

Relation Between Adverse Childhood Experiences (ACE), Psychopathy, and Risk for Sexual Recidivism

Krystine Jackson, Psy.D.

Rachel Kahn, Ph.D.

Kerry Keiser



*Not present: Co-investigator Jill Levenson, PhD



BACKGROUND

Adverse Childhood Experiences (ACE)

- **Categories:** (Larkin, Shields, & Anda, 2012)
 - Witnessing DV
 - Emotional & physical neglect
 - Physical, emotional, & sexual abuse
 - Loss of a parent or family member incarcerated
 - Raised with mentally ill or substance abusing household members
- **Frequently co-occur** (Levenson, Willis & Vicencio, 2017)

ACE Reliability

- Good test-retest reliability (Dube et al., 2004)
- Additive impact of ACEs is likely due, at least in part, to probabilities of more harmful ACE items (Schilling et al., 2008)
- Examination of individual ACE items, instead of ACE aggregate scores, to avoid misleading results/interpretation



ACE PREVALENCE RATES (CDC, 1998; N = 17,000+)

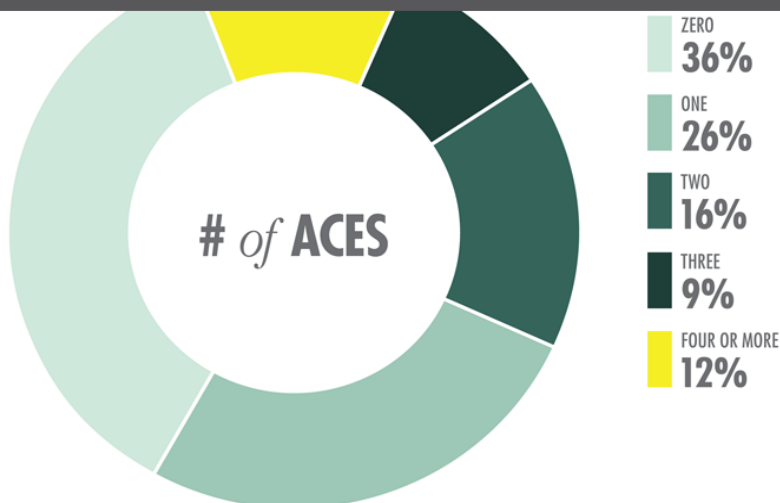


Levenson, 2017

ADVERSE CHILDHOOD EXPERIENCES

looking at how ACEs affect our lives & society

1 2 3 4



Levenson, 2017; CDC, 1998

Almost two-thirds of adults surveyed reported at least one Adverse Childhood Experience – and the majority of respondents who reported at least one ACE reported more than one.

PROFOUND IMPACTS ON MEDICAL, BEHAVIORAL HEALTH, AND PSYCHOSOCIAL ADULT OUTCOMES

ACES can have lasting effects on....



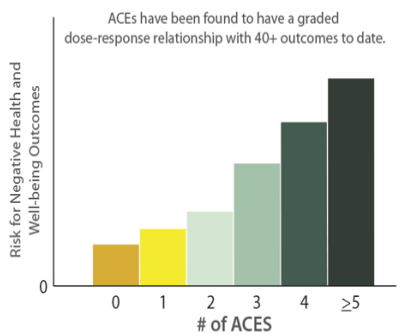
Health (obesity, diabetes, depression, suicide attempts, STDs, heart disease, cancer, stroke, COPD, broken bones)



Behaviors (smoking, alcoholism, drug use)

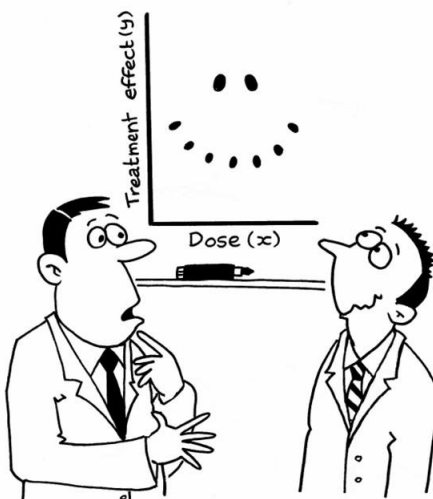


Life Potential (graduation rates, academic achievement, lost time from work)



Levenson, 2017

Dose-response



"It's a non-linear pattern with outliers.....but for some reason I'm very happy with the data."

Dose-response

- Multitude of health and social problems:
 - Risk factors for poor health
 - e.g., obesity
 - Prevalent diseases
 - e.g., cancer; STDs
 - Mental health problems
 - e.g., anxiety; sleep disturbances; poor anger control
 - General health & social problems
 - e.g., impaired job performance; high perceived stress

(De Venter, Demyttenaere, & Bruffaerts, 2013; Dube et al., 2001; Kelly-Irving et al., 2013; Lalor & McElvaney, 2010; Liu, Yang, Shi, Liu, & Wang, 2016; Ramiro, Madrid, & Brown, 2010)

Compounding & Detrimental

- “Problem-saturated households” (Easton, 2012)
- “Early stressors exert prolonged influence into later years through stress proliferation—a cascade of processes that accumulate stressful events in adulthood, increasing susceptibility to compromised psychosocial functioning” (Nurius, Green, Logan-Greene, & Borja, 2015)
- Need for preventative/reactive strategies

ACE scores higher in clinical, criminal,
and marginalized populations



Levenson, 2016

11

ACE & Mental Illness

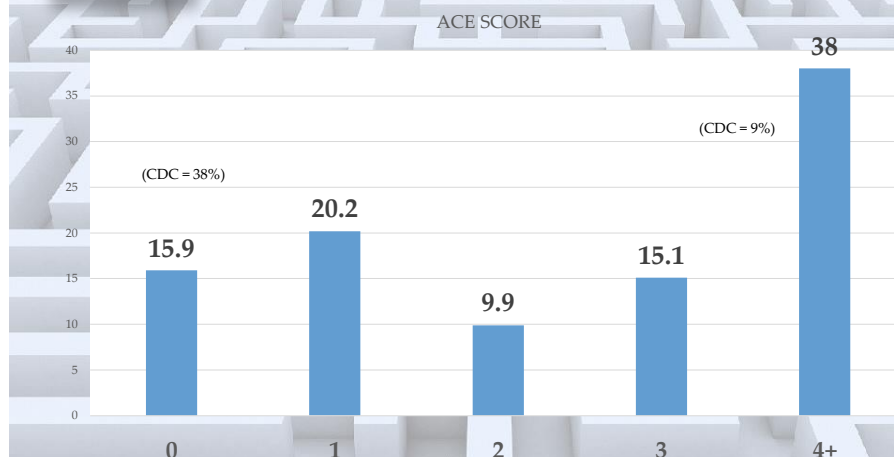
- ACE's significantly related to serious mental illness in adulthood
 - Additive and “multiplicative synergistic effects”
 - Lack of ACEs act as a protective factor against development of mental illness
(Putnam, Harris, & Putnam, 2013)

