Indicators of Substance Abuse among Youth Treated Within Systems of Care

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Substance Use among Youth in Treatment for Psychiatric Disorders

υ There is wide variation in substance use involvement among youth receiving mental health treatment in terms of
- Severity of use
  - Any use versus abuse and dependency
  - Severe use versus experimentation
  - Types of substances used
- Differences in indicators of substance use
- Interplay among those indicators

Substance Use Involvement

υ Differences in substance use involvement have implications for treatment and outcomes

υ How differences in substance use involvement relate to psychiatric problems is poorly understood

υ The field tends to treat and study co-occurring disorders with little consideration for those differences

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Purpose

The purpose of this study is to

υ improve understanding of the variation in substance use among youth in treatment for emotional and behavioral disorders, and

υ explore how those variations relate to youth symptoms, social functioning and family variables.

Current Study

- Data were collected from two children's mental health evaluations:
  - Comprehensive Community Mental Health Services for Children and Their Families Program
  - Fort Bragg Evaluation Project
- Using baseline data from youth and caregivers interviewed at entry into the program

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Description of Samples

Variable	Sample	
	CMHS	FBEP
	N = 2,102	*N* = 463
Youth age *M* (SD)	13.9 (1.8)	14.29 (1.5)
Males - *N* (%)	1339 (64)	255 (55.1)
CBCL Extern - *M* (SD)	69.7 (10.6)	65.6 (10.5)
CBCL Intern - *M* (SD)	65.0 (11.26)	62.7 (11.6)

Analysis

υ Latent class analysis used to identify groups of youth with similar patterns on indicators of substance use involvement

υ Indicators used were presence or absence of
- substance abuse diagnosis
- moderate to severe CAFAS SA scores
- previous use of substance abuse services
- presenting problem of substance abuse;
- self-disclosure of
  - alcohol use,
  - marijuana use, or
  - other illicit drugs
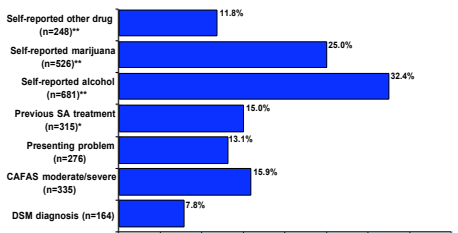
υ Youth with > 2 missing indicators were dropped

Descriptive Analyses

υ Used descriptive statistics to compare groups in terms of

- Child demographics (age, gender, race)
- Psychiatric symptoms (CBCL)
- Social functioning (CAFAS subscales)
- Youth strengths (BERS)*
- Family history of substance abuse
- Caregiver strain (CGSQ)
- Family material resources (FRS)
- General family functioning (FAD)

* CMHS sample only

Distribution of Indicators: CMHS Sample

Self-reported other drug (n=248)** 11.8%
Self-reported marijuana (n=526)** 25.0%
Self-reported alcohol (n=681)** 32.4%
Previous SA treatment (n=315)* 15.0%
Presenting problem (n=276) 13.1%
CAFAS moderate/severe (n=335) 15.9%
DSM diagnosis (n=164) 7.8%

*SA tx in past 12 months **Use on 4 or more occasions in past 3 months
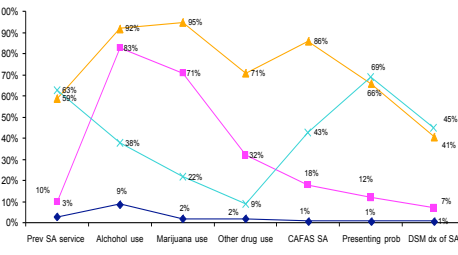N = 2,102 (some youth endorsed more than one indicator)

Summary of Model Fitting for CMHS Sample

No. of Classes	AIC	BIC	SSABIC	Entropy	VLMR LRT	LMR Adj LRT
1	12631.41	12670.97	12648.73	—	—	—
2	10019.70	10104.46	10056.80	.86	p<.0001	p<.0001
3	9850.76	9980.72	9907.65	.82	p=.004	p=.004
4	9728.62	9903.79	9805.30	.80	p=.001	p=.001
5	9710.36	9930.73	9806.82	.80	p=.001	p=.001

