Criminal offending patterns in adults with serious mental illness: clinical characteristics and gender as key risk factors

APHA Annual Meeting, New Orleans
November 19, 2014

Presenter: Allison G. Robertson, Ph.D., M.P.H.
Duke University School of Medicine
Department of Psychiatry & Behavioral Sciences
Contact: allison.gilbert@duke.edu

Presenter disclosures

Allison G. Robertson

(1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

No relationships to disclose.

Collaborators

- **Duke University Medical Center**
  - Allison Robertson, PhD, MPH
  - Jeffrey Swanson, PhD
  - Marvin Swartz, MD

- **Connecticut Dept. of Mental Health and Addiction Services (DMHAS)/UConn SSW**
  - Hsiu-Ju Lin, PhD
  - Linda Frisman, PhD

Scope of the problem of criminal justice involvement among persons with serious mental illness (SMI)

- Annually, approximately **1.1 million persons with SMI enter U.S. jails** (National GAINS Center, 2006)
  - Many continue to cycle repeatedly through the criminal justice system
- About **1 in 5** incarcerated individuals suffer from a **serious mental illness** (Steadman et al., 2009)
- **Once in prison, persons with SMI stay longer** than other inmates (Metraux, 2008; Ditton, 1999)
- Each year, **hundreds of thousands** of adults in the U.S. are **released from incarceration**
  - Ex-prisoners with SMI face extraordinary challenges in successfully reentering the community and avoiding recidivism

Scope of the problem of criminal justice involvement among persons with serious mental illness (SMI)

- Increase in CJ involvement attributed to **various legal and policy changes** over the last 50 years
  - Deinstitutionalization
  - Increasingly restrictive criteria for civil commitment
  - Insufficient availability of community treatment services
  - Harsher sentencing for drug crimes

Criminalization v. criminogenesis

- Early consensus centered around criminalization hypothesis
  - Attributes justice involvement problem to untreated mental illness
  - Assumes that offending would stop with access to appropriate MH treatment

- Recently, greater focus on addressing MH treatment needs *and* criminogenic risks in this population
  - Many treatment interventions for CJ-involved adults with SMI show improvements in MH functioning, but no reductions in recidivism
  - Newer research indicates offenders with SMI share same risk factors for offending as non-MI counterparts

Morrissey, 2007; Case, 2009; Skeem, 2009; Epperson, 2011

Risk factors for offending: Substance abuse

- Among CJ-involved adults with SMI, approximately **75% have co-occurring SUDs**

- Co-occurring SUDs shown to have stronger influence than most psychiatric symptoms on violent behavior

- Substance abuse is one of the “Central 8” risk factors for criminal offending

Risk factors for offending: Gender

- **Men much more likely to offend**, both in general and SMI population

- However, **SMI twice as prevalent among female inmates**
  - Males: 15%
  - Females: 30%

- **Female inmates with SMI also more likely** than male counterparts **to have co-occurring SUD**
  - More likely drug dependence v. alcohol for men
  - Translates to relatively more drug charges for women

Risk factors for offending: Psych Dx

- Sizable **overlap in clinical features of ASPD and bipolar disorder** (e.g., impulsivity – a trait shared by many non-SMI offenders)
  - ASPD highly prevalent among male inmates (~50%), especially those with substance abuse
  - In a sample of adults with CODs, those with ASPD were more likely to have bipolar disorder than schizophrenia (52% v. 21%) (Mueser et al., 2012)

- **34% of adults with bipolar had some CJ involvement** v. 21% of those with schizophrenia (Swanson et al., 2013)

- Adults with **bipolar disorder were at especially high risk** of multiple incarcerations (Baillargeon et al, 2009)

Analysis aims

- Identify how gender, primary psychiatric diagnosis, and co-occurring SUD interact to influence risk for criminal offending

- These characteristics capture other risk factors shared with the general population
  - E.g., Among men, the mood instability and impulsiveness associated with bipolar disorder could trigger male traits for aggression and violence that may normally be inhibited
  - E.g., A combo of substance use with psychopathology could compound risk for offending by exaggerating impulsiveness, exacerbating threat perception and hostility, disinhibiting aggressive or antisocial behavior