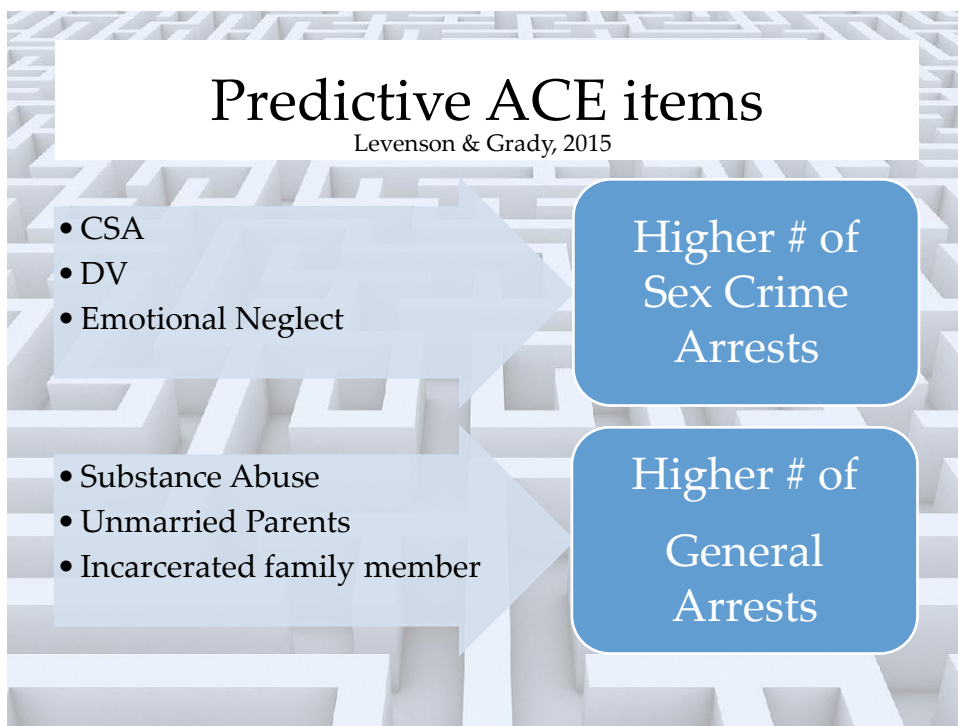
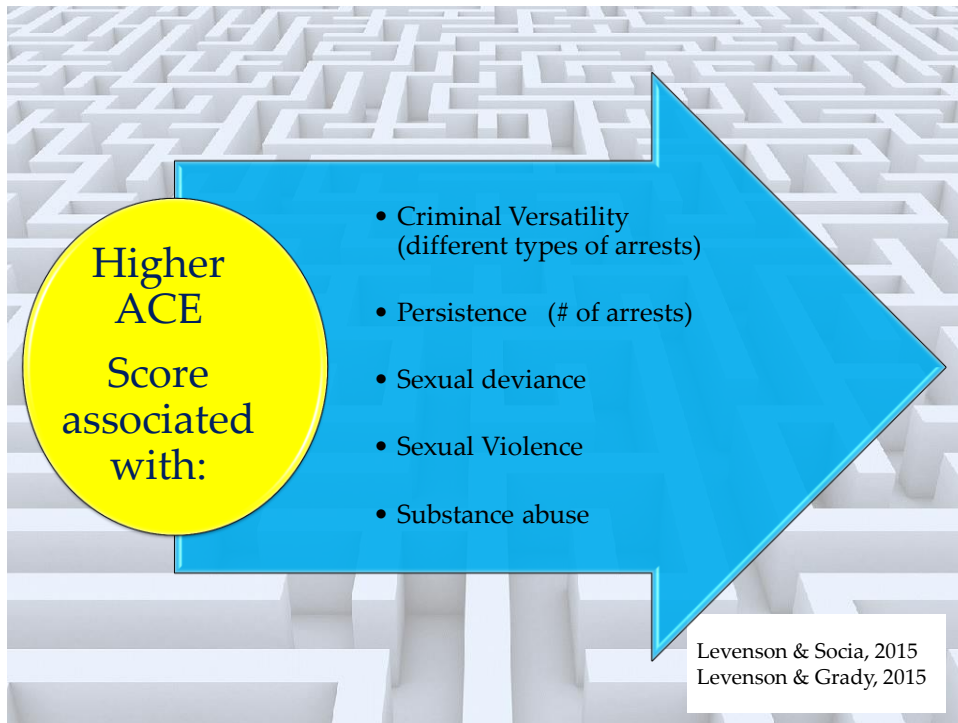
ACES AND SEXUAL OFFENDERS

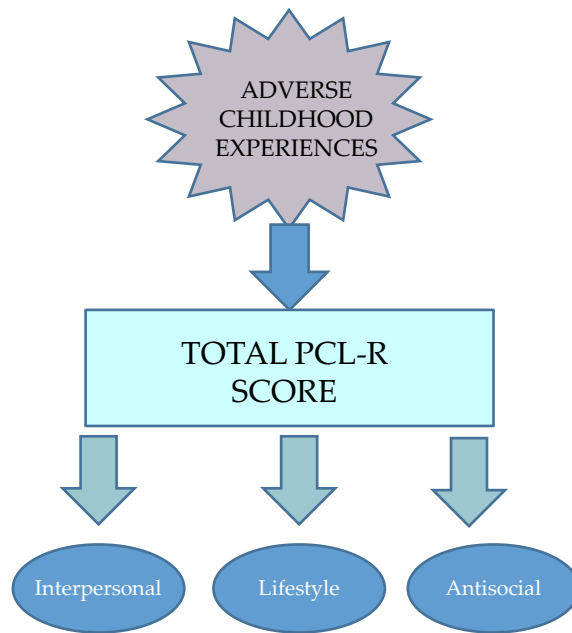
SO samples are 4-5X more likely than males in the general population to have ACE scores of 4+

Male SO in TX (n = 366)

Levenson, Willis & Vicencio, 2017, JCSA





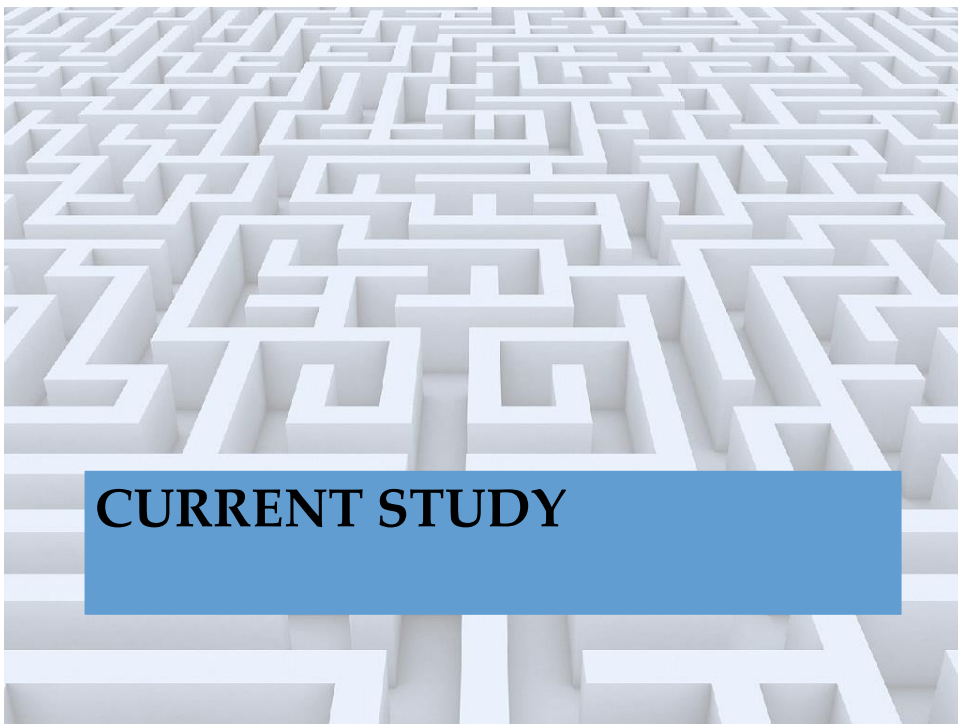
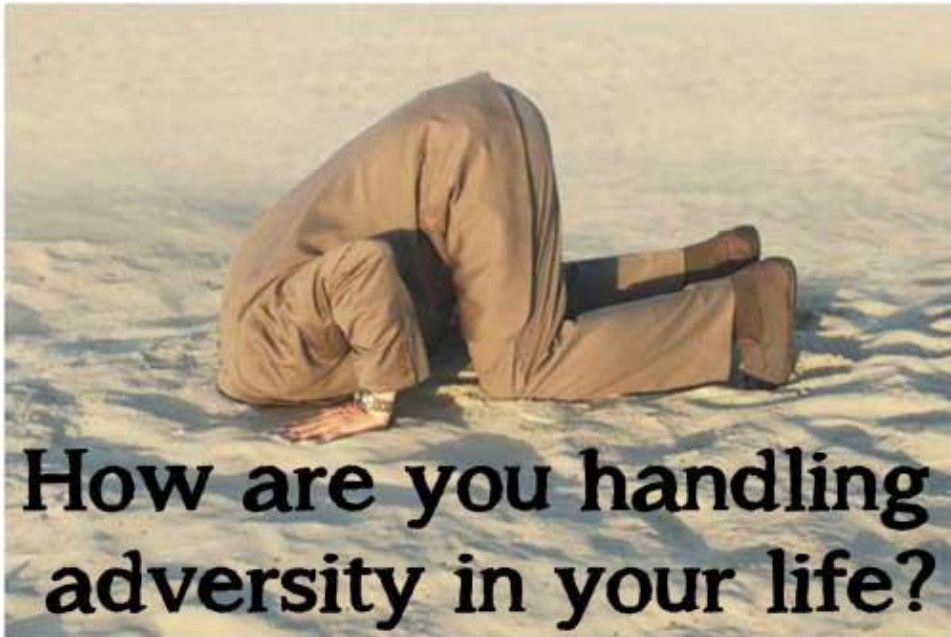


