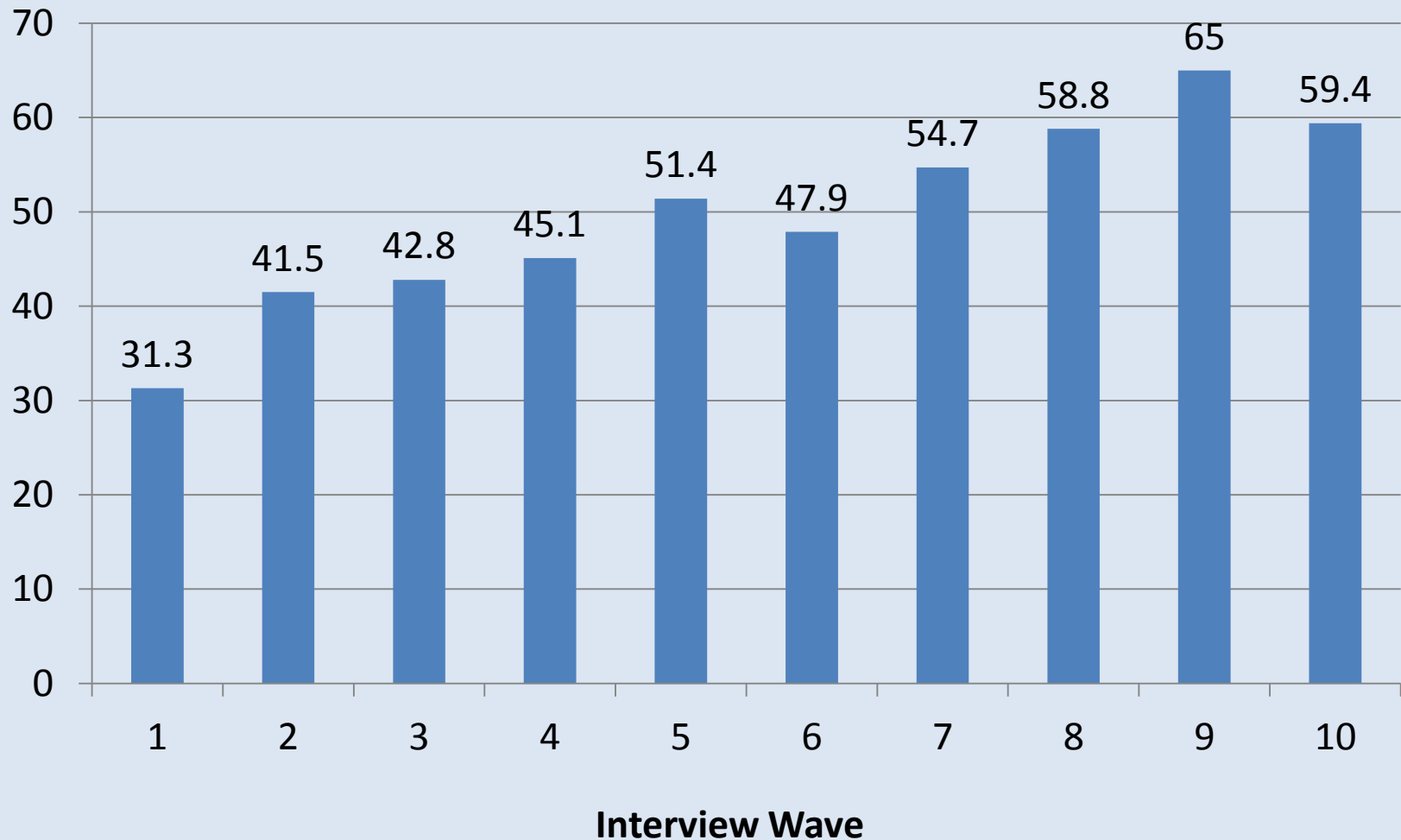


Figure 1. Cross lag panel model applied across