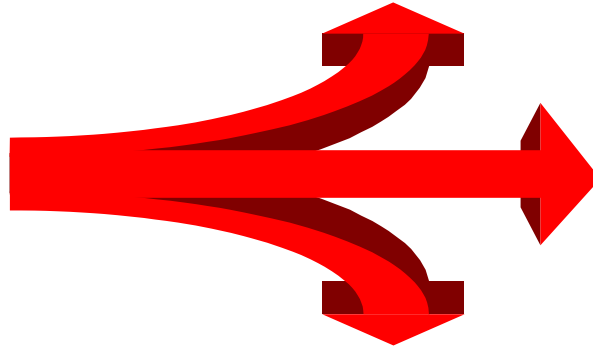


Pathways to Desistance



Edward P. Mulvey
Carol A. Schubert

American Society of Criminology
November, 2012
Chicago, Illinois

Goals

- **Not your typical session**
- **Want likely users to have a thorough understanding of**
 - **Design**
 - **Methods**
 - **Measures**
 - **Uses of the data**
- **Data will be released through ICPSR**
 - **Baseline: released in June, 2012**
 - **Follow-up: to be released in December, 2012**
 - **Collateral data: to be released in December, 2012**
 - **Release interviews: to be released in December, 2012**
 - **Calendar data: to be released in December, 2013**

Supported by

- **Office of Juvenile Justice & Delinquency Prevention**
- **National Institute of Justice**
- **John D. & Catherine T. MacArthur Foundation**
- **National Institute on Drug Abuse**
- **Pennsylvania Commission on Crime & Delinquency**
- **Arizona Governor's Justice Commission**
- **Robert Wood Johnson Foundation**
- **William Penn Foundation**
- **William T. Grant Foundation**

Working Group Members

- **Edward Mulvey**
- **Laurence Steinberg**
- **Elizabeth Cauffman**
- **Laurie Chassin**
- **George Knight**
- **Carol Schubert**
- **Sonia Cota-Robles**
- **Sandra Losoya**
- **Robert Brame**
- **Jeffrey Fagan**
- **Alex Piquero**

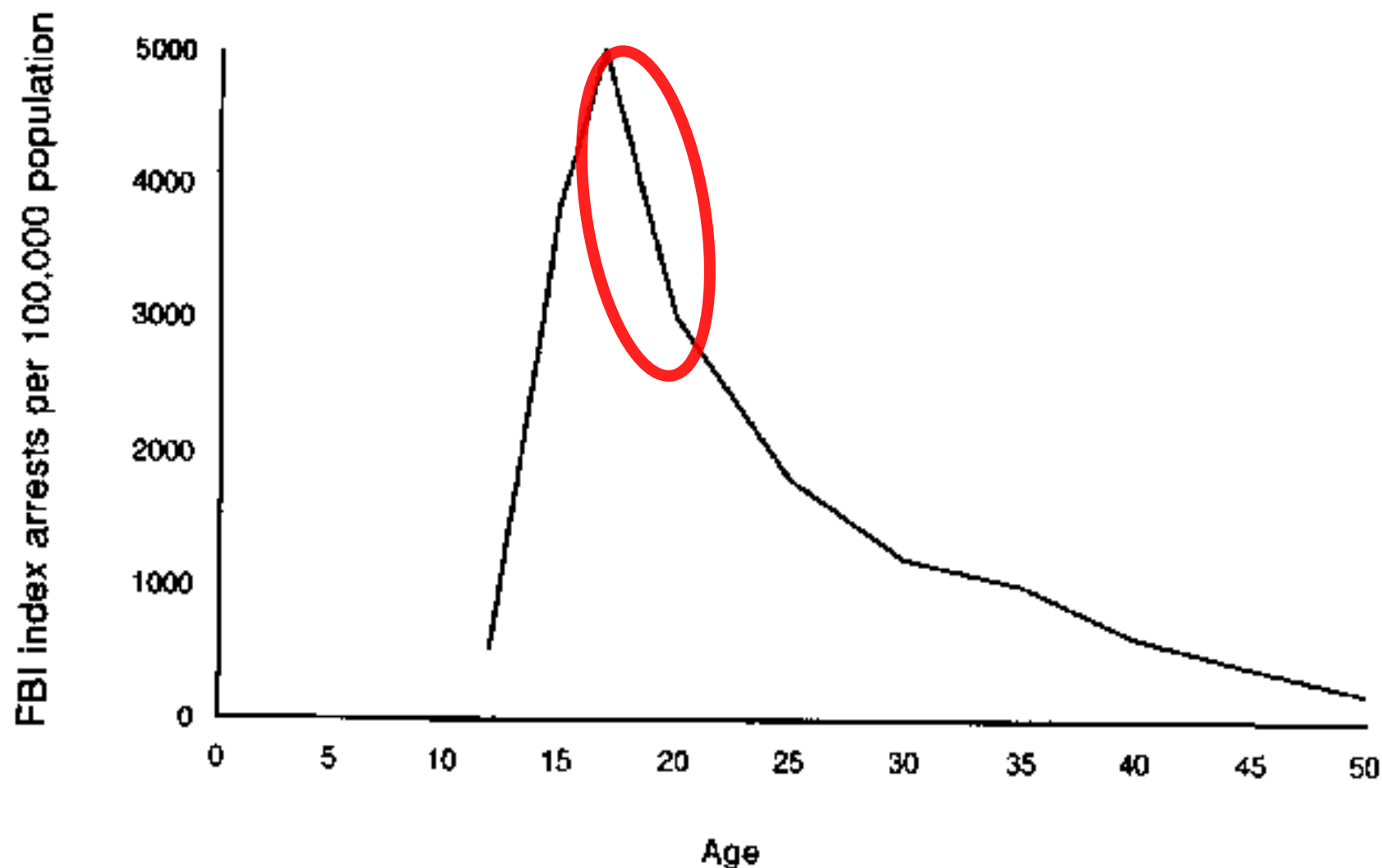
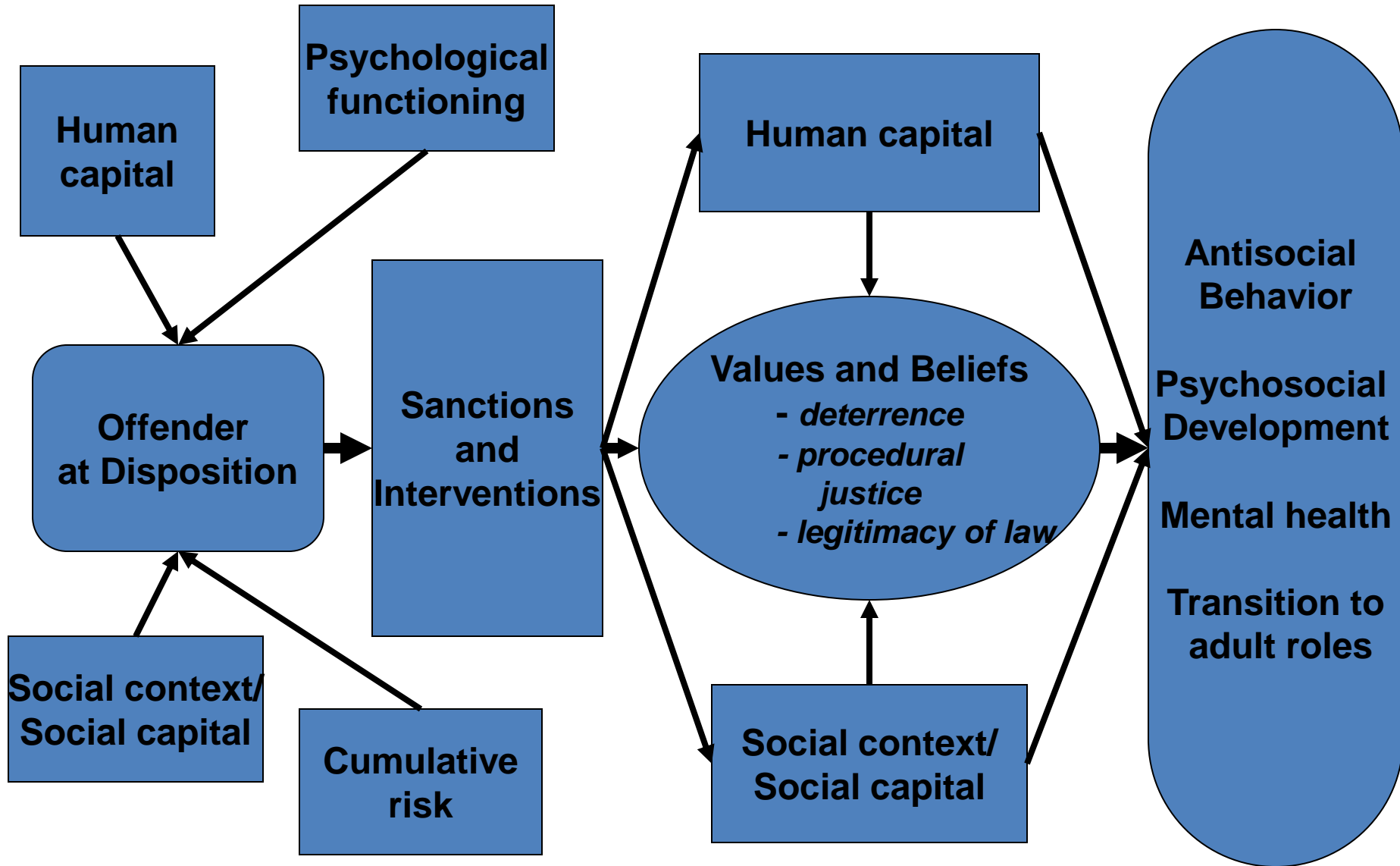


Figure 1. Age-specific arrest rates for United States Federal Bureau of Investigation's (FBI) index offenses in 1980. (Index offenses include homicide, forcible rape, robbery, aggravated assault, burglary, larceny, and auto theft. From "Criminal Career Research: Its Value for Criminology" by A. Blumstein, J. Cohen, and D. P. Farrington, 1988, *Criminology*, 26, p. 11. Copyright 1988 by the American Society of Criminology. Adapted by permission.)