Graham, Kimonis, Wasserman, & Kline, 2012

Psychopathy and ACE



Krstic, Knight, & Robertson, 2016



Aims

- Frequency of ACEs in a sample of civilly committed sex offenders and
 - Comparison to other samples.
- ACEs relationships to mental health diagnoses.
- Relationships between ACEs, Static-99R, and PCL-R.
- Implementation of RNR

To Answer

- What is the frequency of ACEs in a sample of civilly committed sex offenders?
 - How does that compare to other samples?
 - Which ACEs are highly correlated?
- How are ACEs associated with mental health diagnoses such as anxiety, depression, or paraphilias?

To Answer

- Do high ACEs predict higher levels of psychopathy or risk for recidivism?

Specific Hypotheses

- Higher ACE scores will predict higher Factor 1 and Factor 2 scores on PCL-R.
 - Due to stronger associations between ACE scores and Facets 2 and 4
- Higher ACE scores will predict higher risk of recidivism (as measured by the Static99R).



METHODOLOGY & PROCEDURES



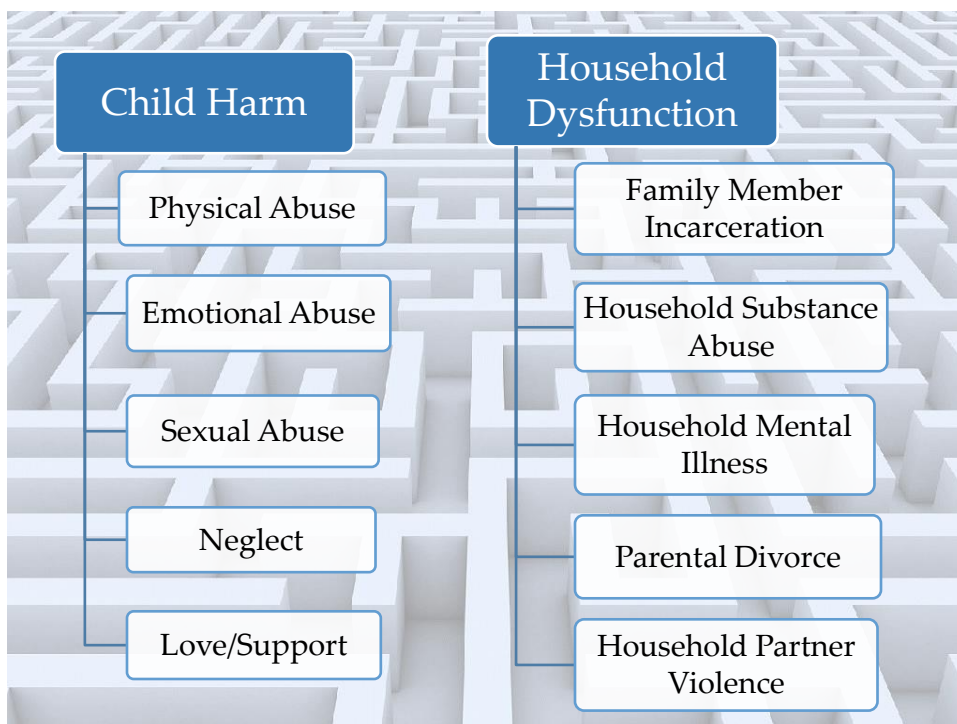
Participants

- $N = 319$ Adult male sex offenders residing at SRSTC
- Age: $M = 51.41$ ($SD = 10.60$)
- Race: 69% White; 23.2% Black; 5% Native American; 2.2% Hispanic; 0.6% Other
 - Dichotomized: 0 'Minorities' 1 'White'
- Full Scale IQ: $M = 87.18$ ($SD = 15.93$)

Measures

Adverse Childhood Experiences (ACE; CDC, 2013; Felitti et al., 1998; <https://www.cdc.gov/violenceprevention/acestudy/>)

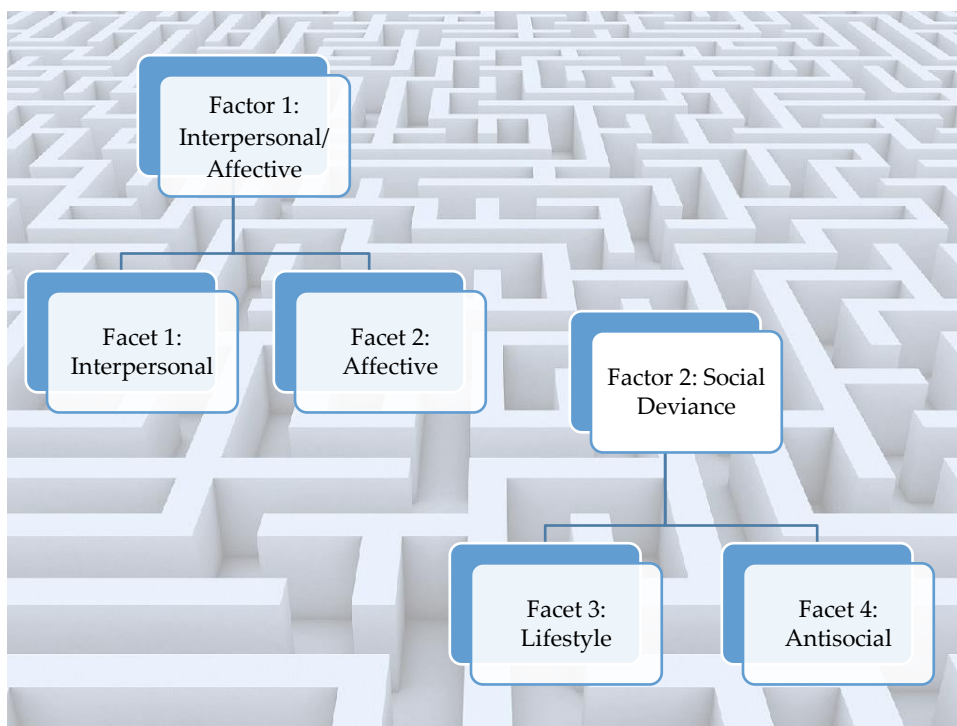
- 10 item self-report dichotomous (yes/no) scale
- Total score reflects number of adverse experiences.
- Reliability in current sample ($\alpha = .79$)