six waves of observations

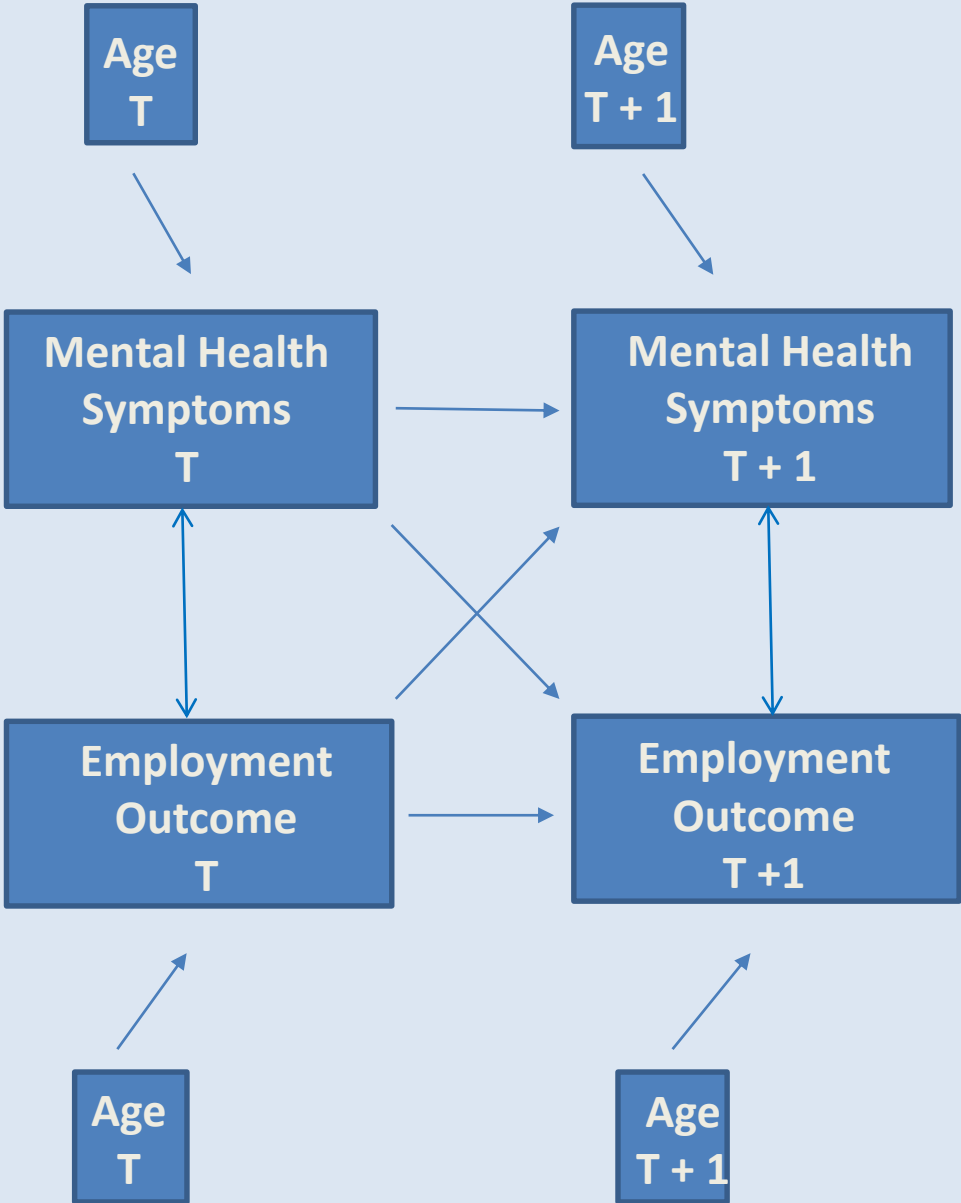


Figure 1. Cross