Analytic sample

- Multi-agency service records for 25,133 adult clients of Connecticut's Department of Mental Health and Addiction Services who met the following criteria:
  - *chart diagnosis of schizophrenia spectrum disorder or bipolar disorder*
  - *served in the publicly-operated or funded system of care*
  - *2-year window of observation (SFYs 06-07)*

- Matched to CJ-related data: arrests, incarceration, probation, parole, jail diversion program, forensic evaluations and hospitalizations

Measures – Dependent variables

- **Offending measures**
  - Any CJ involvement: *convictions, incarcerations, probation, parole, jail diversion program, forensic evaluations, & forensic hospitalizations*
  - Any conviction
  - Specific conviction categories of interest
    - Violent crimes
    - Felonies
    - Drug crimes
    - Minor crimes (e.g., trespassing, breach of peace, prostitution, and technical violations of probation or parole)
  - Any incarceration in DOC facility (jail and prison)

Measures – Independent variables

- **Gender**
- **Primary Psych Dx**
- **SUD**
- Age, race/ethnicity

Analysis

- Descriptive and multivariable logistic regressions, stratified by gender
- Four interaction categories to represent all possible combinations of gender, primary psychiatric diagnosis, and co-occurring SUDs
- All models controlled for effects of age and race-ethnicity

Sample characteristics for adults in Connecticut with serious mental illness, by co-occurring-disorder status and gender

	Co-occurring disorders				Mental illness alone				
	Men n=5,728 (59%)	Women n=3,967 (41%)		*Total n=9,695*	Men n=7,196 (47%)	Women n=8,242 (53%)		*Total (n=15,438)*	
Age (mean, SD)	38.8 (11.1)	38.8 (11.0)		*38.8 (11.1)*	41.5 (13.3)	44.1 (14.0)	***	*42.9 (13.8)*	***
Race									
White	60.4%	63.3%	**	*61.6%*	61.5%	61.4%		*61.4%*	
African American	19.0%	18.9%		*19.0%*	14.9%	12.7%	***	*13.7%*	***
Hispanic	16.2%	12.7%	***	*14.8%*	15.8%	15.8%		*15.8%*	*
Other	4.5%	5.0%		*4.7%*	7.8%	10.2%	***	*9.1%*	***
Primary diagnosis									
Schizophrenia	51.8%	31.5%	***	*43.5%*	61.9%	44.3%	***	*52.5%*	***
Bipolar	48.2%	68.5%	***	*56.5%*	38.1%	55.7%	***	*47.5%*	***

Chi-squre test for differences in proportions, t-test for differences in means:

* Significant at 5%level; ** significant at 1%level; *** significant at 0.1%

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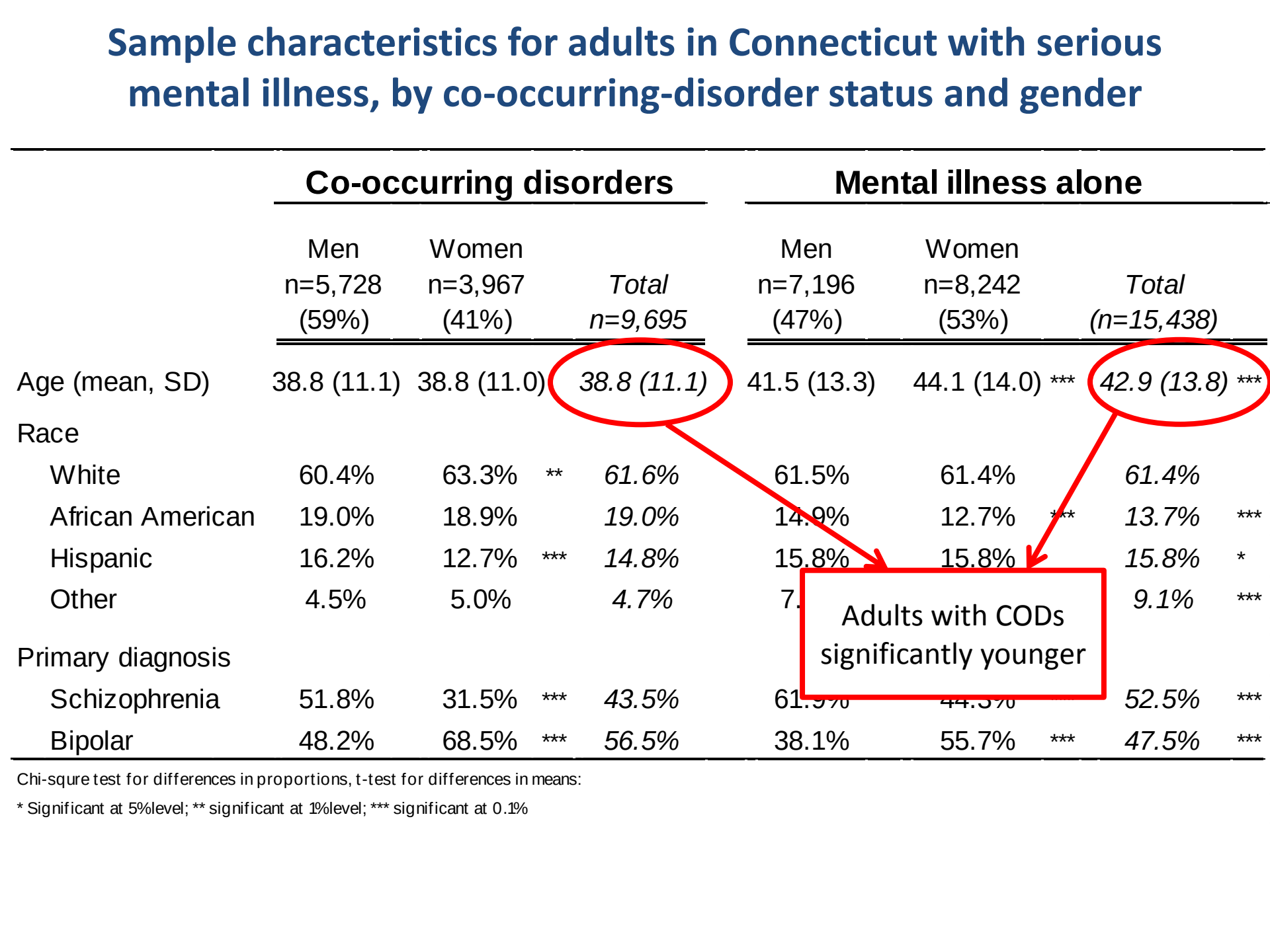

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Adults with CODs more likely to have bipolar disorder

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Race									
White		63.3%	**	*61.6%*	61.			*1.4%*	
African American	19.0%	18.9%		*19.0%*	14.9%	12.7%	***	*13.7%*	***
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Among men with CODs, about ½ have schizophrenia, ½ have bipolar disorder

Among men with SMI alone, nearly 2/3 have schizophrenia

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Age (mean, [illegible]		1.0)		*38.8 (11.1)*	41.5 (13.3)				**
Race									
White		%	**	*61.6%*	61.5%				
African American	19.[illegible]%	18.9%		*19.0%*	14.9%	12.7%	***	*13.7%*	***
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Among women with COD, over 2/3 have bipolar disorder

Among women with SMI alone, just over ½ have bipolar disorder

Chi-squre test for differences in proportions, t-test for differences in means:

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Patterns of justice involvement, by co-occurring status and gender (n = 6,904 individuals)

	Co-occurring disorders			Mental illness alone			
	Males (n=2,932)	Females (n=1,580)	Total (n=4,512)	Males (n=1,545)	Females (n=847)	Total (N=2,392)	
Any jail days	63.8%	57.0%	61.4%	55.1%	40.7%	50.0%	***
Any probation days	49.6%	48.9%	49.3%	46.3%	42.3%	44.9%	**
Any parole days	3.4%	3.2%	3.3%	3.9%	2.4%	3.4%	NS
Any jail diversion days	31.3%	28.5%	30.3%	25.5%	24.9%	25.3%	***
Any competency-to-stand-trial evaluations	9.1%	5.1%	7.7%	8.0%	4.5%	6.7%	NS
Any forensic hospitalizations	5.7%	1.3%	4.2%	5.7%	2.8%	4.7%	NS
Any felony conviction	*25.5%*	*21.1%*	*23.9%*	*21.6%*	*15.2%*	*19.4%*	***
At least one conviction in category:							
Violent crimes	*11.5%*	*7.7%*	*10.2%*	*10.9%*	*6.3%*	*9.2%*	
Property	18.0%	17.3%	17.8%	11.5%	15.1%	12.8%	**
Drugs	14.5%	15.1%	14.7%	11.3%	8.4%	10.3%	**
DWI	3.5%	3.0%	3.3%	1.9%	1.7%	1.8%	**
Other – Technical	8.2%	9.7%	8.7%	5.2%	6.0%	5.5%	**