CMHS Profiles 4 Class Solution

Probability of Endorsing Indicators by Group

CMHS Description of Classes
Youth Characteristics

Variable	Low Prob (n=1,429)	Self-reported Users (n=285)	High Prob (n=250)	Struggling w/ Recovery (n=138)
Youth age - M (SD)	13.5 (1.75)	14.51 (1.6)	15.2 (1.2)	15.3 (1.3)
Male - N (%)	942 (66)	168 (59)	150 (60)	79 (57)
CBCL Extern - M (SD)	69.0 (10.6)	71.6 (9.7)	72.0 (11.3)	68.9 (11.0)
Extern border/clinical - N (%)	1065 (75)	228 (80)	198 (79)	101 (73)
CBCL Intern - M (SD)	65.3 (11.4)	64.6 (10.8)	64.8 (10.8)	63.0 (11.9)
Intern border/clinical - N (%)	926 (65)	178 (62)	155 (62)	76 (55)
CAFAS School Role - M (SD)	22.3 (10.2)	24.9 (8.9)	24.8 (9.4)	21.8 (11.1)
CAFAS Home Role - M (SD)	21.1 (10.7)	22.6 (10.1)	24.4 (9.5)	20.3 (11.8)
CAFAS Comm Role - M (SD)	10.4 (11.5)	14.9 (11.7)	20.0 (10.5)	16.5 (11.7)
BERS Strength – M (SD)	85.8 (16.3)	85.2 (16.7)	84.3 (18.6)	87.8 (15.5)

CMHS Description of Classes
Family Characteristics

Variable	Class			
	Low Prob (n=1,429)	Self-reported Users (n=285)	High Prob (n=247)	Struggling w/ Recovery (n=138)
Family SA history - N (%)	898 (61)	206 (72)	198 (80)	98 (71)
FRS score - M (SD)	3.5 (.71)	3.6 (.71)	3.6 (.78)	3.6 (.70)
General FAD - M (SD)	2.8 (.48)	2.8 (.44)	2.8 (.49)	2.9 (.46)
CGSQ Obj - M (SD)	2.8 (1.1)	2.9 (1.0)	3.3 (1.0)	2.8 (1.1)
CGSQ Subj Ext - M (SD)	2.5 (.99)	2.7 (.97)	2.8 (.97)	2.5 (.98)
CGSQ Subj Int - M (SD)	3.7 (.97)	3.8 (.89)	4.1 (.80)	3.8 (.87)

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Summary of Model Fitting for FBEP Sample

No. of Classes	AIC	BIC	SSABIC	Entropy	VLMR LRT	LMR Adj LRT
1	2236.64	2265.60	2243.39	—	—	—
2	1605.15	1667.22	1619.61	.95	p<.0001	p<.0001
3	1587.60	1682.76	1609.77	.96	p=.0004	p=.0004
4	Did not converge.					

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Distribution of Indicators: FBEP Sample

Self-reported other drug (n=37) — 8.0%
Self-reported marijuana (n=66) — 14.3%
Self-reported alcohol (n=106) — 23.6%
Previous SA treatment (n=4) — 0.9%
Presenting problem (n=53) — 11.5%
CAFAS moderate/severe (n=54) — 11.7%
DSM diagnosis (n=64) — 13.8%

*SA treatment in lifetime **Any use in past 3 months

N = 473 (some youth endorsed more than one indicator)