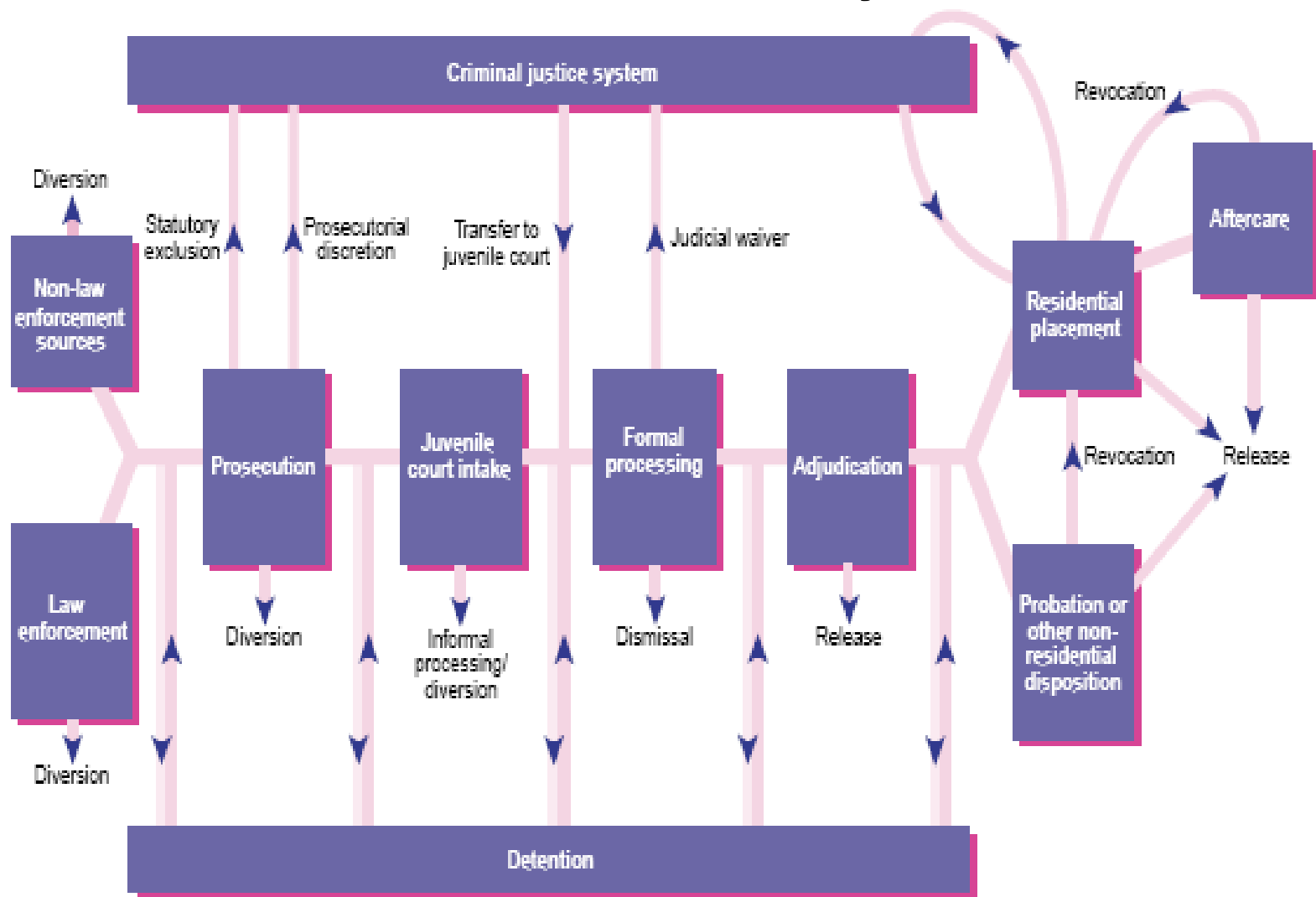
Study Focus

- **Overarching topics:**
 - Risk
 - Amenability
- **Specific aims:**
 - To identify distinct initial pathways out of juvenile justice system involvement
 - Describe the role of social context and developmental changes in promoting desistance or continuation of antisocial behavior
 - Compare the effects of sanctions and selected interventions in altering progression along pathways out of juvenile justice system involvement

Pathways Study Conceptual Model



Overview of the case flow through the Juvenile Justice System



Note: This chart gives a simplified view of caseload through the juvenile justice system. Procedures vary among jurisdictions.

Site Selection

Why Two Sites?

- **Guard against examining idiosyncratic practices, promote generalizability**
- **Permits examination of relevant policy contrasts**
- **Broadens the ethnic mix**

Why Phoenix and Philadelphia?

- **Six potential sites examined**
- **Phoenix (Maricopa Co.) and Philadelphia (Philadelphia Co.) chosen**
 - **High rates of serious juvenile crime**
 - **Sufficient numbers to permit enrollment of a large sample within a short time frame**
 - **Diverse racial/ethnic mix**
 - **Sizeable number of female offenders**
 - **Diverse policies and practices**
 - **Presence of experienced collaborators**
 - **Cooperative juvenile justice system**

Sampling and Enrollment

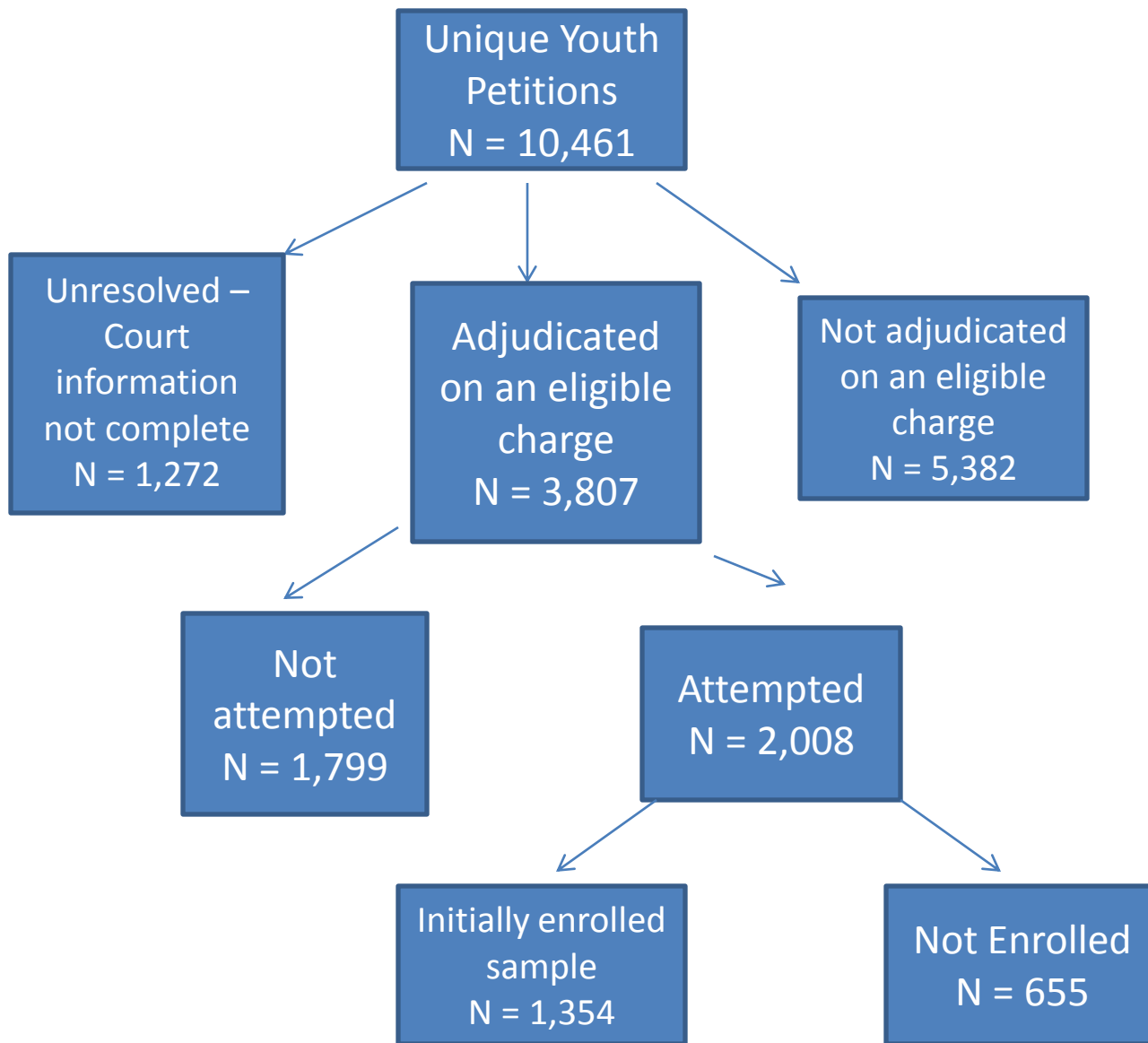
Sampling and Enrollment

- **Recruitment**
 - **Review of court files**
 - **Automated data transfer in Phoenix**
 - **Person hand reviewing records in Philadelphia**
- **Eligibility criteria**
 - **Age 14-17 at the time of their study index offense**
 - **Found guilty of a serious offense**
 - **Primarily felony offenses**
 - **Some misdemeanor weapons and sex offenses**
 - **Limited males with adjudicated drug offenses to 15% of the sample**
 - **Took all females meeting the age and crime requirements even if drug offense**
 - **Took all cases transferred/waived to adult court**
- **Rolling enrollment**
 - **Enrollment period: November, 2000 – January, 2003**

Sampling and Enrollment

- **Consent**
 - Youth
 - Parent/guardian/advocate
- **Refusal rate** (# of youth or parent refusals / # approached): **20%**
- **Sample**
 - **Enrolled 1,354 adolescents**
 - Phoenix N = 654; Philadelphia N = 700
 - Gender: 1,170 males, 184 females
 - **Adult court transfer cases**
 - Phoenix = 193; Philadelphia = 51
- **Participation Rate** (# enrolled / # attempted for enrollment): **67%**
 - **We have enrolled one out of every three adjudicated adolescent felony offenders in these two cities during this time period**

Sampling and Enrollment Flow Chart



Sample Characteristics

Adjudicated versus Enrolled

- **Enrolled group is comparatively**
 - **Younger at adjudication** (15.9 v. 16.1)
 - **More serious offender**
 - **More prior petitions** (2.1 v 1.5)
 - **Appeared in court at an earlier age** (13.9 v 14.2)
 - **Proportionally more females** (14% v 9%)
 - **Proportionally more white and less AA** (25% v 20% white; 44% v 49% AA)
 - **Race not an enrollment criteria**
 - **Not accounted for by refusals**
 - **Might be related to drug cap**

Tracking Database

Research on Pathways to Desistance Recruitment - Identifiers

Study ID: Juvenile Justice ID:

Name: First Middle: Last:

Alias(es):

DOB: Race:

Gender: SSN:

Legal System Status of the case

Select which best describes information regarding an interpreter:

Is the youth a dual ward?