lag panel model applied across six waves of observations

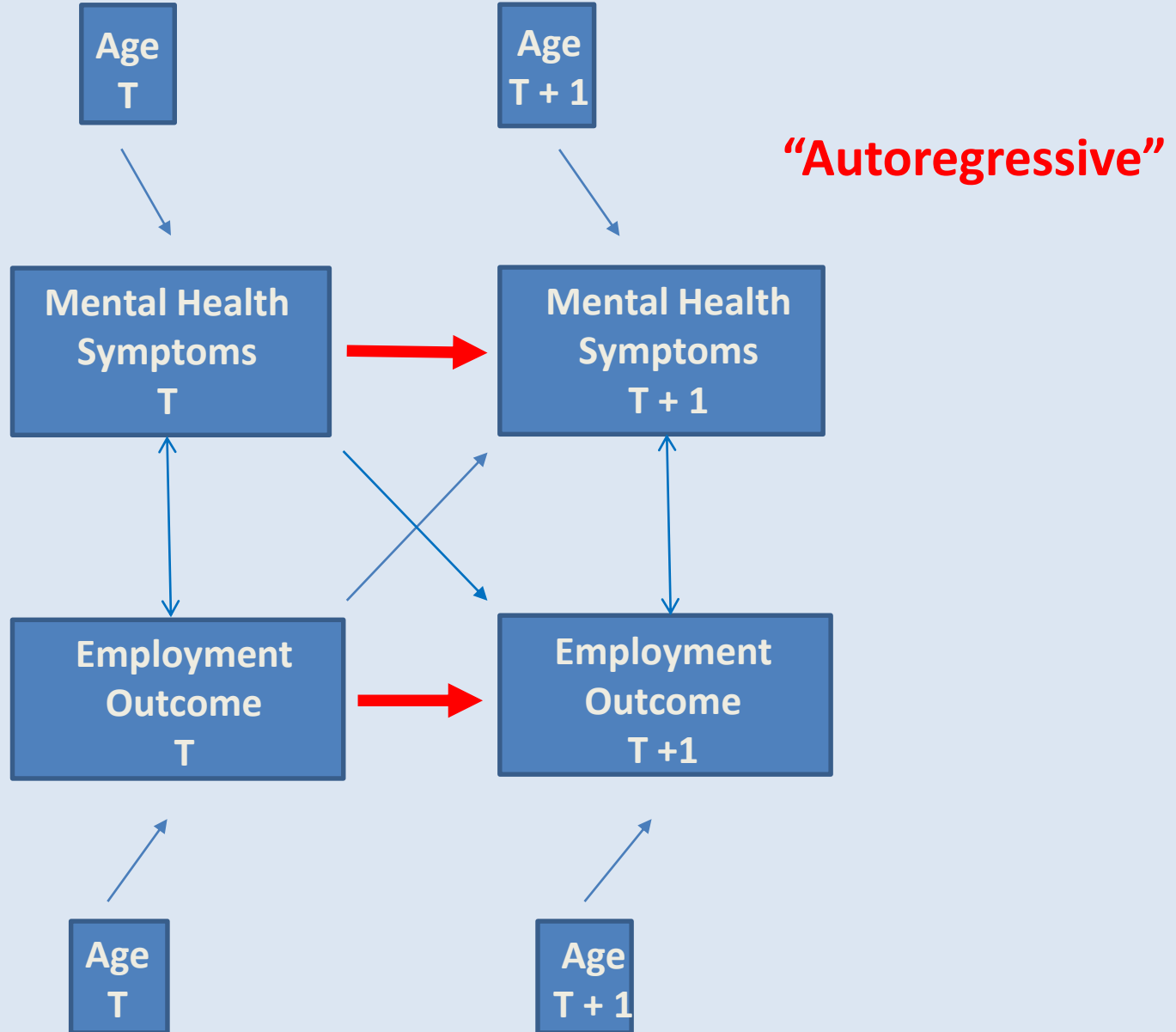