FBEP Profiles 3 Class Solution
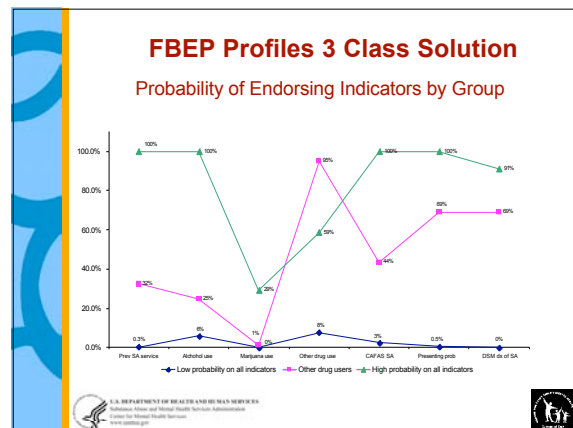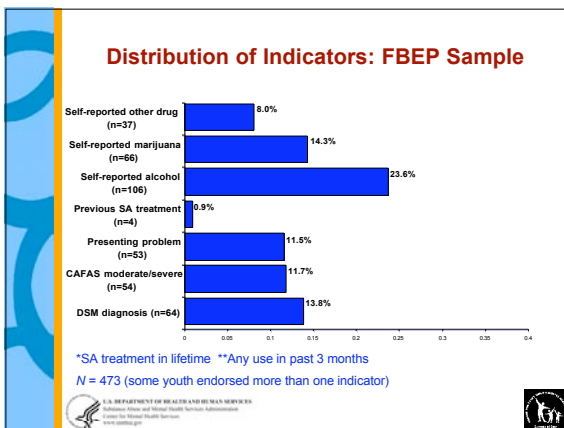### Probability of Endorsing Indicators by Group

Indicators: Prev SA service, Alcohol use, Marijuana use, Other drug use, CAFAS SA, Presenting prob, DSM dx of SA

— Low probability on all indicators — Other drug users — High probability on all indicators

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FBEP Description of Classes
Youth Characteristics

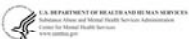| Variable	Class		
	Low Prob (n = 377)	Other Drug Users (n = 74)	High Prob (n = 12)
Youth age - M (SD)	14.1 (1.5)	15.1 (1.27)	15.25 (1.3)
Male – N (SD)	206 (55)	41 (55)	8 (67)
CBCL Extern - M (SD)	65.1 (10.3)	67.8 (11.0)	67.1 (12.5)
Extern clinical – N (SD)	269 (71)	60 (81)	9 (75)
CBCL Intern - M (SD)	62.9 (11.5)	61.6 (11.9)	62.6 (11.7)
Intern clinical – N (SD)	230 (61)	40 (54)	6 (50)
CAFAS Role - M (SD)*	13.1 (9.5)	18.5 (9.3)	18.3 (11.9)

* Using old scoring. Not comparable to CMHS version.

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FBEP Description of Classes
Family Characteristics

Variable	Class		
	Low Prob (n = 377)	Other Drug Users (n = 74)	High Prob (n = 12)
% With family SA history*	71 (19)	21 (28)	2 (17)
FRS score - M (SD)	4.0 (.68)	3.9 (.69)	3.9 (.68)
General FAD - M (SD)	2.4 (.48)	2.3 (.41)	2.0 (.44)
CGSQ Obj - M (SD)	2.1 (.87)	2.6 (1.05)	1.9 (.81)
CGSQ Subj Ext - M (SD)	2.4 (.95)	2.8 (.98)	2.3 (.99)
CGSQ Subj Int - M (SD)	3.4 (.99)	3.9 (.84)	3.5 (1.14)

* Includes caregivers in household, not biological relatives.

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Limitations

υ Missing data removed 1,047 youth (34% of complete sample)

υ CMHS and FBEP samples are sufficiently different that differences in patterns of indicators among classes could be related to sample characteristics. FBEP sample may not be the best comparison.

υ Export of class memberships for descriptive analyses ignores contribution of each case to other class memberships

Conclusions

υ In CMHS sample, four latent substance use classes identified for children and adolescents entering systems of care
- Low Probability
- Self-Reported Use
- High Probability
- Struggling with Recovery

υ In FBEP sample, three latent substance use classes identified for children and adolescents entering mental health treatment
- Low Probability
- Other Drug Users
- High Probability

Conclusions

υ Latent classes differentially related to

- Demographic characteristics
- Severity of symptoms
- Functional impairment
- Youth strengths
- Caregiver strain
- Family risk factors

Implications

υ Identification of differential patterns at services entry using multiple indicators

υ Mapping services onto needs
- Prevention for developmentally at risk
- Early intervention for self-reported users
- Intensive treatment for high probability cases
- Continuing care for those struggling with recovery

υ Continuing to follow across time to identify and address subsequent initiation and relapse

υ Involvement of child-serving agencies
- Corrections/juvenile justice
- Schools

Future Steps

υ Further analyses will identify differential change patterns in clinical outcomes using multivariate growth curve modeling.