Police Photo # District Control:

Tracking Database

Research on Pathways to Desistance

Eligibility/Enrollment

Study ID#	Juvenile Justice ID#	Last Name	Subject Location: Philadelphia
Date: 9/19/2000			
Eligible according to the adjudication list? Yes			
Assigned to an Interviewer? Yes			
If yes, Date Assigned: 12/19/2000 Interviewer assigned: sinance			
Enrolled in study at this review? Yes - enrolled in study/has given consent			
If Refused, Reason (Describe):			
Adult consent obtained from: Parent			
Where was the youth when consent was obtained?:			
Submit	Cancel	<< Back	

Tracking Database

Research on Pathways to Desistance

Time Period Interviews

[Return To Subject Identifier Screen Menu](#)

[Return To Interview Menu Screen](#)

Study ID#	:	Juvenile Justice ID#	Last Name	Subject Location: Philadelphia
Interview Time Period		Interviewer		
SUBJECT				
Date		Status		
Was subject in placement at time of interview?				
If yes, where?				
Is there a safety concern?				
Describe				
Eligible for the lottery?				
COLLATERAL				
Date		Status		
Name				
FirstLastRelationship				
Is there a safety concern?				
Describe				
Eligible for the lottery?				

Tracking Database

Research on Pathways to Desistance

Reports - Main Menu

[\[Back to Main Menu\]](#)

[\[Baseline Interviews Needed\]](#)

[\[Case Level Adjudication Status Not Complete\]](#)

[\[Cases Not Assigned\]](#)

[\[Collateral Interviews\]](#)

[\[Enrollment Totals\]](#)

[\[Jolts Changed Items\]](#)

[\[Lottery\]](#)

[\[Missing Hearing Dates\]](#)

[\[Next Court Appearance\]](#)

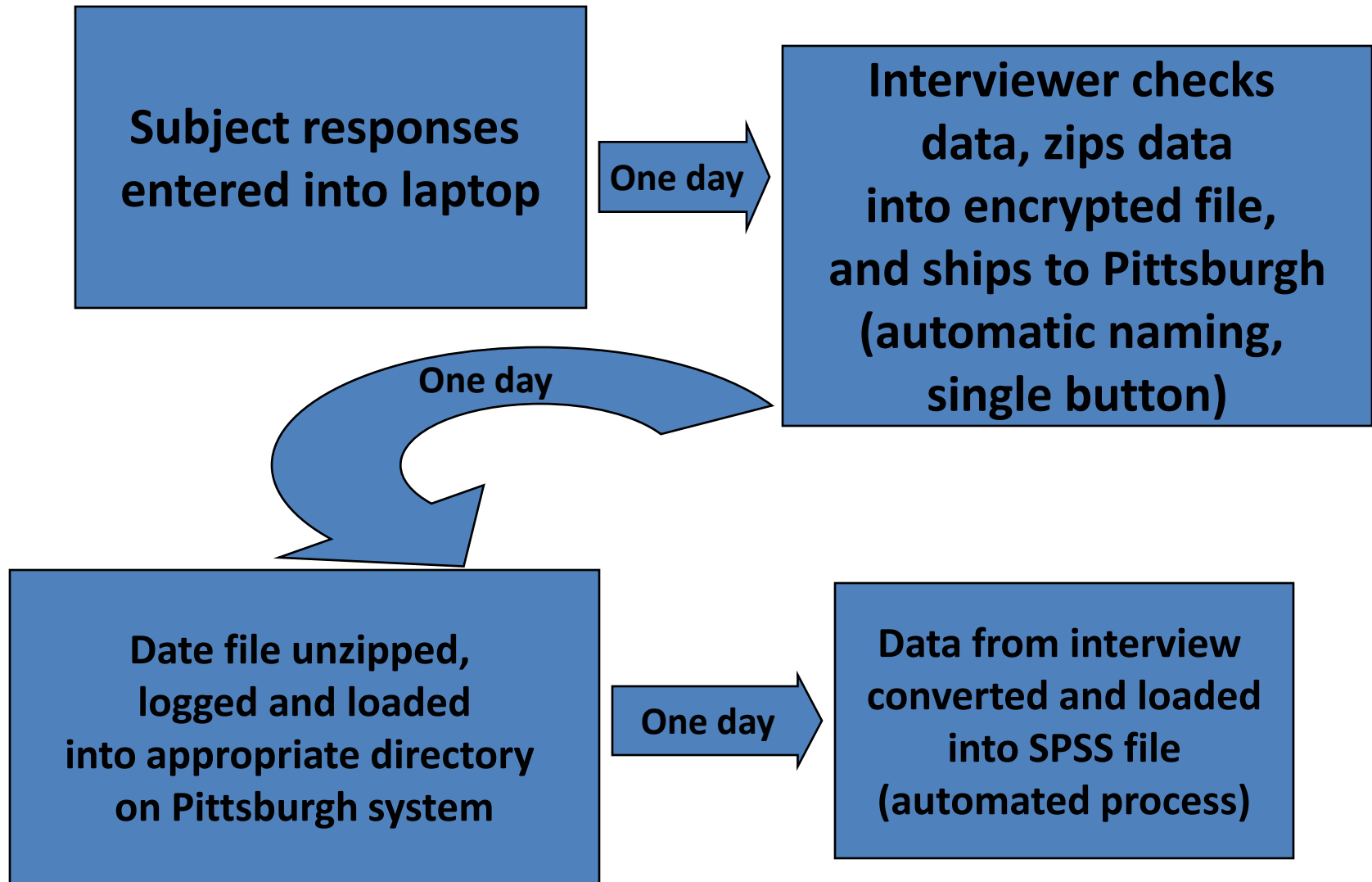
[\[Parent/Guardian of Enrolled Subjects\]](#)

[\[Release Interviews Needed\]](#)

[\[Refuser\]](#)

[\[Weekly\]](#)