Figure 1. Cross lag panel model applied across six waves of observations

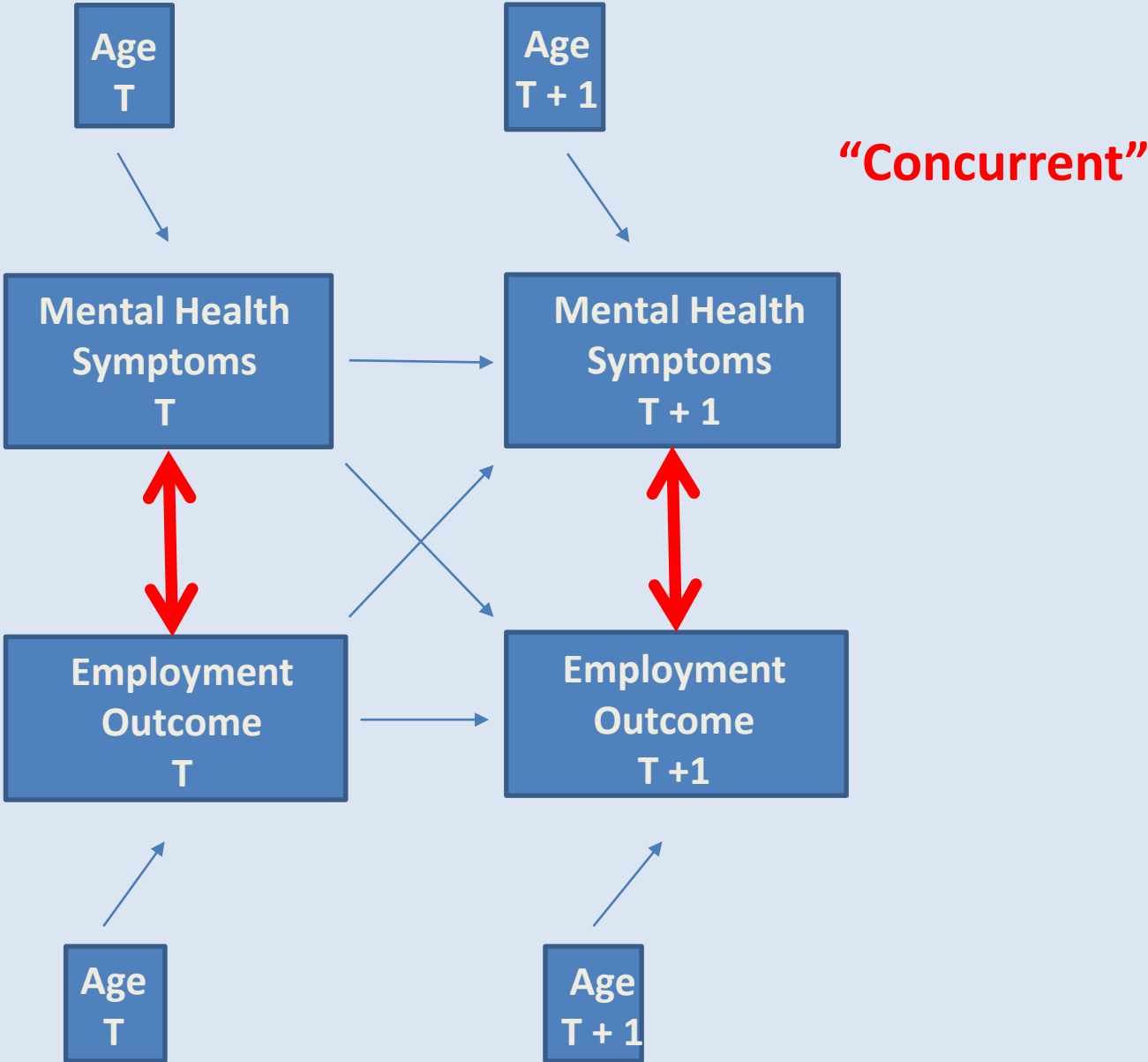
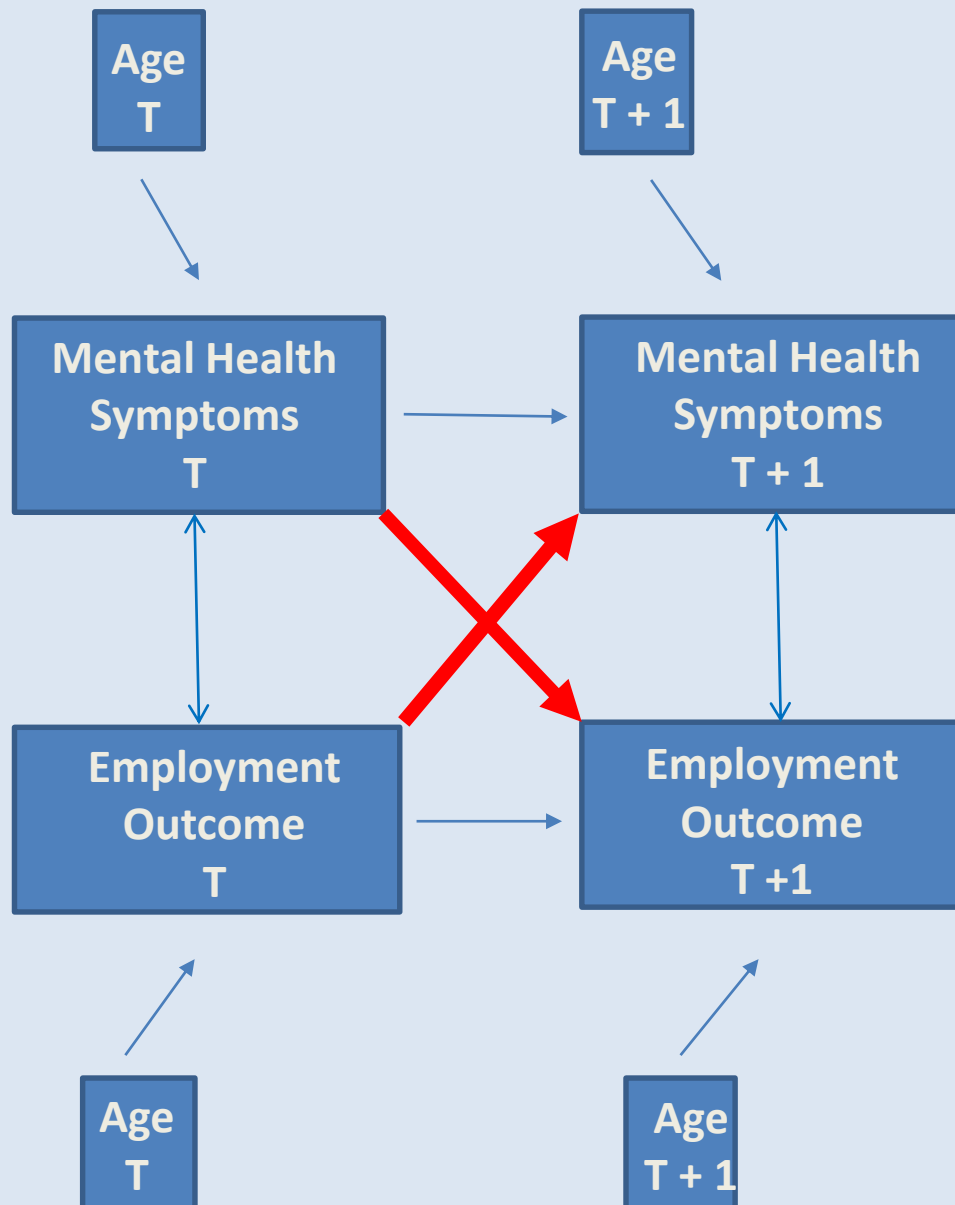