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Any competency	9.1%	5.1%	7.7%	8.0%	4.5%	6.7%	NS
Any forensic hosp	5.7%	1.3%	4.2%	5.7%	2.8%	4.7%	NS
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Several types of CJ involvement more prevalent among those with CODs

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Any compete	9.1%	5.1%	7.7%	8.0%	4.5%	6.7%	NS
Any forensic	5.7%	1.3%	4.2%	5.7%	2.8%	4.7%	NS
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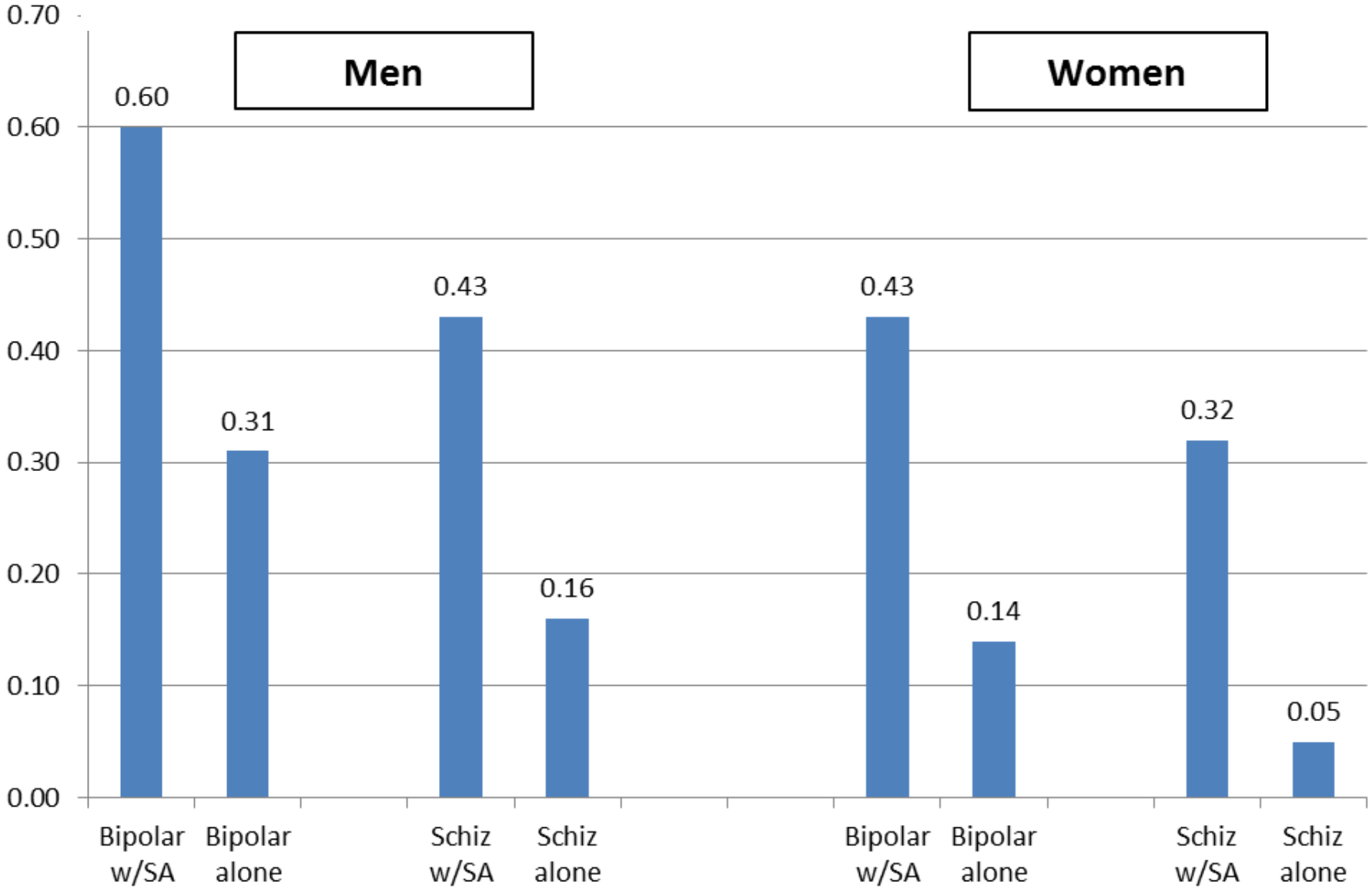
DWI	3.5%	3.0%	3.3%	1.9%	1.7%	1.8%	**
Other – Technical	8.2%	9.7%	8.7%	5.2%	6.0%	5.5%	**