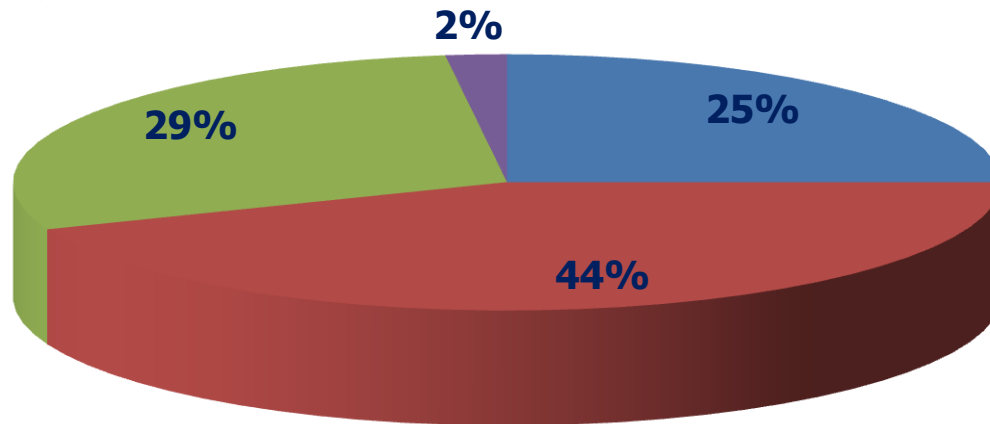
Data Transfer Process



Sample Characteristics

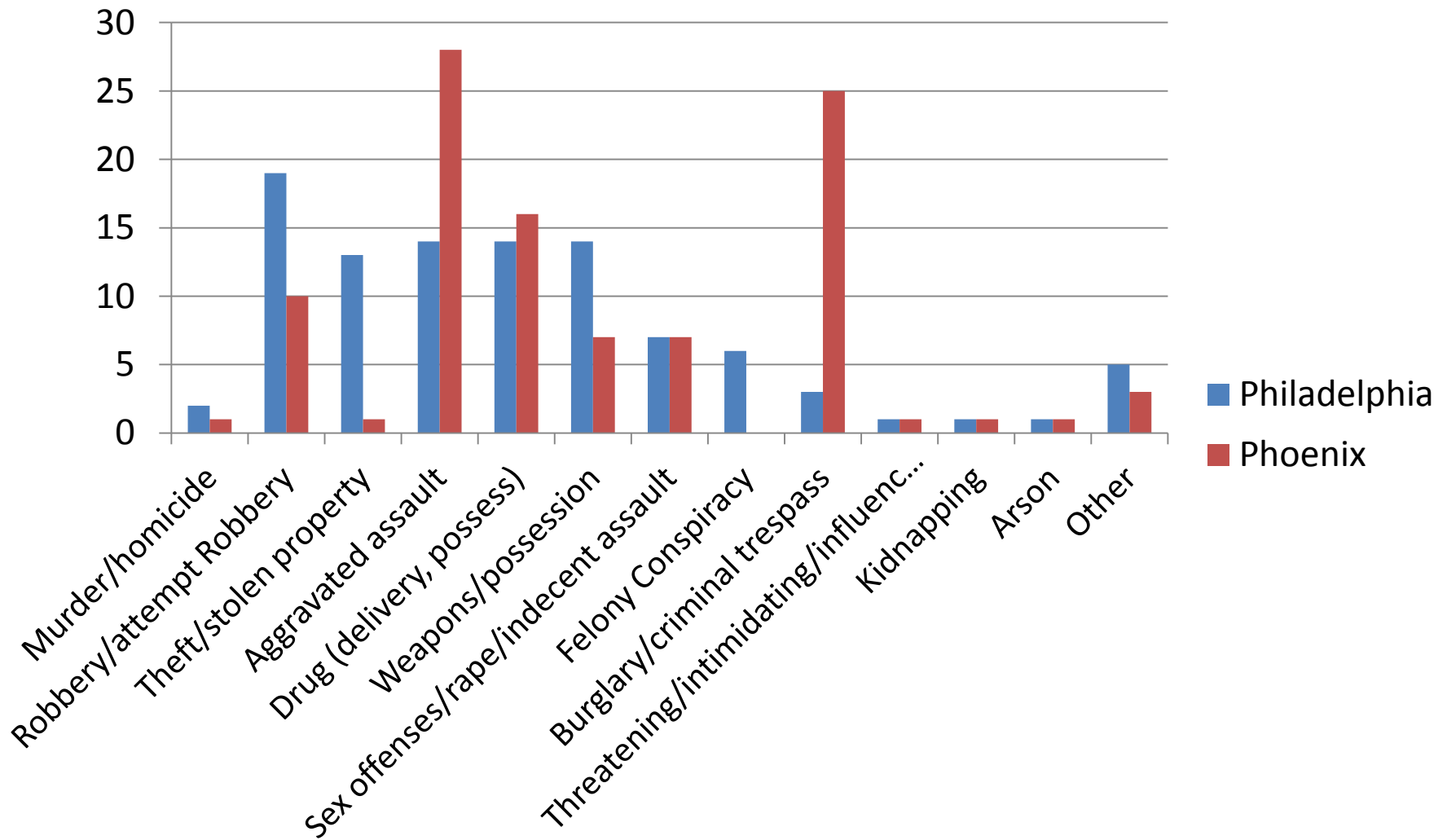
Sample Characteristics

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



■ Caucasian ■ African American ■ Latino ■ Other

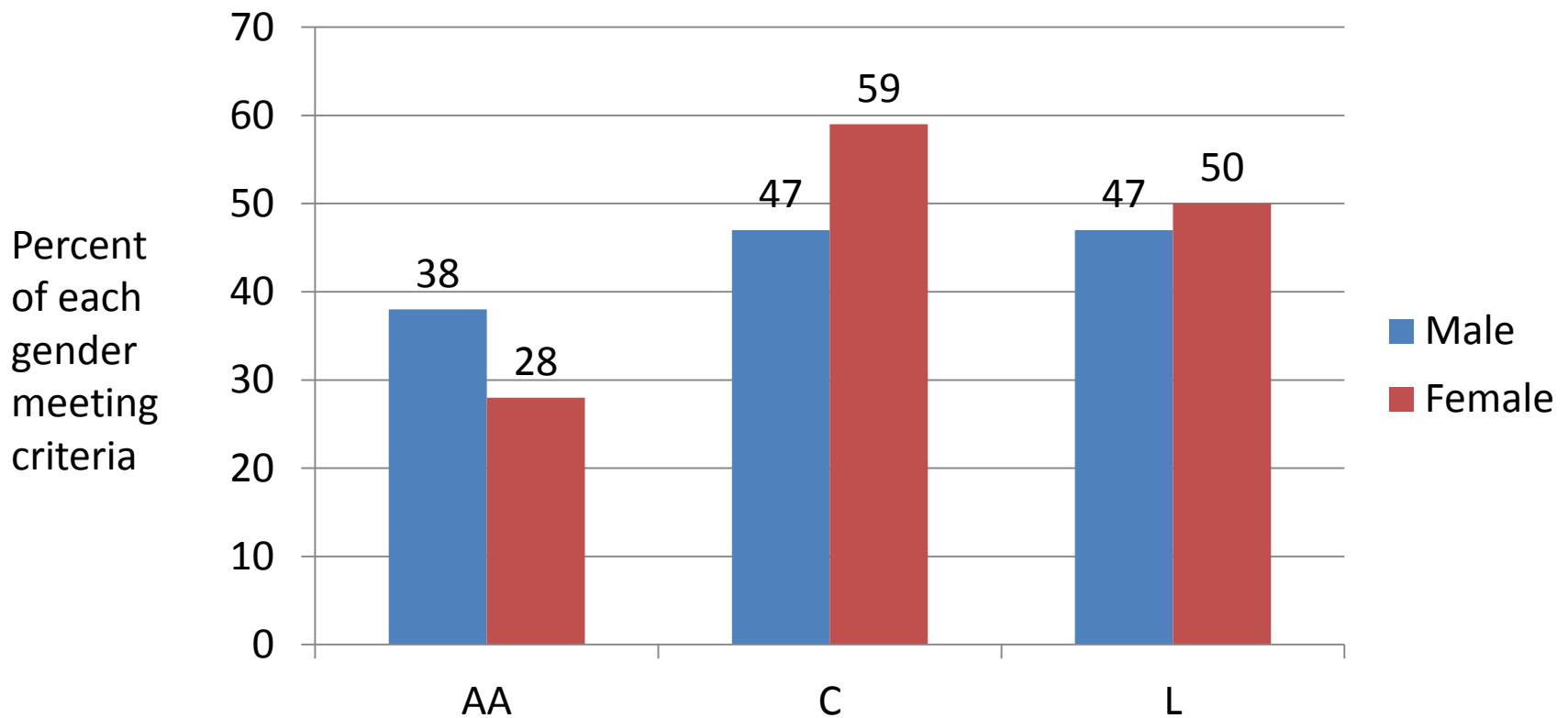
Most Serious Adjudicated Charge – Study Index Petition