Measures

Psychopathy Checklist – Revised (*PCL-R*; Hare, 2003)

- Semi-structured interview and collateral file review.
- 20 items scored on a 3-point scale
- Two factors
 - Four facets



Measures

Static99R (Hanson & Thornton, 2000; Helmus, Thornton et al., 2012)

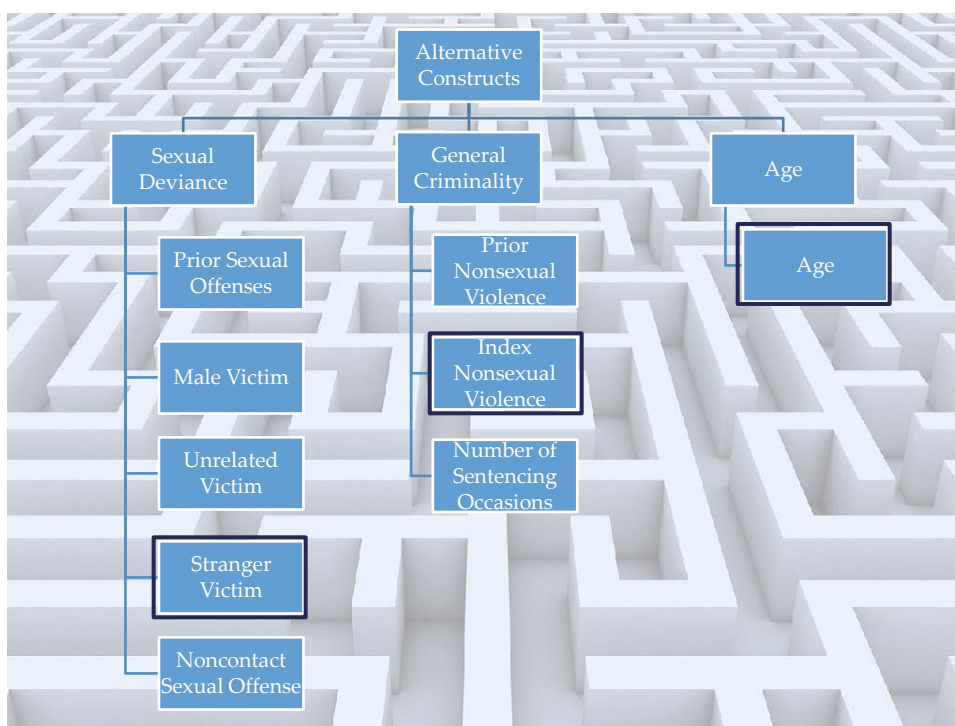
- 10 item scale completed by a trained rater that has a total score ranging from -3 to 12
- Actuarial risk assessment tool designed to predict sexual recidivism



Measures

Static99R (*Hanson & Thornton, 2000; Helmus, Thornton et al., 2012*)

- Alternative latent constructs
 - Persistence/Paraphilia (Sexual deviance)
 - General Criminality
 - Age



Procedures

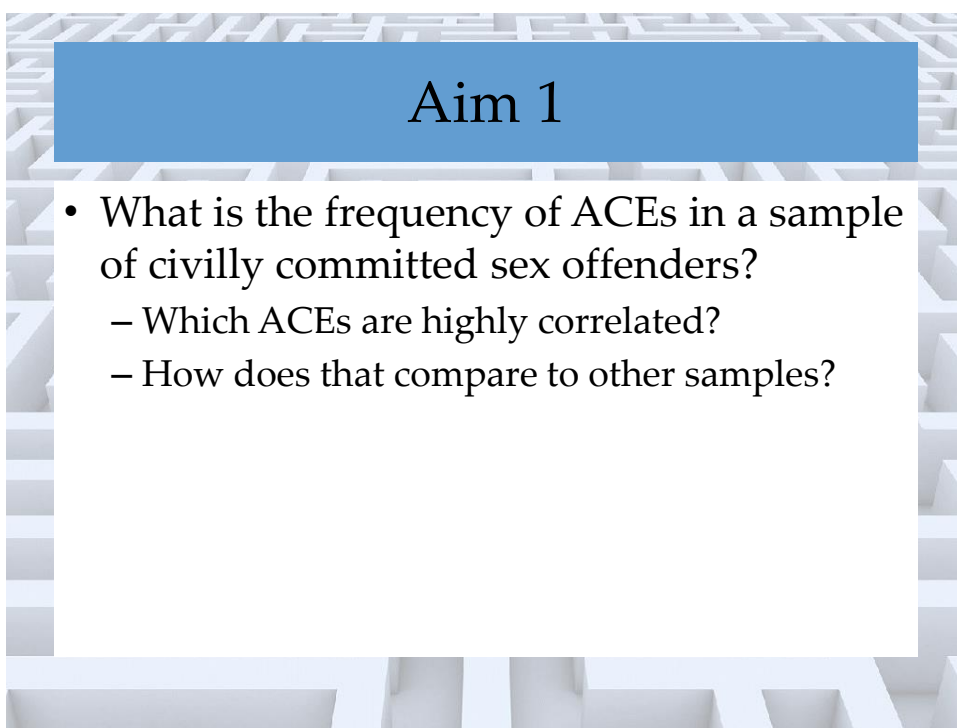
- Patients were assessed as part of routine clinical practice or during their yearly risk evaluations.

Analytic Procedures

- Frequency distributions, odds ratio calculations (SPSS v. 24)
- Point-biserial correlations; logistic regressions (SPSS v. 24)
- Path Analyses (AMOS v. 24)



RESULTS



Aim 1

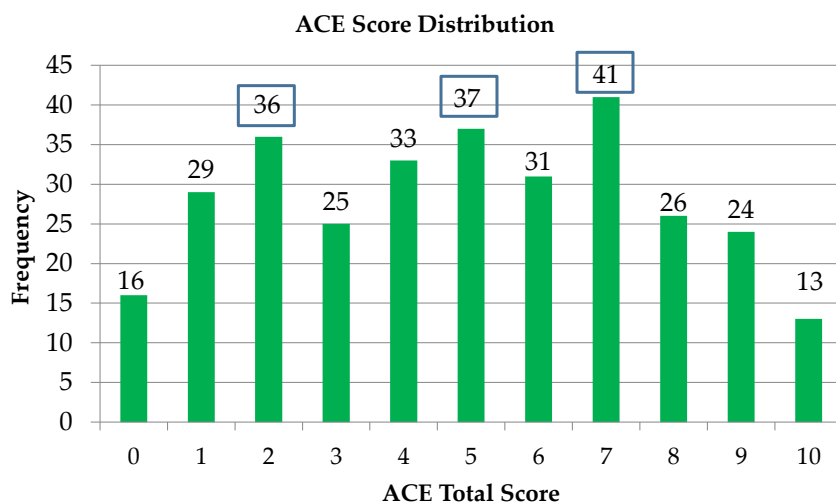
- What is the frequency of ACEs in a sample of civilly committed sex offenders?
 - Which ACEs are highly correlated?
 - How does that compare to other samples?