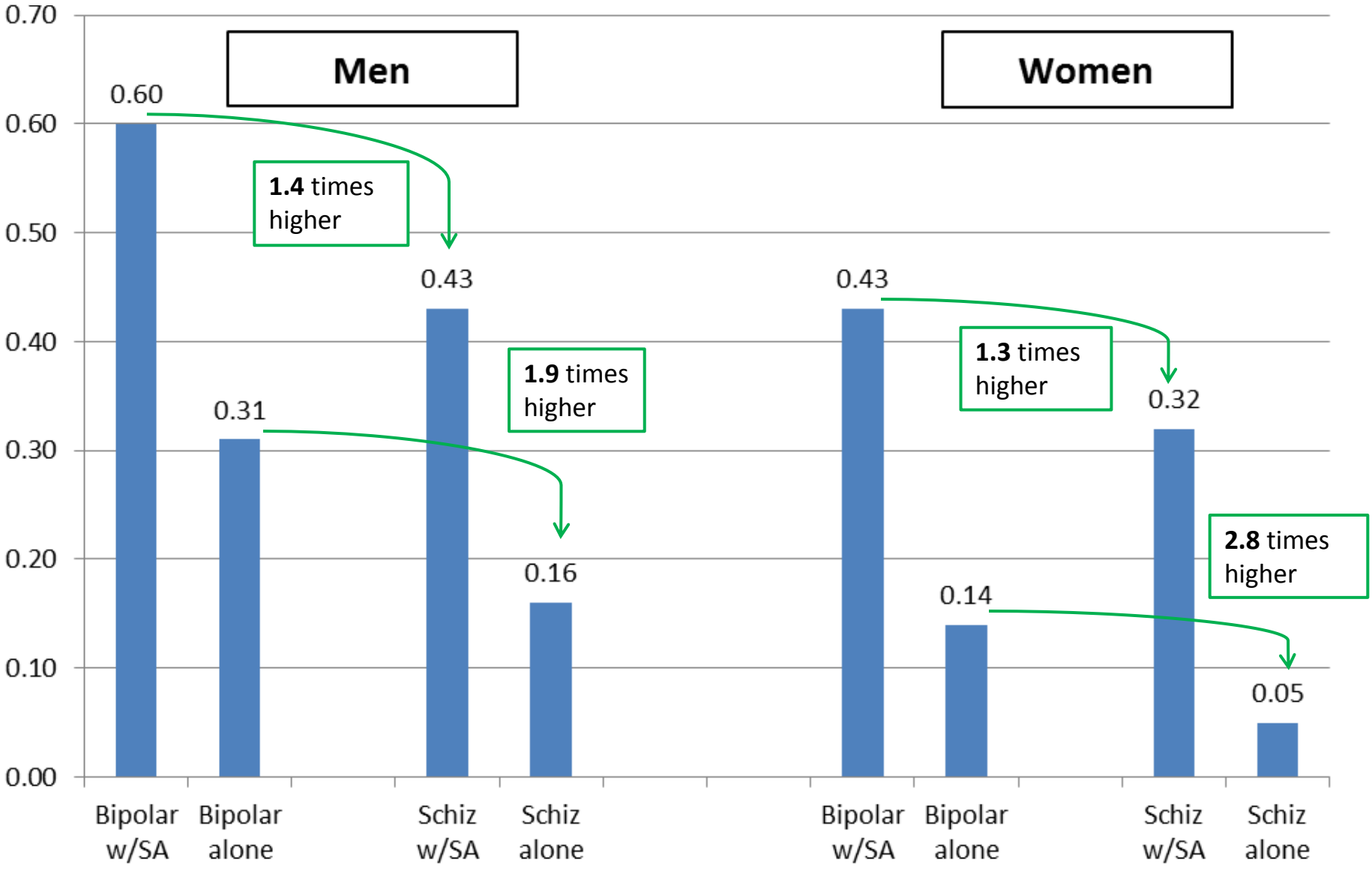
Several types of CJ involvement more prevalent among women with CODs than among men with SMI alone