Rates of Substance Use Disorders

Males = 43% overall

Females = 45% overall

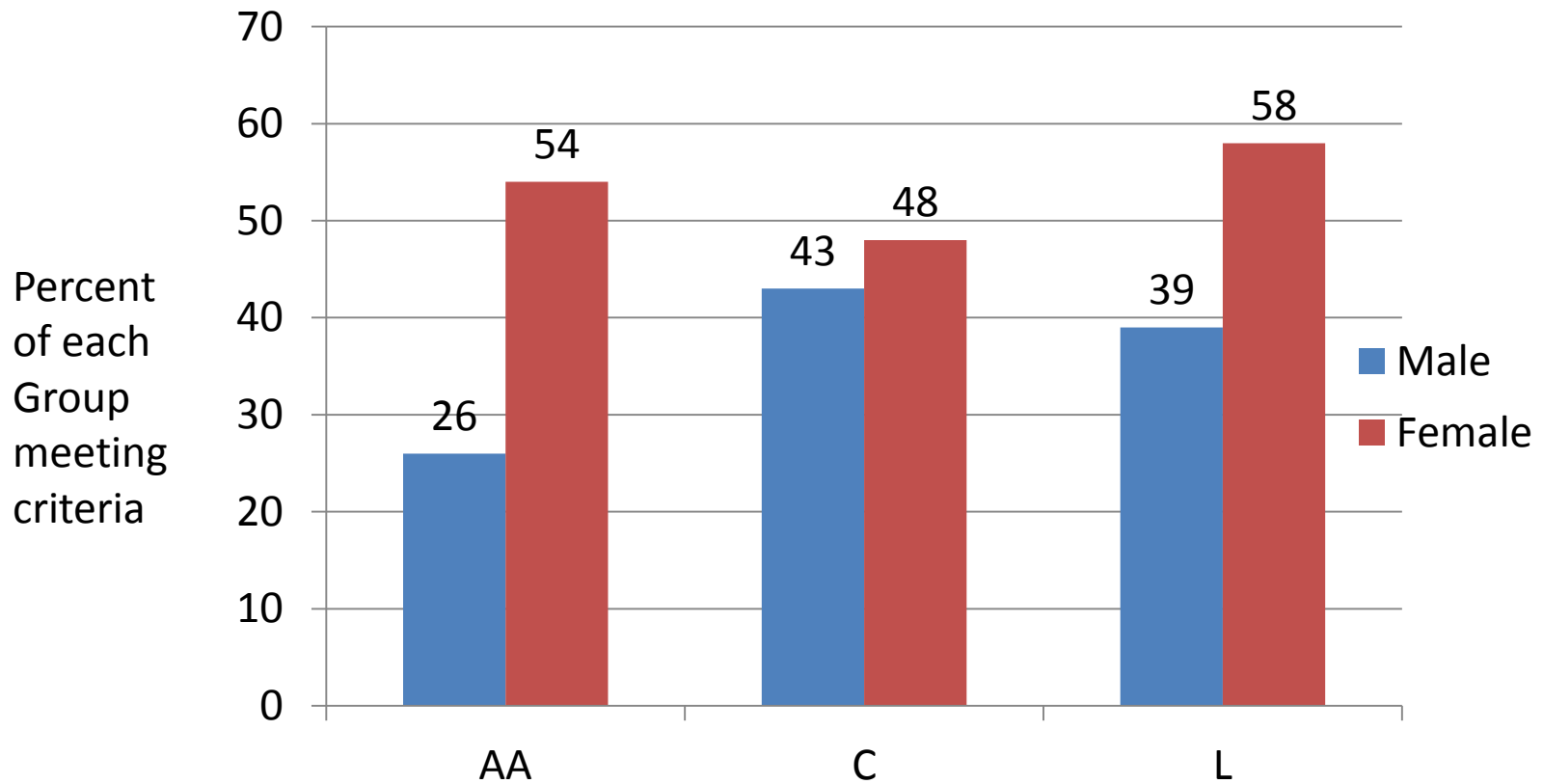


AA = African-American C= Caucasian, non-Hispanic L=Latino

Rates of Mood/anxiety Disorders

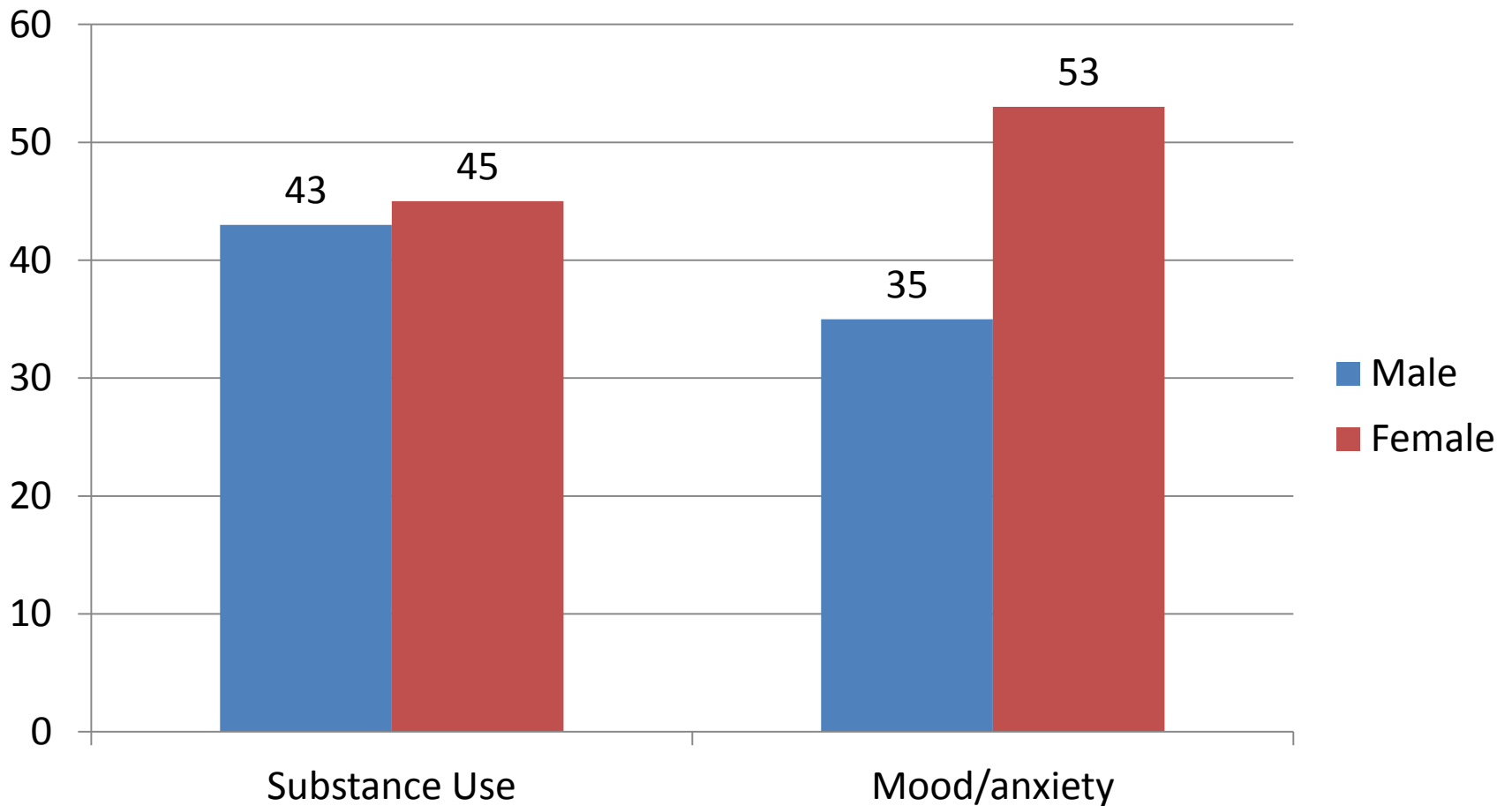
Males 35% overall

Females 53% overall



AA = African-American C= Caucasian, non-Hispanic L=Latino

Prevalence of Disorders by Gender



Risk /Need Indicators

- **Seven indicators**
 - **Multiple indicators of each area**
- **Developed on the Pathways sample**
 - **Used confirmatory factor analysis**
 - **High or low compared to other youth enrolled in the study**
 - **Higher scores = greater risk/need**

Mulvey, E. P., Schubert, C. A., & Chung, H. L. (2007). Service use after court involvement in a sample of serious adolescent offenders. *Children and Youth Services Review*, 29, 518-544.

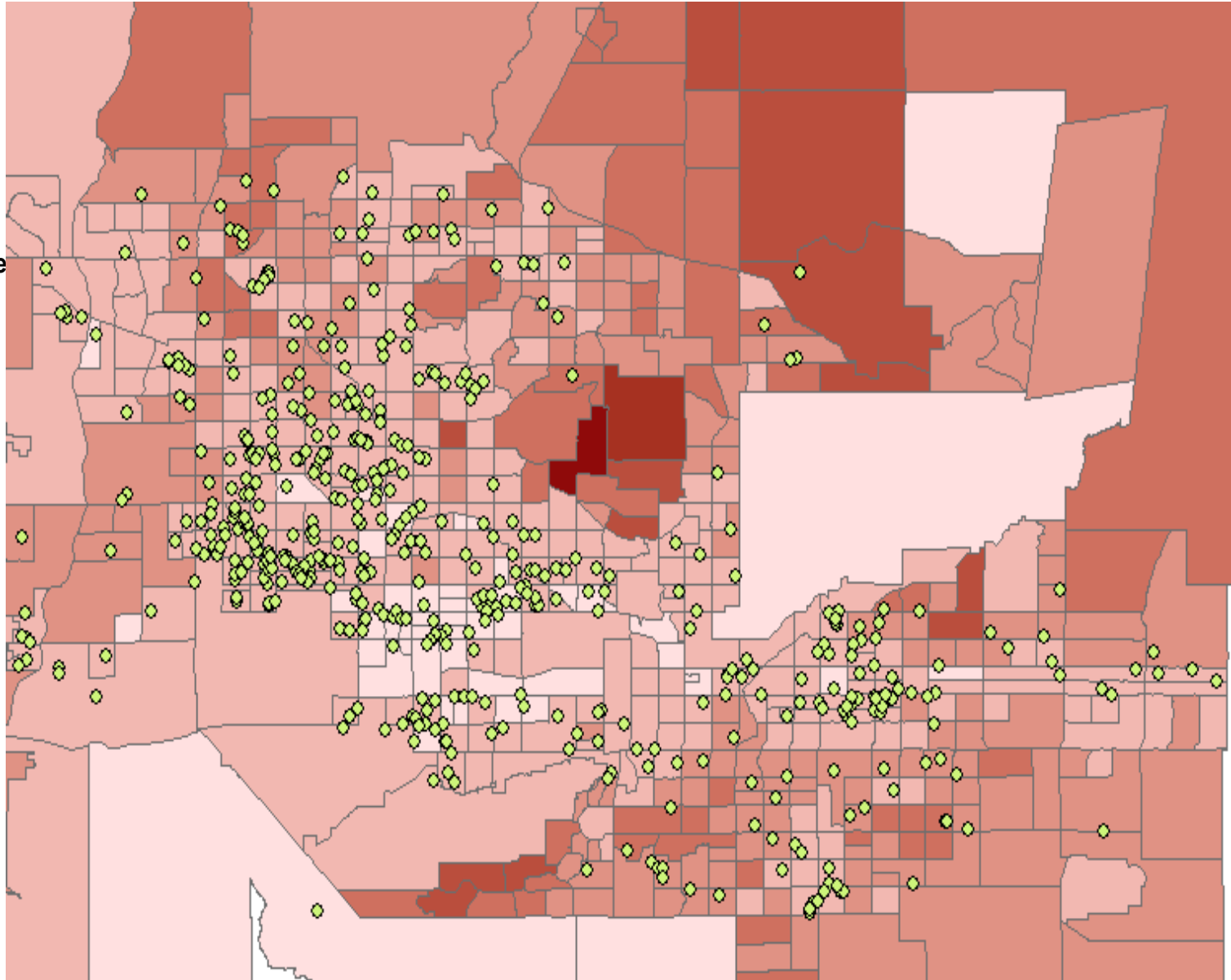
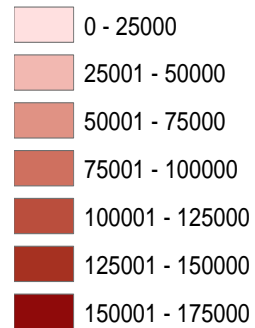
Risk/Need Indicators

- **Antisocial History** (priors, age 1st arrest, offending)
- **Antisocial Attitudes** (moral disengagement, consideration of others, legal cynicism)
- **Parental Deviance** (mom/dad arrest, mom drug or alcohol problems)
- **Association with Antisocial Peers** (behavior, influence)
- **School Difficulties** (expelled, cheating, dropped out, skipping)
- **Mood/anxiety problems** (dx or high impairment)
- **Substance Use problems** (dx or consequences)