ACE SCORES

M = 4.85 (SD = 2.80); Range = 0 – 10; Median = 5.00

Total Score	Count	%
0	16	5.1%
1	29	9.3%
2	36	11.6%
3	25	8.0%
4+	205	65.9%
<i>TOTAL</i>	<i>311</i>	

FREQUENCY DISTRIBUTION



ACE BY ITEM

ACE Item	% Yes
Verbal Abuse	67.8%
Physical Abuse	61.1%
Divorce	60.1%
Substance Abuse	57.6%
Sexual Abuse	56.9%
Emotional Neglect	52.4%
Domestic Abuse	34.4%
Physical Neglect	33.1%
Mental Illness	33.1%
Incarceration	32.2%

Comparison Populations

CDC (N = 17,337)

Males: 7,970

Race: 74.8% White

11.2% Hispanic/Latino

7.2% Asian/Pacific
Islander

4.5% African American

2.3% Other

Age: 48.3% between 30
and 60

Levenson et al. (2014; N = 679 sex offenders)

28% in civil
commitment

72% in outpatient

Race: 67% white; 32%
minority

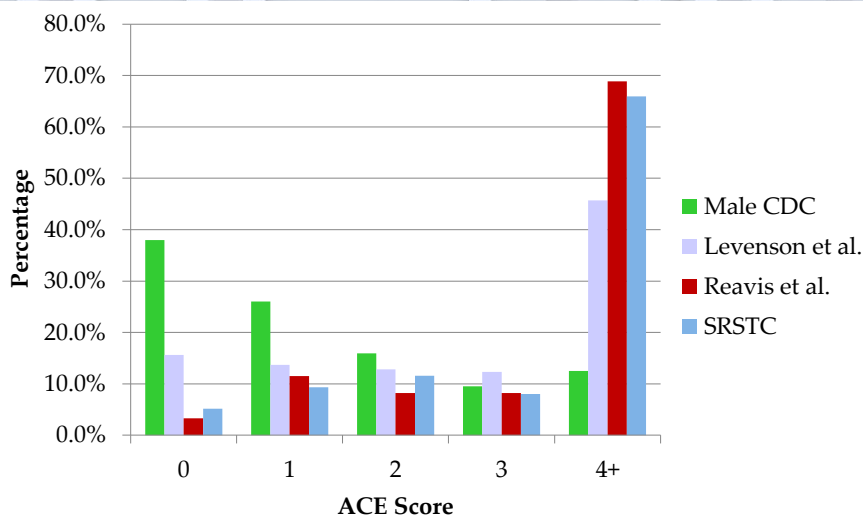
Age: 71% between the
ages of 30 and 60 years

Reavis et al. (2013; N = 61 sex offenders)

Court ordered for
outpatient
treatment

Part of a larger
sample of
offenders

ACE – SRSTC VS. OTHER SAMPLES

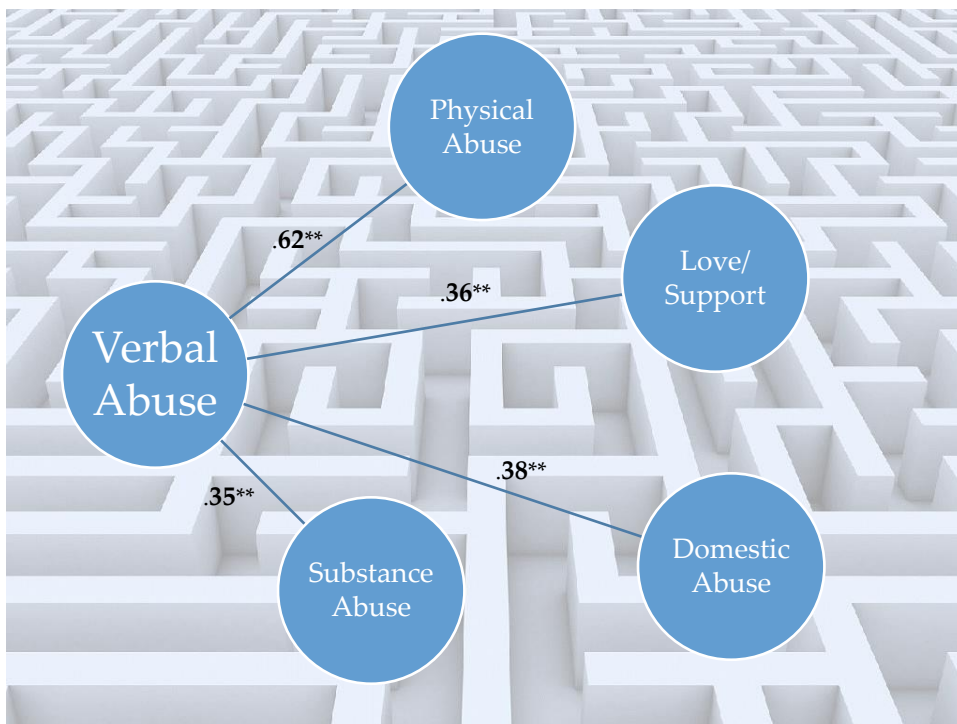


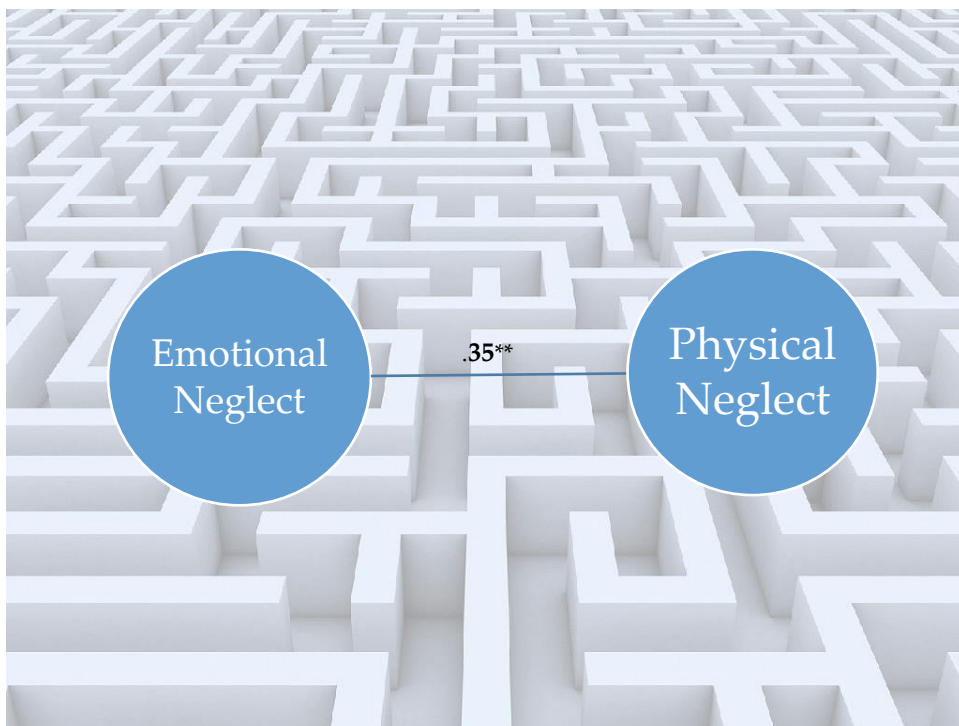
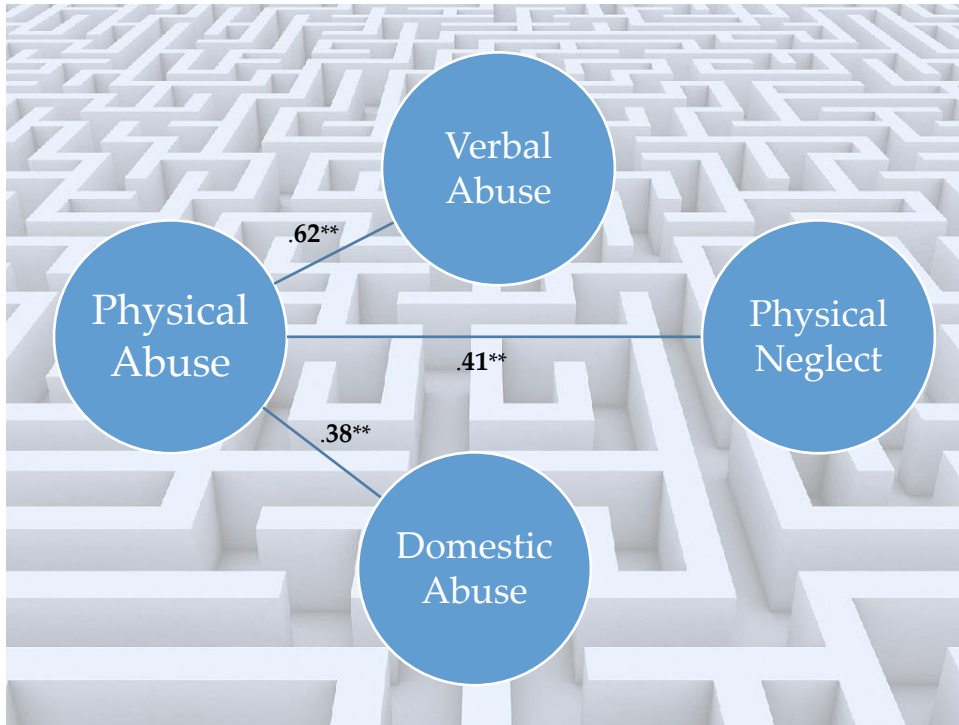
ACE – SRSTC vs. Other Samples