Figure 1. Cross lag panel model applied across six waves of observations



“Cross lags”

Table 1. Path coefficients for Cross Lag Panel Analysis of Mental Health Symptoms and Employment Outcomes

	Weeks Worked	Wages	Weeks Worked (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: *** = $p \leq 0.001$; ** = $p \leq 0.01$; * = $p \leq 0.05$

Conclusion:

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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Age (T) → GSI (T)	.01	.01	.01	-.01

Notes: *** = $p \leq 0.001$; ** = $p \leq 0.01$; * = $p \leq 0.05$

Conclusion:

Symptom level and employment outcomes are not highly related within any given recall period

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Covariates				
Age (T) → Employment (T)	.07***	.08***	.06***	.07***
Age (T) → GSI (T)	.01	.01	.01	-.01

Notes: *** = $p \leq 0.001$; ** = $p \leq 0.01$; * = $p \leq 0.05$

Conclusion:

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)

Study 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

Implications

- **As a group, justice-involved youths with mental health problems are at high risk for negative outcomes in early adulthood compared to those without these problems:**
 - **Have as high or higher level of risk for poor outcomes**
 - **Follow a similar behavioral pattern of gainful activity**
 - **Are less likely to achieve a high school diploma or post secondary education**
- **Having a more than minimal education matters equally for justice-involved youth with and without a mental health problem. Getting a high school diploma or post-secondary education for youths with a mental health problem can improve the chances of a positive outcome.**
- **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 in these youths. Employment doesn't appear to create harmful stress or reduce symptoms.**
- **Symptoms do affect employment outcomes, so supportive employment with regular access to mental health services could have a positive impact on this group of adolescents**



Pathways To Desistance

A study of serious adolescent offenders as they transition to adulthood and out of crime

Home	About the Study	People	Funders	Study Design	Codebook	Publications	News & Events	Contact Us
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If using the Internet Explorer browser to view this site you should use version 6.0 or greater.

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 past enrollment with the end result a comprehensive picture of life changes in a wide array of areas over the course of this time.

Largest longitudinal study of serious adolescent offenders ever done.

Rich picture of change over time based on over 20,000 interviews

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.

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<http://www.pathwaysstudy.pitt.edu>

Data Archive - ICPSR

The screenshot shows a web browser window with the URL www.icpsr.umich.edu/icpsrweb/ICPSR/studies/29961. The browser's address bar and search bar are visible. Below the browser, the ICPSR website header features a navigation menu with buttons for 'Find & Analyze Data', 'Membership in ICPSR', 'Deposit Data', 'ICPSR Summer Program', 'Resources for Instructors', and 'Data Management & Curation'. The main header displays the ICPSR logo and the text 'Find & Analyze Data'. A secondary navigation bar includes links for 'Find Data', 'Search/Compare Variables', 'Find Publications', 'Resources for Students', and 'Get Help'. The main content area is divided into three sections: a 'Quick Download' box on the left, a central study description, and a 'National Addiction & HIV Data Archive Program' box on the right. The 'Quick Download' box indicates 11 datasets and a total size of 256,234 KB. The central study description includes the title 'Research on Pathways to Desistance [Maricopa County, AZ and Philadelphia County, PA]: Subject Measures, 2000-2010 (ICPSR 29961)', an alternate title, the principal investigator's name, and a summary of the study. The right-hand box provides information about the National Addiction & HIV Data Archive Program, including its support by the National Institute on Drug Abuse and the National Institutes of Health. The bottom of the screenshot shows a Windows taskbar with various application icons and a system tray displaying the time as 2:40 PM on 5/1/2015.

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(11 datasets; 256,234 KB)

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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... ([more info](#))

National Addiction & HIV Data Archive Program

This study is maintained and distributed by the [National Addiction & HIV Data Archive Program](#) (NAHDAP). NAHDAP is supported by the [National Institute on Drug Abuse](#) (NIDA), part of the [National Institutes of Health](#) (NIH).

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