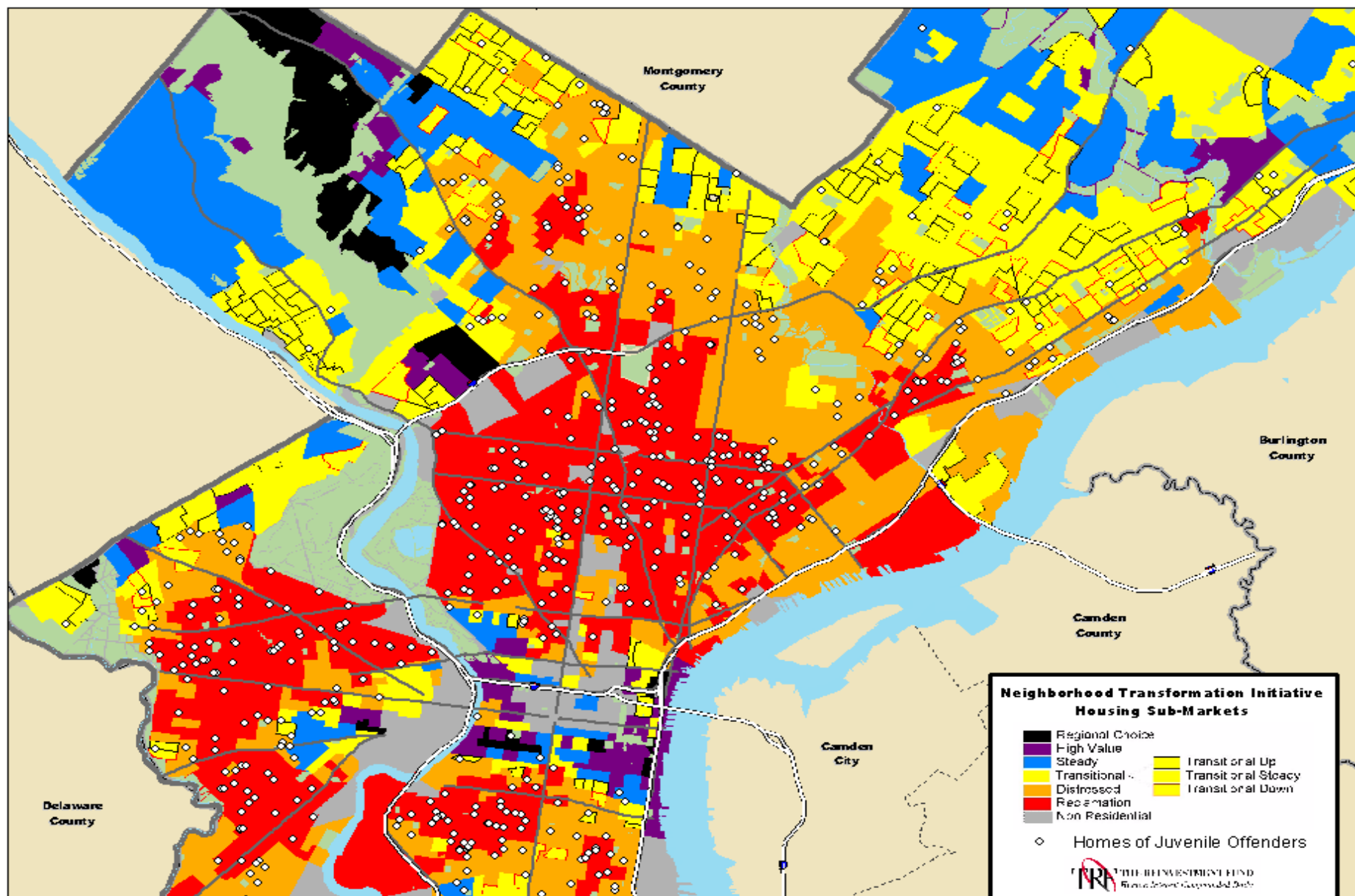
Maricopa County

Legend

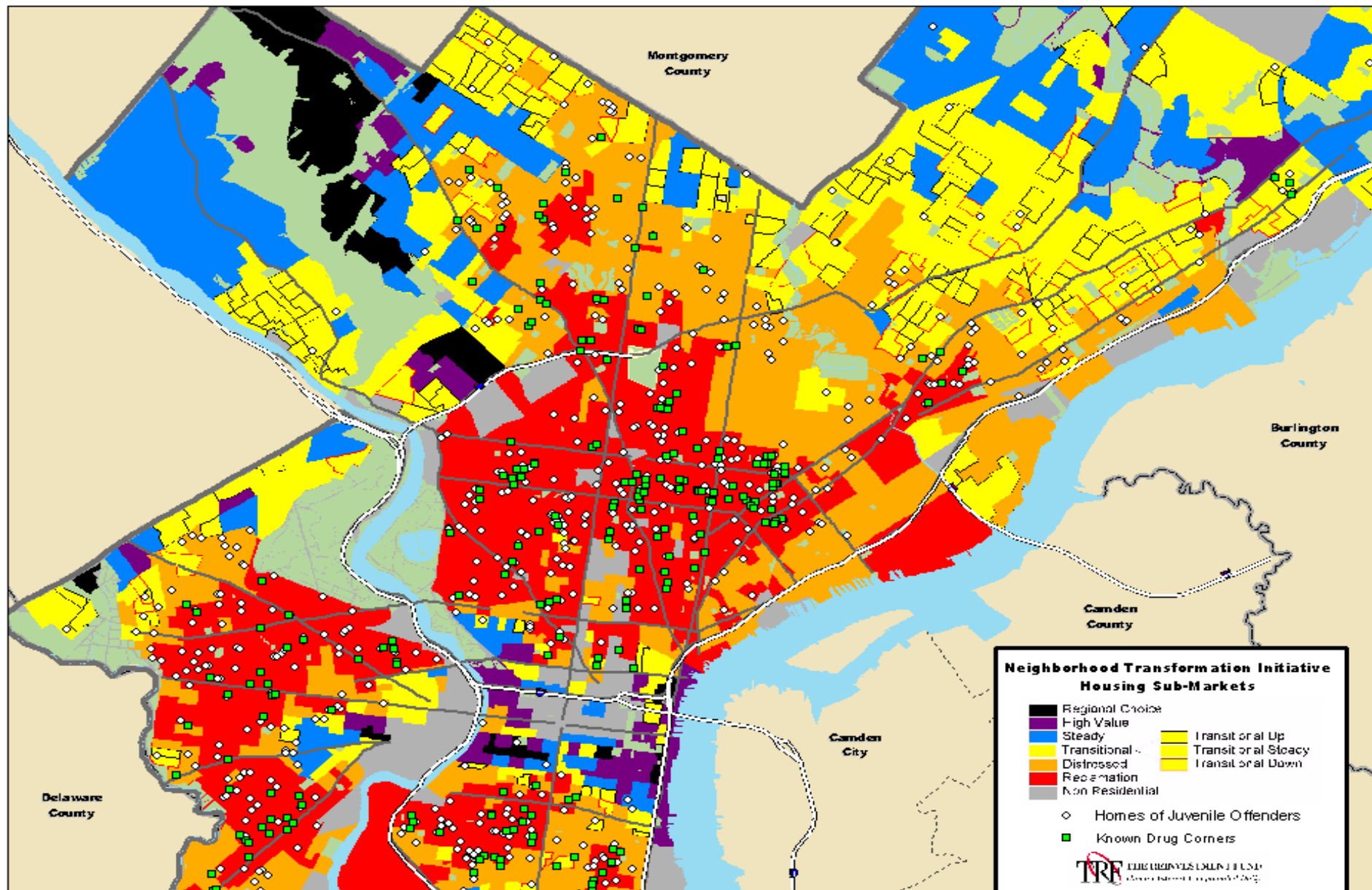
Median Household Income
- 2000 Census Data



Philadelphia County



Philadelphia County



Data Collection

Data Sources

- **Self report**
 - **Interviews with participants**
 - **Interviews with collateral informants**
- **Official information**
 - **Court records**
 - **FBI records**
 - **Child welfare records**
 - **Medicaid records**

Types of Self-Report Interviews

- **Subject (main study participant)**
 - **Baseline**
 - Generally completed in two, 2-hour sessions
 - **Time point**
 - One session, average of 90 minutes in length
 - **Release**
- **Collateral (adult or peer nominated by subject)**
 - **Baseline**
 - **Time point**

Interview Schedule: Baseline

- **Timing:**

- **Juvenile system: conducted within 75 days of adjudication hearing date**

- **Adult system: conducted within 90 days of certification (Philadelphia) or arraignment (Phoenix)**

- **Participants:**

- **Subject**

- **Adult collateral (for 90% of cases)**

Interview Schedule: Time point

- Time-point interviews
 - every 6 months for a 3-year period
 - yearly thereafter through 84 months

Timing:

- Target data calculated from baseline interview data
- Windows to do the interview
 - “Search”** - 4-6 prior to target date
 - “Do”** – 4 weeks before and after target date
 - “Late”** – 4-8 weeks after target date
- Interview counted as missing if not completed in this time frame

Interview Schedule: Release

- **Conducted within 30 days of a release from an overnight facility stay**
- **Focuses on the institutional experience**
- **Separate database**
- **Around 1,000 interviews**

Interview Schedule: Collateral

- **Baseline: parent or adult informant**
 - Present for 90% of the cases
 - Both English and Spanish
- **Time point: peer informant most often**
 - Annually for the first 3 years

Managing Time-point Interviews

“Weekly Reports”

Report for each interviewer listing assigned cases
which are in one of the windows

ID	STATUS	TP	TARGET DATE	NAME	GENDER	DATE OF BIRTH	SAFETY NOTES
5688	Late	6	3/4/2003	X	M	12/27/84	High crime area
4653	Late	6	3/4/2003	X	M	10/27/86	
6265	Do	6	3/5/2003	X	M	9/1/85	
7245	Do	24	3/5/2003	X	M	10/19/84	

Interview Methods

- **Computerized interview**
 - Trained interviewers read questions to participants
 - Visual and interactive display
 - Help to ensure “within interview” consistency
 - Immediate access to data
 - Elaborate data transfer system
 - Monitor data quality
- **Interviews completed wherever subject was located**
 - Home (49%), facility (34%), someone else’s home (3%) community location (10%), telephone (4%)
 - Considerations
 - Confidentiality
 - Safety

Interview Completion

Interview Completion Rate

- **Two types of completion rate calculations**
 - **Time point completion**
 - **Success in completing a particular wave**
 - % of 1354 that completed each time point
 - Doesn't remove drop-outs or deceased subjects from the denominator
 - **Cumulative retention**
 - **Reflects completeness of the data**
 - Proportion of possible interviews we have completed for an individual across all time points
 - Also maintains 1,354 as the denominator
 - Gives an idea of number of missing data points at the individual level

Final Time Point Retention Rates

Subject Interviews Only

Time Point	Number of Completed Interviews	Retention Rate (% of 1,354)
6-Month	1,262	93
12-Month	1,261	93
18-Month	1,230	91
24-Month	1,230	91
30-Month	1,232	91
36-Month	1,238	91
48-Month	1,211	89
60-Month	1,207	89
72-Month	1,178	87
84-Month	1,134	84

Final Cumulative Retention Rates

Time point*	# of Interviews	% Completing
84-Month Point	Full data (6,12,18,24,30,36,48,60,72 and 84)	63.4
	9 interviews	16.5
	8 interviews	6.7
	7 interviews	4.1
	6 interviews	2.7
	5 interviews	2.0
	4 interviews	0.9
	3 interviews	0.7
	2 interviews	0.9
	1 interview	0.7
	0 interviews	1.3

*This information is available for each time point

Considerations regarding Interview Completion Rates

- **48 youth died by the end of data collection**
 - **29 from Philadelphia; 19 from Phoenix**
- **46 individuals dropped out of the study of their own accord**
 - **38 from Philadelphia, 8 from Phoenix**
- **Site difference in interview completion rates**
 - **87% average time point completion rate for Philadelphia; 93% for Phoenix**
 - **Later waves – when yearly interviews – generally lower completion rates**

