

Differences in Patterns of Substance Use in Caucasian and African American Adolescents

Amy Daniels
Melissa Azur
Philip Leaf
Johns Hopkins Bloomberg School of Public Health

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Background

- High prevalence of adolescent substance use^{1,2}
- Established racial differences in prevalence^{1,2}

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Substance Use in Adolescents

Self-report of lifetime substance use among 12th grade high school students¹

	Caucasians	African Americans
Alcohol	69.6%	54.7%
Cigarettes	49.3%	34.7%
Marijuana	43.2%	37.7%
Other illicit drugs	29.6%	10.1%

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Substance use in Adolescents

Self-report of lifetime substance use among adolescents ages 12-17²

	Caucasians	African Americans
Alcohol	41.9%	34.0%
Cigarettes	26.7%	17.8%
Illicit drugs	27.0%	26.7%

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Patterns of use

- Established racial differences in patterns of use^{3,4}
- Substance use patterns in adolescents with co-occurring mental illness or severe emotional disturbances less understood

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Study Aims

1. To estimate the prevalence of lifetime substance use in Caucasian and African American adolescents entering community mental health systems of care programs
2. To identify patterns of substance use in Caucasian and African American adolescents

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Data Source

- National evaluation of Community Mental Health Systems of Care for Children and Their Families Program^a
- Values and principles of system of care model^b
- Baseline data collected from 45 sites across the US from 1997 – 2000 (n=4805)
 - Youth 11-21
 - Caucasian or African American
- Multiply imputed data

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Study Sample Characteristics

Age at referral, mean (SE)	13.9 (0.3)
Males	64%
Caucasian	68%
Household income level < \$35000/year	78%
Child custody status	
Two parents	24%
Biological mother	45%
Ward of state	9%
Other	22%
Medicaid eligible	69%
Mental health service agency referral	31%
Mental health diagnoses	
Mood disorder	41%
Attention deficit/hyperactivity disorder	37%
Conduct disorder	12%

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Measures

- Demographic and clinical characteristics
 - Caregiver report
 - Race data used to create two mutually exclusive race categories
- Substance use history
 - Youth report
 - Five lifetime substance use variables created from 14 ever use substances:
 - alcohol, smoking, marijuana, other illicit/prescription drugs, over the counter/non-prescription drugs

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Data Analysis

- Descriptive statistics
- Latent class analysis^a
 - Statistical technique used to group individuals into mutually exclusive groups or “classes” based upon shared characteristics
 - Grouped according to how questions on lifetime substance use were answered

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Results

Lifetime Prevalence of Substance Use

	Caucasian (n=3282)	African American (n=1523)	P value
Alcohol	50%	43%	<.001
Cigarettes	58%	44%	<.001
Marijuana	41%	38%	.090
Over the counter / non-prescription drugs	10%	4%	<.001
Other illicit / prescription drugs	24%	11%	<.001

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LCA Results

Decision Criteria for Caucasian Sample

	AIC*	BIC**	SSA BIC***
3 Class Solution	15357.455	15461.091	15407.074
4 Class Solution	15346.505	15486.718	15413.637
5 Class Solution	15355.144	15531.934	15439.788

* Akaike Information Criteria
** Bayesian Information Criteria
*** Sample size adjusted BIC

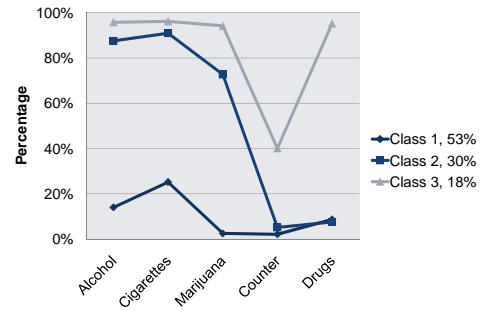
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3 Class Solution for Caucasians

