

**ALEXSA Development:
Assessment to Bridge Etiology, Prevention,
and Clinical Efforts Regarding Early
Substance Problems**

NIDA K-Award (K01 00434)

PSU Children, Youth & Families Consortium

ALEXSA Development: Assessment to Bridge Etiology, Prevention, and Clinical Efforts Regarding Early Substance Problems

Disclosure: *Assessments Illustrated*, owned by Ty Ridenour's wife, was formed to license the ALEXSA, provide assistance to ALEXSA users, and further develop the ALEXSA. The ALEXSA is available, *gratis*, for research in which the ALEXSA is further developed.

**ALEXSA Development:
Assessment to Bridge Etiology, Prevention,
and Clinical Efforts Regarding Early
Substance Problems**

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“One Drink is too Many;

1,000 Drinks is not Enough”

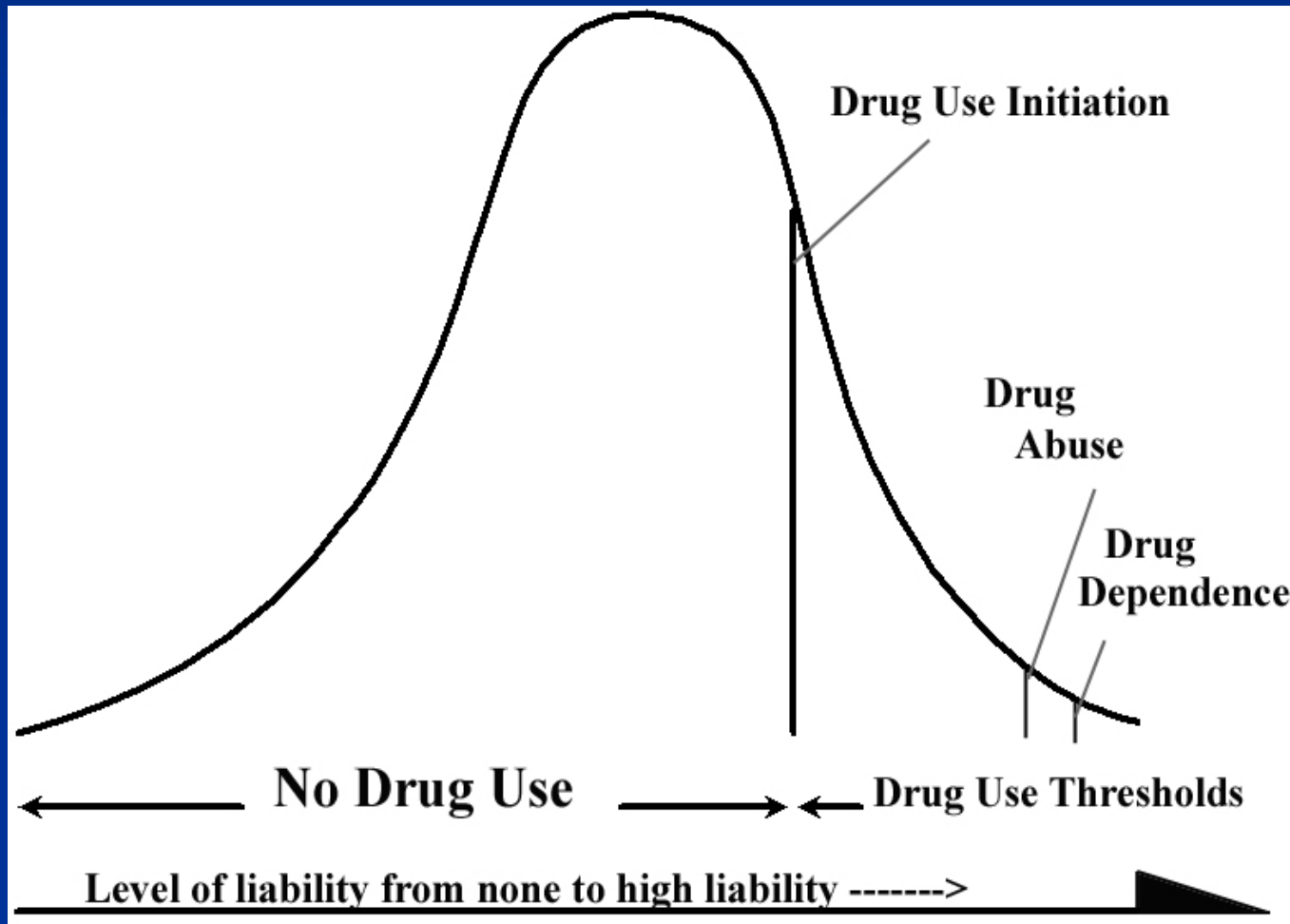
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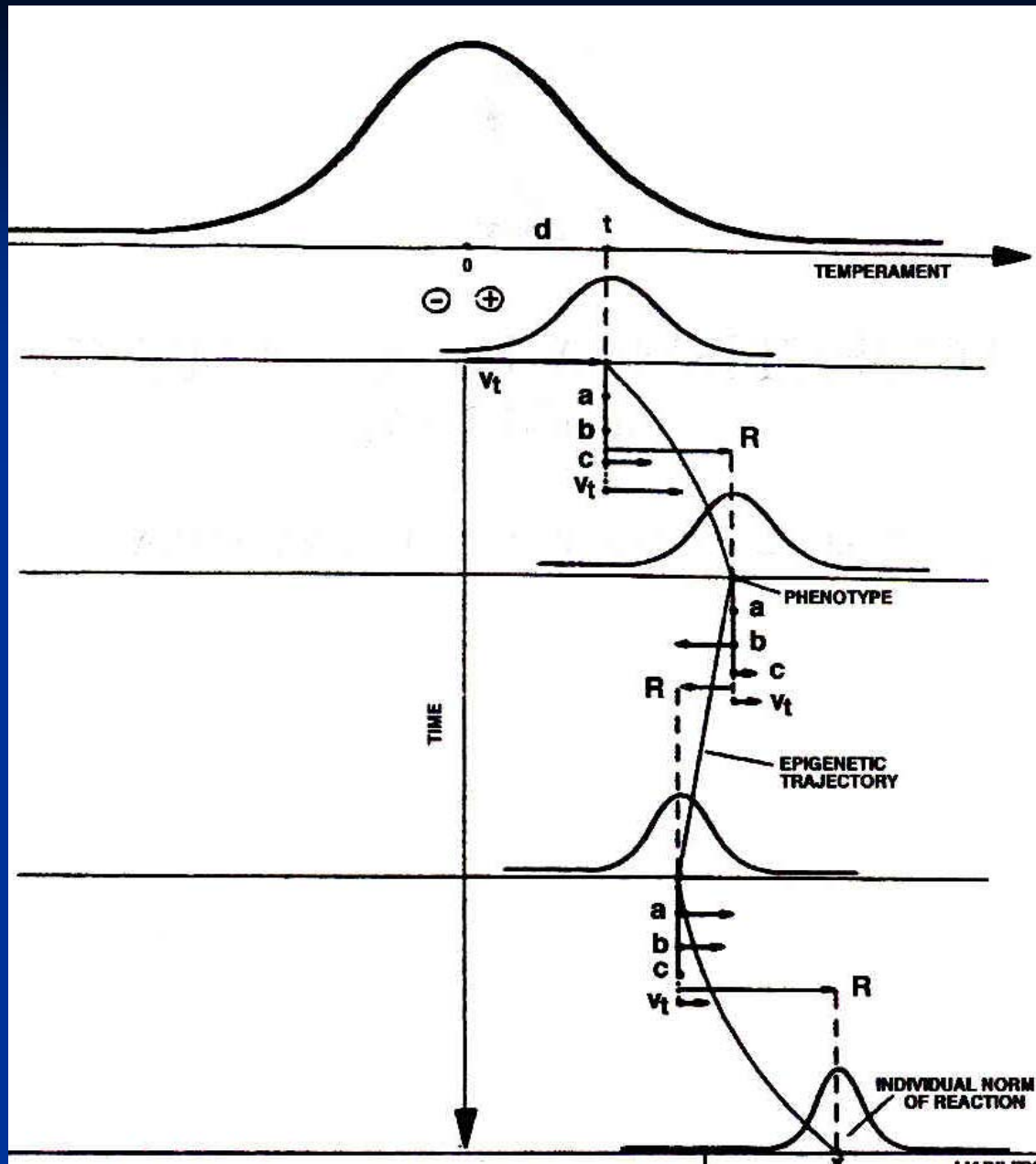
Early Substance Use-Related Problem Phenotypes

Initiation of use at a young age

Onset of regular use and substance use disorders at young ages

Liability-threshold Model of the Etiology of Substance Use Related Problems





Tarter &
Vanyukov
(1994)

Challenges in Operationalization of the Liability-Threshold Model

- * Research addressed specific theories / predictors
- * Many characteristics associated with substance use-related problems
- * Barriers to self-report assessments of children: attention span, need many measures, low verbal and reading abilities
- * Cultural differences magnified?