Interview Content

Challenges

- **Finding measures that are appropriate for this juvenile offender population**
 - Many measures developed with community samples
 - General juvenile offender population is more diverse
- **Tracking development and life changes across different age periods**
- **Assessing diverse life circumstances**
- **Limited literacy**
- **Measurement equivalence by ethnicity**

Perspective of Assessment

- Characterize the recall period
 - “Measures”
 - **Reflect average across recall period** (e.g. how you usually feel), **most recent** (e.g. community address before institutionalized), **most often or a single point in time** (e.g. BSI)
 - **Nature, number and timing of important life changes**
 - “Life calendars”
 - Not yet available outside the working group

Major Constructs Assessed

Academic Achievement and Commitment	Domestic Violence	Friendships
Acculturation	Early Onset of Behavior Problems	Gun Accessibility
Alcohol and Drug Use/Abuse	Emotional Reactivity	Healthcare/Health Status
Community Involvement	Employment	Interview Information
Contact with Caring Adults	Exposure to Violence	Mental Health
Demographics	Family Relationships	Moral Disengagement

Constructs, continued

Neighborhood Conditions	Perceptions of Procedural Justice	Romantic Relationships
Neurological Functioning/IQ	Personal Capital and Social Ties	Routine Activities
Offense History	Personality	Service History
Parenthood Status/Parent Orientation	Psychological Development	Social and Personal Costs and Rewards of Crime
Peer Delinquency & Gang Involvement	Psychopathy	Socioeconomic Status
Perceptions of Chances for Success	Religious Orientation	

Constructs comprised of one or more measures

	Subject		Collateral	
Measures	Baseline	Follow – Up	Baseline	Follow - Up
Acculturation Rating Scale For Mexican Americans – II (ARSMA –II)	X	X		
Brief Symptom Inventory (BSI)	X	X		
Caring Adult	X	X		
Characteristics of Family	X	X	X	
Characteristics of Friends	X	X	X	
Characteristics of Romantic Relationships	X			
Children’s Emotional Intensity Child Report (Walden)	X	X	X	
Community Involvement	X	X	X	X
Composite International Diagnostic Interview (CIDI)	X	X		

	Subject		Collateral	
Measures	Baseline	Follow – Up	Baseline	Follow - Up
Demographics	X	X	X	X
Disruptive Behavior Disorder (DBD)			X	
Domestic Violence		X		
Early Onset of Behavior Problems	X			
Education (BL): School Bonding Attendance Activities and Orientation	X			
Education (Collateral): School Attendance and Grades			X	X
Education (Follow – Ups): School Bonding Grades Activities and Orientation		X		
Emotional Activity, Sociability and Impulsivity Inventory (EASI)	X		X	
Employment			X	X
Exposure to Violence (ETV)	X	X	X	X
Friendship Quality	X	X		
Future Outlook Inventory (FOI)	X	X		

	Subject		Collateral	
Measures	Baseline	Follow – Up	Baseline	Follow – Up
Gang Involvement	X	X		X
Gun Accessibility	X	X		X
Head Injury	X	X		
Healthcare		X		
Importance of Spirituality	X	X	X	
Indices of Personal and Social Costs and Rewards	X	X		
Information Related to Pregnancy and/or Subject’s Children		X		
Interview Information	X	X	X	X
Maturity of Judgment	X	X		
Miscellaneous (Household composition, street time , probation, number of weeks worked)		X		

	Subject		Collateral	
Measures	Baseline	Follow – Up	Baseline	Follow - Up
Moral Thinking	X	X		
Motivation to Succeed	X	X	X	
Multigroup Measure of Ethnic Identity (Phinney)	X	X		
Neighborhood Conditions	X	X	X	X
NEO – Five Factor Inventory, Short Form (NEO)		X		
Offense History	X		X	
Parent Orientation	X	X	X	
Parental Monitoring	X	X	X	X
Parental Warmth and Hostility	X	X		
Peer Delinquency	X	X		X
Perceptions of Chances for Success	X	X	X	X
Personality Assessment Inventory (PAI)		X		

	Subject		Collateral	
Measures	Baseline	Follow – Up	Baseline	Follow - Up
Procedural Justice	X	X	X	
Psychopathy Checklist Youth Version (PCL -YV)	X		X	
Psychosocial Maturity Inventory (PSMI)	X	X		
Quality of Romantic Relationships	X	X		X
Resistance to Peer Influence	X	X		
Revised Children’s Manifest Anxiety Scale (RCMAS)	X			
Risk for HIV Infection (HIV)		X		
Routine Activities	X	X		
Self – Reported Offending (SRO)	X	X	X	X
Services and Medications	X		X	X
Social Capital	X	X	X	
Socioeconomic Status (SES)	X			

	Subject		Collateral	
Measures	Baseline	Follow – Up	Baseline	Follow - Up
Stroop	X			
Substance Abuse	X	X		X
Threat Control Override (TCO)	X	X		
Trail – Making Test	X			
Wechsler Abbreviated Scale of Intelligence (WASI)	X			
Weinberger Adjustment Inventory (WAI)	X	X	X	X
Youth Psychopathic Traits Inventory (YPI)		X	X	

Website and Codebook

www.pathwaysstudy.pitt.edu

Life Calendars

- **Document life changes at the monthly level**
- **Will be available regarding**
 - **Living arrangements**
 - **School involvement**
 - **Legal involvement**
 - **Work**
 - **Romantic relationships**
 - **Social service involvement/sanctions**
- **Planned release: December, 2013**

Living Situation Calendar

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Subject 1	926 West Huntington St	St Gabe's Hall	926 West Huntington St	St Gabe's Hall	Vision Quest	Youth Forestry Camp
Subject 2	2829 W. Augusta	Madison Street	1008 S. Wilmot	1008 S. Wilmot	1008 S. Wilmot	PO Box 3400
Subject 3	5003 Master St	2nd and Norris	PO Box 1059	PO Box 1059	House of Corrections	PO Box 1059

Demonstration of interview

Interview Structural Issues Relevant for Analysis

Important Structural Features

- **Naming of variables across time point datasets**
 - **S# prefix**
 - S0=baseline
 - S1=6-month follow up to sA=84 month follow up interview
 - All variable names consistent with prefix only changing
- **Version issues**
 - Questions added/changed and/or programming changed during follow-up
 - If substantial changes made, new “version” of the interview was released
 - 17 versions (1.05-1.23, no version 1.13) represented in follow-up data

Important Structural Features

- **Recall Period length**
 - Interview windows (search, do, late) permit recall periods of unequal length
 - Shift from 6-month to 1-year recall periods
 - Number of months covered in recall periods 1 – 6 = 4-8
 - Number of months covered in recall periods 7- 10 = 9-14
 - A variable is present in every dataset to tell you the # of months covered in that recall period for that individual
- **Missed follow-up**
 - Enrolled sample required to have full baseline interview
 - One or more follow-up interviews can be missed and subject is retained in the sample (unless they die or drop out)
 - All time point datasets will account for all 1,354 participants
 - S#IntCompStat = variable in all follow-up databases which indicates the interview completion status (complete, partial, incomplete)

Analytic Issues

Issues for Consideration During Analysis

Controlling for “exposure time”

- **Amount of time the subject was free to engage in criminal acts or other community activities**
- **Failing to account for this factor can substantially affect the derived solution or results**
- **Need for this control depends on the nature of the variables examined and the analytical question**

Controlling for “exposure time”

Piquero et al. / LONGITUDINAL TRAJECTORIES 67

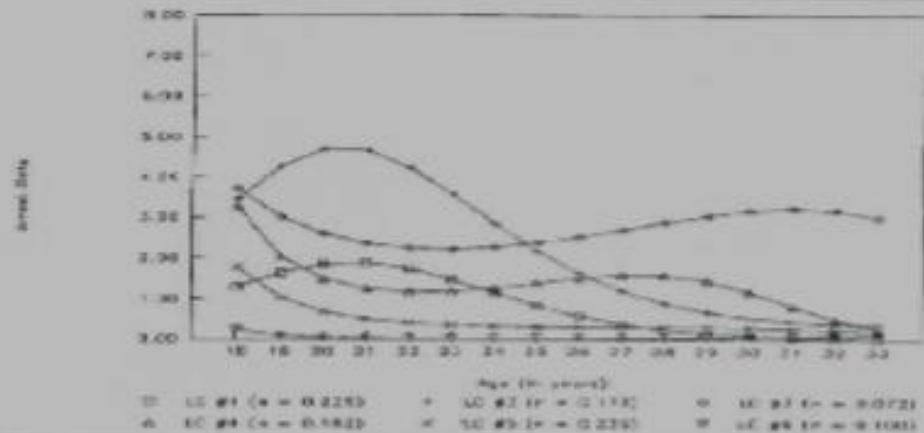


Figure 4. Arrest trajectory distribution without controls for exposure time.