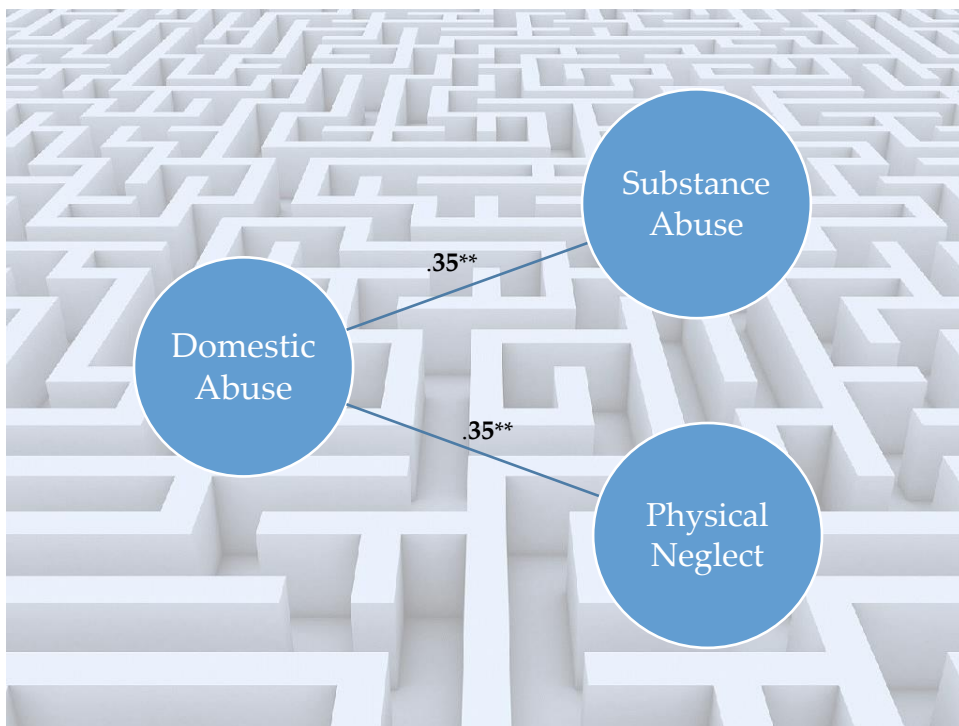
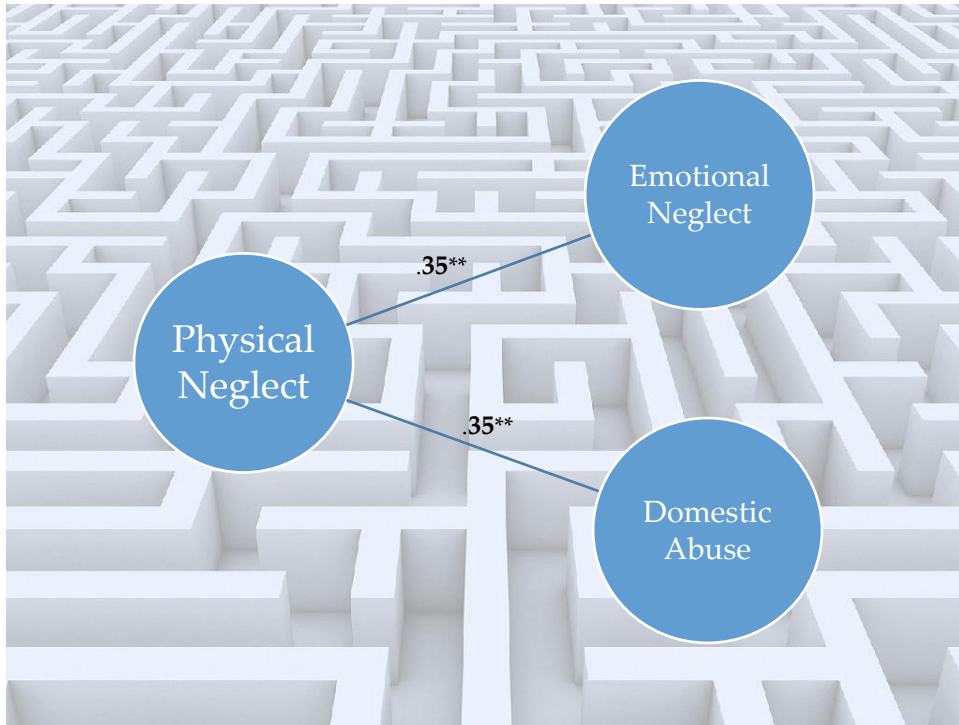
ACE Item	Odds Ratio (SRSTC / CDC)	Odds Ratio (SRSTC / Levenson)
1. Verbal Abuse	25.65	1.85
2. Physical Abuse	3.68	2.15
3. Sexual Abuse	6.93	2.16
4. Emotional Neglect	7.78	1.83
5. Physical Neglect	4.13	2.62
6. Divorce	5.41	1.27
7. Domestic Abuse	4.04	1.66
8. Substance Abuse	4.34	1.55
9. Mental Illness	2.85	1.42
10. Incarceration	11.09	1.62