Chi-squre test for differences in proportions, t-test for differences in means: * Significant at 5%level; ** significant at 1%level; *** significant at .1%

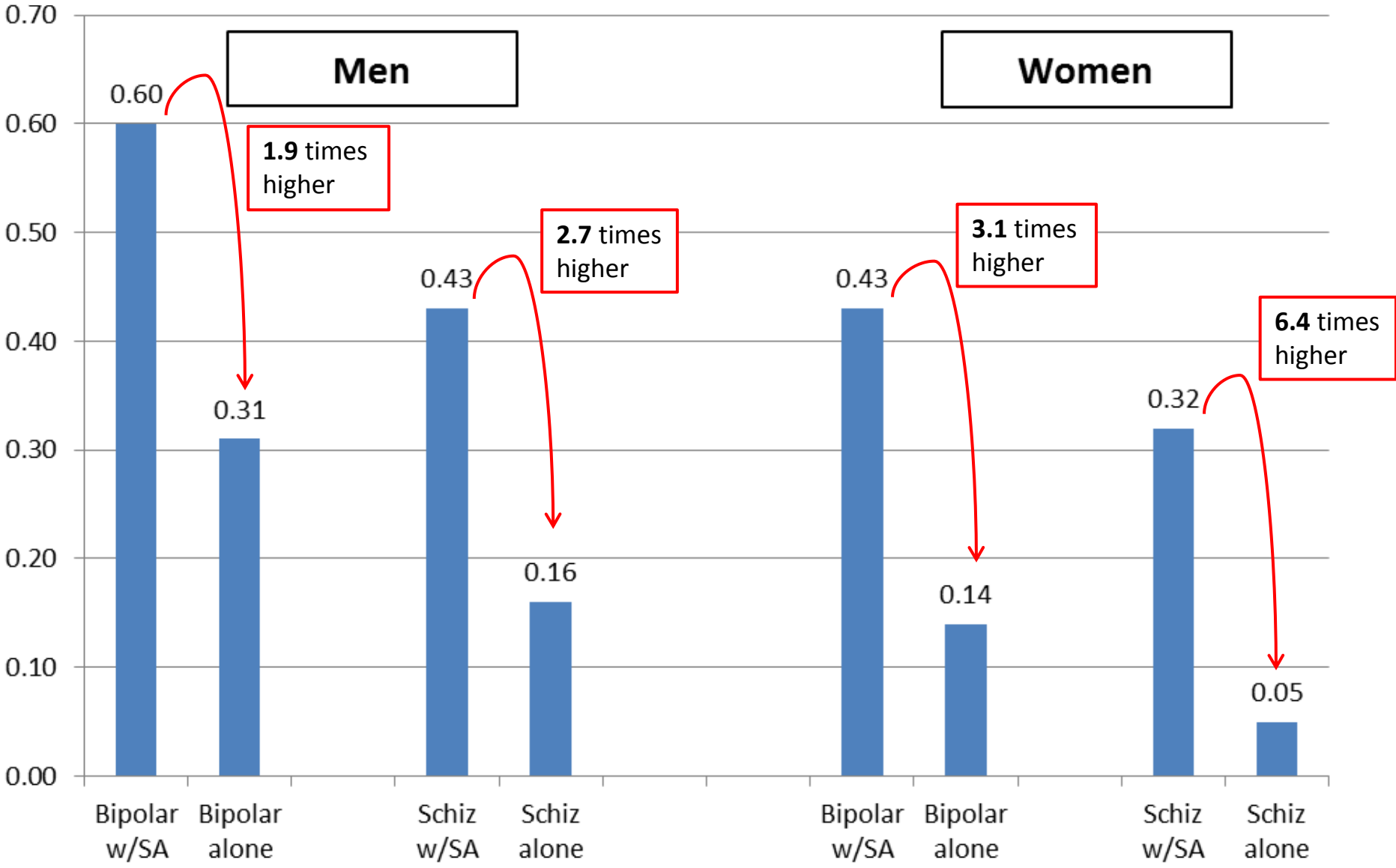
Probability of ANY CJ INVOLVEMENT



Probability of ANY CJ INVOLVEMENT – comparing across primary psychiatric diagnosis



Probability of ANY CJ INVOLVEMENT – comparing across substance abuse diagnosis



Summary points

- Men with bipolar disorder and co-occurring substance use disorder had the highest *absolute* risk of offending in every category of justice involvement

- But bipolar disorder and substance abuse had especially strong relative influences in women, increasing their offending risk much more dramatically

- Substance abuse appeared to have greatest influence on offending risk
  - especially among women
  - especially among women with schizophrenia

Conclusions

- Results give insight into prospects for targeted interventions to address treatment needs and reduce recidivism
  - e.g., women with schizophrenia and substance abuse may benefit most from those targeted services
- Highlights the need for integrated MH ***and*** SA treatment for those with co-occurring disorders
- Must address criminogenic risk *and* behavioral health needs *and* social service needs

Next steps

- New NIDA R03 to examine gender differences among adults with CODs who participated in CT's statewide jail diversion program
  - Treatment service use in the community
  - Psych hospitalization, ED visits, rearrest, reincarceration
- Will identify some of these differential effects, and how they relate to program outcomes

Thank you

allison.gilbert@duke.edu

Extra slides