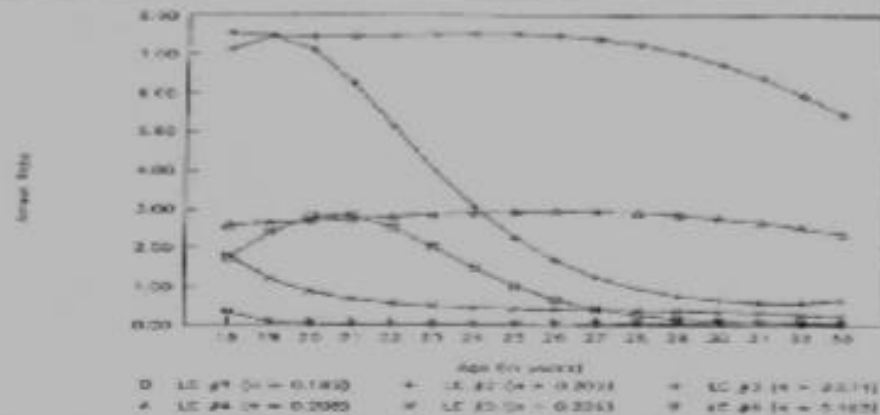
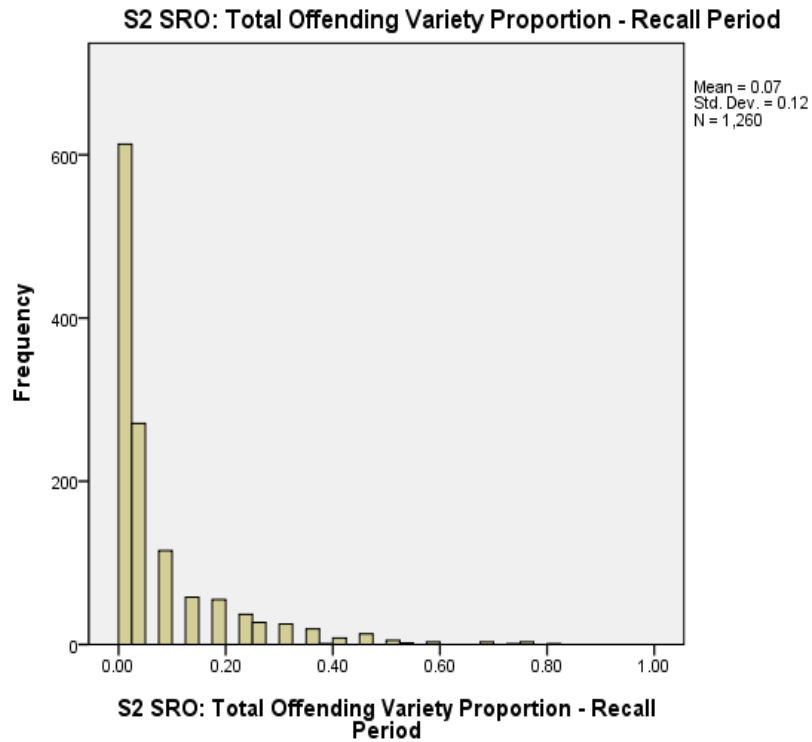


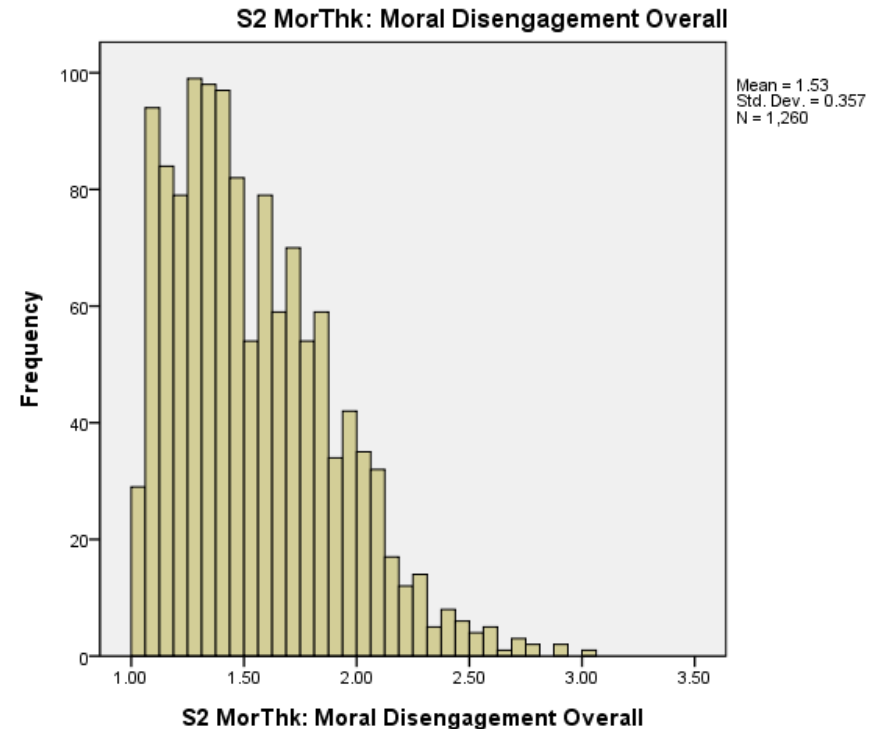
Figure 5. Arrest trajectory distribution with controls for exposure time.

Issues for Consideration During Analysis

Non-normal distributions



(count)



(scale)

Issues for Consideration During Analysis

Over controlling

- **Richness of the data sets makes this possible**
 - Possibly over-conservative tests
 - Collinearity (need to consider diagnostics)
- **Need for theoretical focus prior to building models**

Issues for Consideration During Analysis

Site Differences

- Sites chosen for their variability in terms of policies and practices and they did not disappoint
 - Service provision
 - Ethnic mix
 - Differing legal processing contexts
 - Charging practices
 - AZ: aggravated assault
 - PA: robbery
 - Processing and placement
 - AZ: 51% probation, 37% AZDJC/jail
 - PA: 30% probation, 39% contracted residential settings

Issues for Consideration During Analysis

Gender

- Gender differences are extremely important, but sample is limited
 - 184 girls too few to support more sophisticated analyses
- Gender differences in many areas
 - 53% of females and 35% of males with a mood/anxiety disorder
 - Cumulative 7-year proportion of time in a facility
 - Males = .35
 - Females = .09

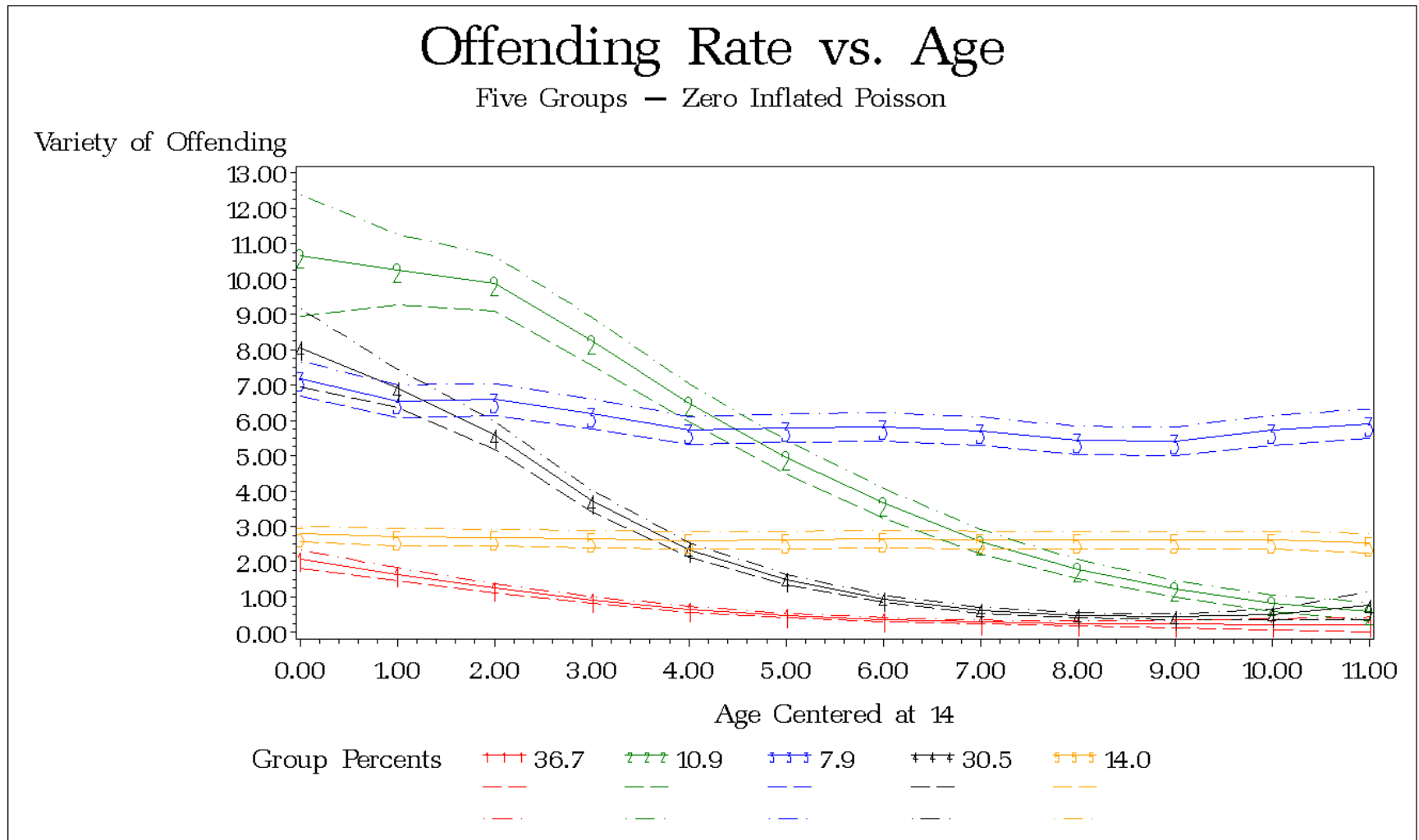
Issues for Consideration During Analysis

Developmental Issues

- **Questions changed over time to account for new experiences for an older population**
 - Leads to version difference
- **Use of data to examine developmental change**
 - Accelerated age cohort design (X axis = age)
 - Trajectory solutions by age

Issues for Consideration During Analysis

Developmental Issues



Issues for Consideration During Analysis

Missing Data

- Multiple contexts for missing data
 - Across time (missed interview)
 - Within the interview (gates)
 - Separate interview (e.g. CIDI, release)
- Reason for missing is included as a distinct value label
 - Example: “been in active duty for military” (36 month dataset)
 - Valid responses: 549
 - No (40.5%)
 - Missing responses: 805
 - Not asked in this version (46.3%)
 - IntCompStat = 4 missed interview (9.0%)
 - Skipped: subject is under age 18 (4.1%)

Issues for Consideration During Analysis

Missing Data

- **Missing information is assigned a negative value**
 - -700 missed due to interview programming bug
 - -400 question not asked in this version
 - -201 interview not completed (IntCompStat=4)
 - -202 interview partially completed (IntCompStat=2)
 - -147 skipped because subject is under age 18 (other “100 level” values are also related to skip rules)
- **Removed in SAS**
- **Retain SPSS file so you know why it is missing**

Contact Information

Carol Schubert

schubertca@upmc.edu; 412-647-4760

Ed Mulvey

mulveyep@upmc.edu; 412-647-4720

www.pathwaysstudy.pitt.edu