Substance Use-Related Problem Predictors

<u>Domain</u>	<u>Examples of Associated Factors</u>
<u>Self</u>	Impulsivity, Irritability, Social Disinhibition, Conduct Disorder, Gambling, Susceptibility to Peer Pressure
<u>Family</u>	Conflict, Familial Substance Use, Parental Monitoring, Parental Attitude RE: Drug Use, Parental Nurture
<u>Peers</u>	Peer Attitude RE: Drug Use, Gang Involvement, Peer Delinquency, Poor Peer Relationships,
<u>Community</u>	Relations with School Personnel, Atmosphere of Students, Neighborhood, Conventional Organizations,
<u>Environment</u>	Violence Exposure, Social Support, Gang Membership
<u>Drugs</u>	Exposure to Users, Early Initiation, Others' Approval of Use, Availability of Drug, Expected Future Use

Wish List for Self-Report Assessment of Substance Use Liability

- * Measure broad range of predictors
- * 9 to 12 year olds
- * Cannot require reading skills
- * Hold attention spans of children with ADHD for at least 45 minutes
- * Flexible measure: useful for etiologists, preventionists, clinicians

Features of the ALEXSA

Computerized (IACASI)

Text / Audio readings / Professional cartoons

Respond using mouse or touch-screen

Measures can be omitted or added

Separate illustrations for genders & soon ethnicities

ALEXSA Measures

125 Predictors of Substance Misuse (early initiation, abuse, or dependence)
(59 one-item, substance specific predictors)

Domains:

Self (academic, affect, behavior, cognitions, peers/social, performance, religiosity, self-control/coping)

Family

Peers

School

Demographic

General Environment

ALEXSA Sensation Seeking Scales - TAS

“Would you like to jump from a plane with a parachute someday?”



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“Would you like to jump from a plane with a parachute someday?”



No way!



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Probably not



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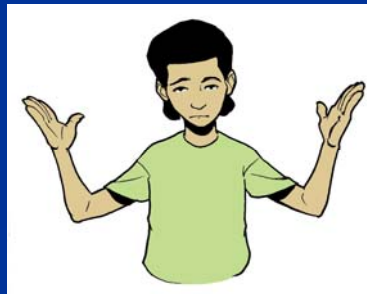


No way!

Probably not

I probably would

Yes – definitely!



ALEXSA Sensation Seeking Scales - TAS

“Would you like to jump from a plane with a parachute someday?”

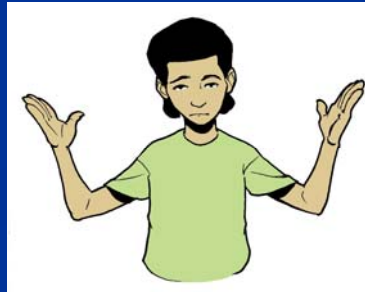


No way!

Probably not

I probably would

Yes – definitely!



ALEXSA Development: Reliability and Validity

School Samples (9-12, 5-15):

Rural Hispanics/Latinos (n=76), Rural Caucasians (n=127), Urban African-Americans (n=69); 42.2% boys

Psychiatric Inpatients (9-12):

Short-term care (n \approx 60), long-term placement (n \approx 20); 60% boys

ALEXSA Development: Reliability and Validity

Planned Missing Data Design

	Subgroup 1	Subgroup 2	Subgroup 3	Subgroup 4	Subgroup 5	Subgroup 6
CORE Measures	CORE	CORE	CORE	CORE	CORE	CORE
Subset 1	Family	Activities	School	Stressors	Coping	Distress
Subset 2	Distress	Family	Activities	School	Stressors	Coping
Subset 3	Coping	Distress	Family	Activities	School	Stressors
Total Items	186-220	179-213	163-205	156-199	163-206	179-214