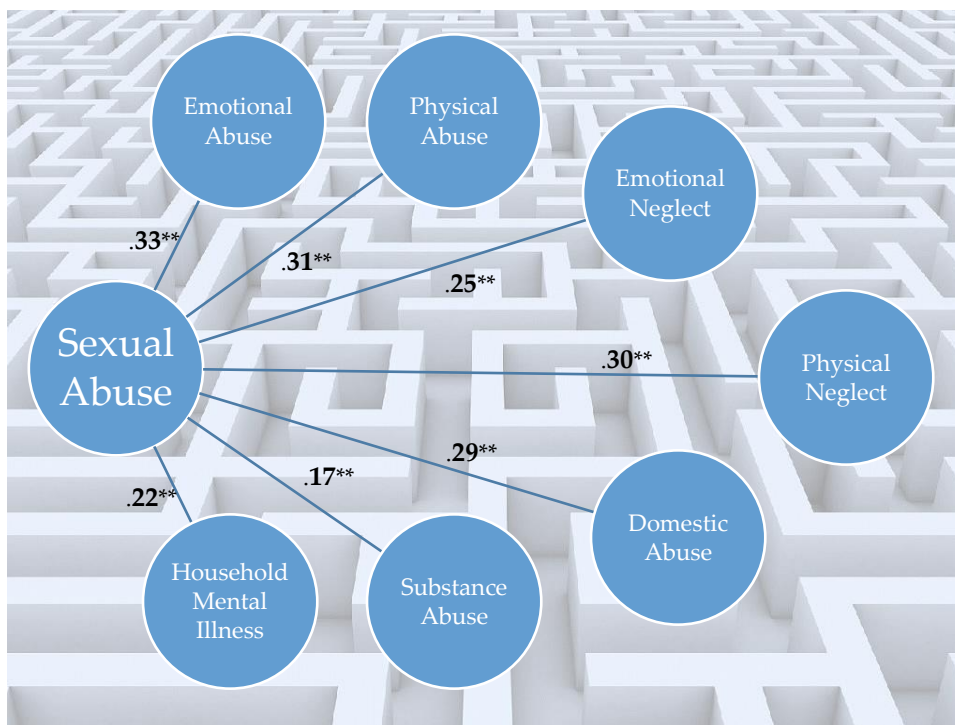
ACE Correlations

	ACE 1	ACE 2	ACE 3	ACE 4	ACE 5	ACE 6	ACE 7	ACE 8	ACE 9
ACE 1									
ACE 2	.62**								
ACE 3	.33**	.31**							
ACE 4	.36**	.30**	.25**						
ACE 5	.32**	.41**	.30**	.35**					
ACE 6	.20**	.18**	.07	.12*	.21**				
ACE 7	.38**	.38**	.29**	.31**	.35**	.30**			
ACE 8	.35**	.29**	.17**	.20**	.32**	.22**	.35**		
ACE 9	.32**	.25**	.22**	.29**	.29**	.24**	.31**	.31**	
ACE 10	.15**	.13*	.05	.02	.20**	.24**	.21**	.29**	.15**









Note:

- Item 6 (Parental Divorce) and Item 10 (Household Member Incarceration) were not strongly associated with any other ACE items.

Aim 2

- How are ACEs associated with mental health diagnoses such as anxiety, depression, paraphilias, or personality disorders?

Point-Biserial Correlations

	ACE (Child Harm)	ACE (Household Dysfunction)	ACE Total
Pedophilia	.15**	-.02	.08
Any Paraphilia	.15**	-.01	.08
Anxiety Disorder	.13*	.11*	.14**
Depressive Disorder	.10	.09	.11*
Antisocial Personality Disorder	.05	.16**	.12*

$p \leq .05$, ** $p \leq .01$

Pedophilia

	B (SE)	Lower	Odds Ratio	Upper
Age	.02 (.01)	1.00	1.02	1.04
Race	1.66* (.28)	3.02	5.26	9.12
IQ	-.01 (.01)	.98	.99	1.01
ACE Total	.07 (.05)	.98	1.07	1.17
Note. $R^2 = .13$ (Cox & Snell), .17 (Nagelkerke). Model $\chi^2(8) = 5.99$, $p = \text{n.s.}$				

	B (SE)	Lower	Odds Ratio	Upper
Age	.01 (.01)	.99	1.02	1.04
Race	1.59* (.29)	2.77	4.89	8.62
IQ	-.01 (.01)	.98	.99	1.01
ACE (Child Harm)	.15 ⁺ (.09)	.98	1.17	1.39
ACE (Household Dysfunction)	-.03 (.10)	.80	.97	1.18
Note. $R^2 = .13$ (Cox & Snell), .17 (Nagelkerke). Model $\chi^2(8) = 1.81$, $p = \text{n.s.}$				

Any Paraphilia

	B (SE)	Lower	Odds Ratio	Upper
Age	.07* (.02)	1.03	1.07	1.10
Race	1.61* (.32)	2.68	4.99	9.30
IQ	.02 (.01)	1.00	1.02	1.04
ACE (Total Score)	.13* (.06)	1.02	1.14	1.28
Note. $R^2 = .14$ (Cox & Snell), .22 (Nagelkerke). Model $\chi^2(8) = 9.95$, $p = \text{n.s.}$				

	B (SE)	Lower	Odds Ratio	Upper
Age	.07* (.02)	1.03	1.07	1.10
Race	1.55* (.33)	2.46	4.69	8.93
IQ	.02 (.01)	.99	1.02	1.04
ACE (Child Harm)	.20 ⁺ (.11)	.98	1.22	1.51
ACE (Household Dysfunction)	.06 (.13)	.83	1.06	1.35
Note. $R^2 = .15$ (Cox & Snell), .22 (Nagelkerke). Model $\chi^2(8) = 11.08$, $p = \text{n.s.}$				

Anxiety Disorder

	B (SE)	Lower	Odds Ratio	Upper
Age	-.02 (.04)	.92	.98	1.06
Race	1.10 (1.09)	.36	3.01	25.46
IQ	-.01 (.03)	.99	.95	1.04
ACE (Total Score)	.35* (.16)	1.03	1.42	1.94

Note. $R^2 = .03$ (Cox & Snell), .12 (Nagelkerke). Model $\chi^2(8) = 6.98$, $p = \text{n.s.}$

	B (SE)	Lower	Odds Ratio	Upper
Age	-.02 (.04)	.91	.98	1.06
Race	1.06 (1.10)	.34	2.89	24.96
IQ	-.01 (.03)	.99	.94	1.04
ACE (Child Harm)	.43 (.33)	.80	1.53	2.93
ACE (Household Dysfunction)	.28 (.29)	.76	1.33	2.33

Note. $R^2 = .03$ (Cox & Snell), .12 (Nagelkerke). Model $\chi^2(8) = 6.88$, $p = \text{n.s.}$

Depressive Disorder

	B (SE)	Lower	Odds Ratio	Upper
Age	.04* (.02)	1.00	1.04	1.08
Race	.67 (.49)	.75	1.95	5.13
IQ	-.01 (.01)	.96	.99	1.01
ACE (Total Score)	.18* (.08)	1.03	1.19	1.38

Note. $R^2 = .03$ (Cox & Snell), .07 (Nagelkerke). Model $\chi^2(8) = 10.76$, $p = \text{n.s.}$

	B (SE)	Lower	Odds Ratio	Upper
Age	.04* (.02)	1.00	1.04	1.08
Race	.69 (.50)	.74	1.98	5.31
IQ	-.01 (.01)	.96	.99	1.01
ACE (Child Harm)	.16 (.15)	.88	1.17	1.56
ACE (Household Dysfunction)	.20 (.15)	.90	1.22	1.65

Note. $R^2 = .03$ (Cox & Snell), .07 (Nagelkerke). Model $\chi^2(8) = 7.24$, $p = \text{n.s.}$

Antisocial Personality Disorder

	B (SE)	Lower	Odds Ratio	Upper
Age	-.01 (.01)	.97	1.00	1.02
Race	-1.29* (.28)	.16	.28	.48
IQ	.02* (.01)	1.00	1.02	1.03
ACE (Total Score)	.11* (.05)	1.02	1.12	1.22

Note. $R^2 = .09$ (Cox & Snell), .12 (Nagelkerke). Model $\chi^2(8) = 4.51$, $p = n.s.$

	B (SE)	Lower	Odds Ratio	Upper
Age	-.01 (.01)	.98	1.00	1.02
Race	-1.22* (.29)	.17	.30	.52
IQ	.02* (.01)	1.00	1.02	1.03
ACE (Child Harm)	.04 (.09)	.88	1.04	1.23
ACE (Household Dysfunction)	.20* (.10)	1.01	1.22	1.47