	Class 1	Class 2	Class 3
Alcohol	0.14	0.88	0.96
Cigarettes	0.25	0.91	0.96
Marijuana	0.03	0.73	0.94
Over the counter / non-prescription drugs	0.02	0.05	0.40
Other illicit/ prescription drugs	0.09	0.08	0.95
Class Prevalence	53%	30%	18%

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3 Class Solution for Caucasians



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Decision Criteria for African American Sample

	AIC	BIC	SSA BIC
3 Class Solution	6579.144	6669.728	6615.723
4 Class Solution	6559.916	6682.470	6609.405
5 Class Solution	6556.000	6710.125	6717.999

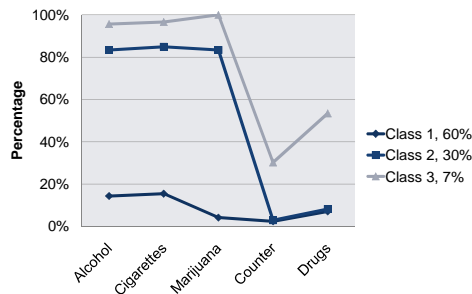
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3 Class Solution for African Americans

	Class 1	Class 2	Class 3
Alcohol	0.14	0.83	0.96
Cigarettes	0.16	0.85	0.97
Marijuana	0.04	0.83	1.00
Over the counter/ non-prescription drugs	0.02	0.03	0.30
Other illicit/ prescription drugs	0.07	0.08	0.53
Class prevalence	60%	33%	7%

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3 Class Solution for African Americans



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Summary of findings

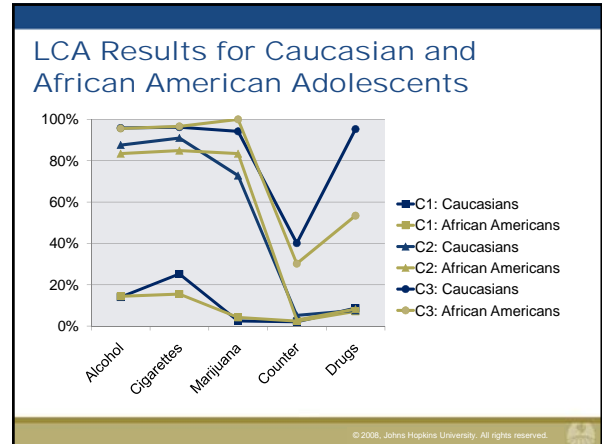
- Population-based study parallels
- Patterns of use
 - 3-class solution for both race groups
 - Race differences within classes

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Latent class prevalences

Class	Label	Caucasian (n=3282)	African American (n=1523)
1	Low use	53%	60%
2	Alcohols, cigarettes & marijuana use	30%	33%
3	High use	18%	7%

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- ### Limitations
- Measurement issues
 - Self-report of substance use
 - Generalization of findings
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- ### Implications
- Identifying groups of children in need of more intensive, comprehensive services
 - Contextualizing treatment planning and service provision in a culturally relevant way
 - Substance use screening in mental health treatment settings
 - Areas of further research
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Contact Information

Amy Daniels, MHS
 Johns Hopkins Bloomberg School of Public Health
 Department of Mental Health
 624 N. Broadway, Room 839
 Baltimore, MD 21205
adaniels@jhsph.edu

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Sample characteristics by race

	Caucasian (n=3282)	African American (n=1523)	P Value
Age at referral, mean (SE)	14.0 (0.03)	13.9 (0.05)	.201
Males	64%	65%	.325
Household income level < \$35000/year	75%	89%	<.001
Child custody status			
Two parents	28%	11%	
Biological mother	41%	53%	
Other family	13%	17%	
Ward of state	9%	10%	
Other	8%	9%	<.001
Medicaid eligible	64%	79%	<.001
Referral source			
Mental health agency	33%	26%	
Juvenile justice	15%	23%	
Other	52%	51%	.366
Mental health diagnoses			
Mood disorder	43%	36%	<.001
Attention deficit/hyperactivity disorder	38%	34%	.004
Conduct disorder	10%	16%	<.001

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