Multivariable regression for odds of criminal offending by psychiatric diagnosis/substance abuse interaction categories, stratified by gender[a]

	Any convictions			Any jail days		
	OR	95% CI		OR	95% CI	
Men (n=12,924)						
Bipolar disorder with substance abuse	7.09	6.19 – 8.13	***	7.72	6.71 – 8.89	***
Schizophrenia with substance abuse	3.39	2.96 – 3.90	***	3.67	3.19 – 4.23	***
Bipolar disorder alone	2.41	2.08 – 2.80	***	2.69	2.31 – 3.13	***
Schizophrenia alone [Reference]	-	-		-	-	
Women (n=12,209)						
Bipolar disorder with substance abuse	10.52	8.35 – 13.25	***	11.87	9.16 – 15.40	***
Schizophrenia with substance abuse	6.60	5.11 – 8.54	***	7.61	5.72 – 10.11	***
Bipolar disorder alone	2.89	2.28 – 3.67	***	2.68	2.04 – 3.52	***
Schizophrenia alone [Reference]	-	-		-	-	

Multivariable regression for odds of different types of criminal convictions by psychiatric diagnosis / substance abuse interaction categories[a]

	Any violent crime			Any felony crime			Any drug crime		
	OR	95% CI		OR	95% CI		OR	95% CI	
Men (n=12,924)									
Bipolar disorder with substance abuse	3.75	2.85 – 4.93	***	5.96	4.85 – 7.31	***	4.88	3.75 – 6.35	***
Schizophrenia with substance abuse	2.51	1.90 – 3.32	***	2.99	2.42 – 3.70	***	2.90	2.21 – 3.80	***
Bipolar disorder alone	1.73	1.26 – 2.36	***	2.44	1.94 – 3.07	***	1.92	1.41 – 2.61	***
Schizophrenia alone [Reference]	-	-	-	-	-	-			
Women (n=12,209)									
Bipolar disorder with substance abuse	6.19	3.41 – 11.23	***	10.65	6.89 – 16.47	***	11.78	6.78 – 20.48	***
Schizophrenia with substance abuse	5.38	2.82 – 10.25	***	6.95	4.32 – 11.17	***	8.85	4.91 – 15.95	***
Bipolar disorder alone	2.02	1.07 – 3.81	*	2.92	1.84 – 4.62	***	2.62	1.45 – 4.73	**
Schizophrenia alone [Reference]	-	-	-	-	-	-	-	-	-