Domain	Specific Predictor	# Items	Mean (Std Dev), N - or – Prevalence, N			
			All Samples	Rural Sample 1	Rural Sample 2	Urban Sample
Demogra	Age	1	10.37 (0.97), 256	10.16 (1.13), 63	10.31 (0.70), 127	10.70 (1.18), 66
	School Grade	1	4.63 (0.82), 260	4.46 (1.02), 65	4.53 (0.50), 127	4.99 (0.97), 68
	Ethnicity/Dad	1	na	na	na	na
	Ethnicity/Mom	1	na	na	na	na
	Gender	1	42.2% boys, 236	43.3% boys, 52	47.2% boys, 121	31.9% boys, 63
	Free School Meal	1	45.4%, 251	55.2%, 64	20.5%, 120	73.9%, 67
	Number Brothers	2	1.41 (1.18), 254	1.65 (1.13), 62	1.16 (1.11), 126	1.65 (1.27), 66
	Number Sisters	2	1.34 (1.24), 255	1.44 (1.25), 62	0.98 (0.97), 126	1.94 (1.45), 67
Environ	Conventional Organizations	3	5.93 (3.54), 122	4.25 (3.04), 32	6.51 (3.56), 59	6.55 (3.53), 31
	Gang Exposure	2	0.44 (.77), 259	0.67(0.97), 66	0.27 (0.61), 125	0.53 (0.74), 68
	Gun Access	1	0.32 (.74), 216	0.43(1.04), 30	0.30 (0.67), 127	0.31 (0.70), 59
	Neighborhood Atmosphere	5	1.32 (1.51), 170	0.97(1.39), 64	0.89 (1.24), 64	2.52 (1.47), 42
	School Atmosphere Students	4	7.88 (3.09), 135	5.35 (2.25), 37	8.40 (3.10), 65	6.21 (2.83), 34
	School Atmosphere Adults	3	5.21 (1.96), 136	8.53 (2.80), 36	5.28 (1.83), 65	4.94 (2.99), 68
	Year Stressors	26	5.77 (3.56), 120	5.80 (3.28), 30	4.90 (3.06), 59	7.39 (4.21), 31
	Violence Exposure	8	3.82 (5.92), 142	4.46 (7.41), 37	1.78 (3.30), 68	6.95 (6.61), 37
Family	Family Conflict	10	2.86 (2.77), 257	2.12 (2.50), 65	2.62 (2.59), 124	4.01 (2.99), 68
	Parent Attachment	7	14.57 (4.17), 139	14.06 (5.52), 35	14.93 (3.73), 67	14.41 (3.41), 37
	Parent Drug Probs	2	9.9%, 236	7.5%, 57	7.9%, 118	15.9%, 61
	Parent Law Probs	2	17.1%, 190	7.5%, 28	8.7%, 112	42.0%, 50
	Parental Monitoring	6	13.91 (3.85), 255	12.05 (4.54), 65	14.99 (3.27), 122	13.74 (3.43), 68
	Parental Nurturance	7	15.52 (3.45), 139	15.03 (3.74), 34	16.22 (3.32), 68	14.68 (3.25), 37

School Samples Results: Anecdotal

Only 8.4 % of participants took a break

On average, 176.24 items completed

A mean period of 57.94 minutes

School Samples Results: Reliability

Internal Consistency (39 measures):

87.1% $\alpha \geq 0.60$

10.3% α 0.50 to 0.59

Test-retest Reliability (77 measures):

51.0% reliabilities ≥ 0.70

36.4% 0.50 to 0.69

11.7% < 0.50

School Samples Results: Validity

557 Pearson r s were hypothesized a-priori,
based on studies re: ALEXSA predictors

417 (74.9%) were consistent with hypotheses

Of the 25.1% inconsistent with hypotheses:

- 29 hypothesized to be null

- 43 hypothesized to be positive

- 68 hypothesized to be negative

8.8% in non-hypothesized direction

Inpatient Samples Results: Reliability

Internal Consistency (42 measures):

69.0% $\alpha \geq 0.60$

19.0% α 0.50 to 0.59

Test-retest Reliability (67 measures):

85.1% ≥ 0.70

10.4% from 0.50 to 0.69

4.5% < 0.50

Inpatient Samples Results: Validity

Inpatient sample scores were, on average, worse than the school sample scores for:

Psychiatric Sx: *Conduct Disorder, Depression, Counter-control, Irritability, Coping & Self-control, Social Disinhibition*

Other Critical Risks: *Deviancy Tolerance, Peer Pressure Susceptibility, Peers' Conduct Disorder, Etoh & Tobacco Use, Gambling*

Results with Treatment Implications

8-13 year olds experiencing chronic stressor (family death, addicted family member, academic problems); N = 388

Predict early initiation of alcohol (29.9%), tobacco (16.1%)

Implement prevention programming

Monitor changes in clients

Results with Treatment Implications

Significant Alcohol Univariate ORs:

Age, Parental Use, Sibling Use, Grandparent Use, Parent Law Problem, Friend Use, Celebrity Use, Availability, Use is Safe, Impulsivity, Depression, Irritability, Conduct Disorder Sx, and Susceptibility to Peer Pressure

Multivariate Logistic Regressions:

Availability: Susceptibility to Peer Pressure

Friend User: Friend User * Use is Safe

Impulsivity: Impulsivity * Use is Safe

Results with Treatment Implications

Significant Tobacco Univariate ORs:

Age, Parental Use, Sibling Use, Grandparent Use, Parent Drug Problem, Parent Law Problem, Friend Use, Availability, Use is Safe, Impulsivity, Depression, Irritability, Conduct Disorder Sx, and Susceptibility to Peer Pressure

Multivariate Logistic Regressions:

Availability: Susceptibility to Peer Pressure

Sibling Use and Grandparent Use accounted for most other univariate associations

ALEXSA Uses in Addiction Treatment Research

Family Assessment

Treatment Outcomes Measure

Secondary Prevention Outcomes

Secondary Etiological Studies