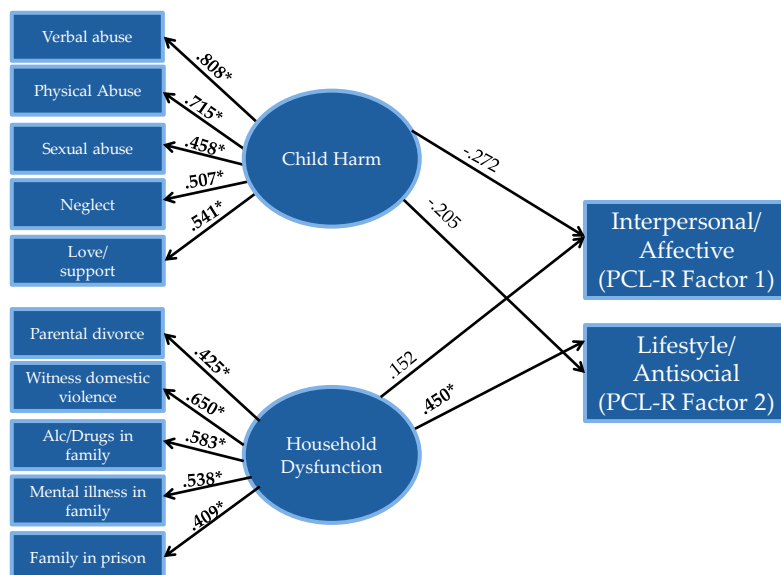
Note. $R^2 = .09$ (Cox & Snell), .12 (Nagelkerke). Model $\chi^2(8) = 6.22$, $p = n.s.$

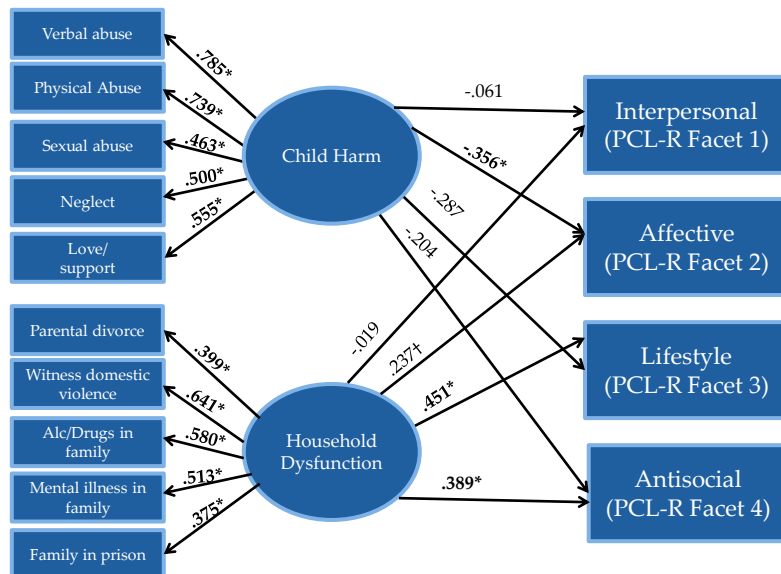
ACE groups

	<u>Low ACE</u> (n = 109) (Mean = 1.66)	<u>Moderate ACE</u> (n = 106) (Mean = 4.96)	<u>High ACE</u> (n = 104) (Mean = 8.09)
Any Paraphilia	1.25	1.93	2.93
Anxiety Disorder	1.78	5.61	16.70
Depressive Disorder	1.33	2.38	4.12
ASPD	1.20	1.73	2.45

Aim 3

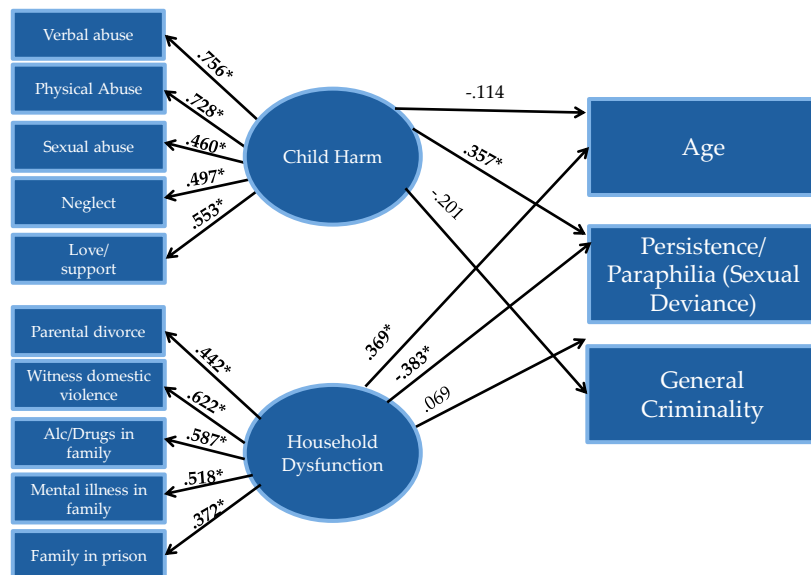
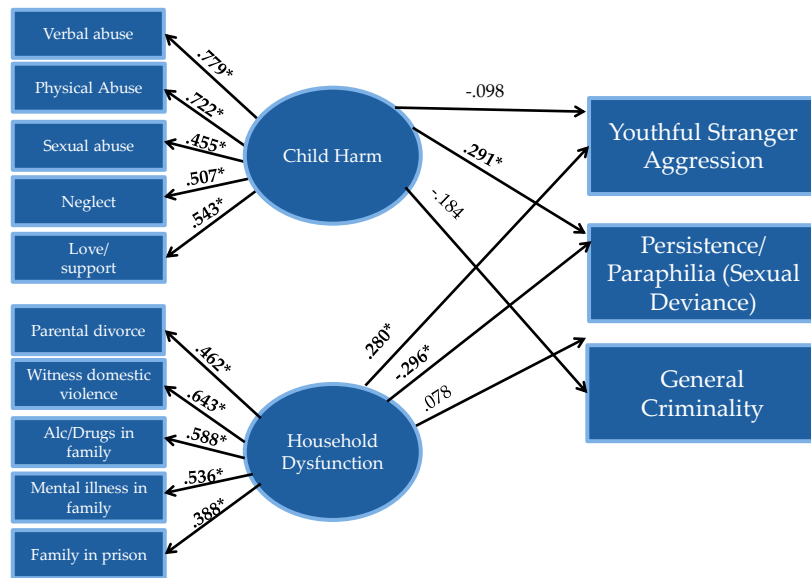
- Higher ACE scores will predict higher Factor 1 and Factor 2 scores on PCL-R.
 - Due to stronger associations between ACE scores and Facets 2 and 4





Aim 4

- Higher ACE scores will predict higher risk of recidivism (as measured by the Static99R).





Summary

- Approximately 66% of patients at Sand Ridge reported experiencing 4+ ACEs
- Highest frequency items
 - Verbal Abuse
 - Physical Abuse
 - Divorce

Higher ACE scores for SRSTC patients

- Higher rates of ACEs compared to other samples
 - For example: Up to 25X more likely than CDC sample to experience verbal abuse
 - For example: Up to 2.5X more likely than sex offender sample to experience physical neglect

ACE Item Inter-Correlations

© MAZIE ANDERSON

WWW.ANDERSTOONS.COM



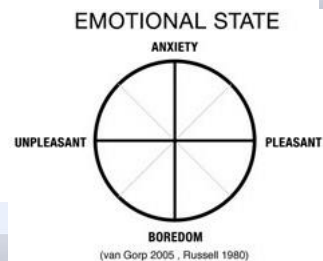
"It's important to remember that correlation does not imply causation. Besides, we all know it was Brian."

ACE Item Inter-Correlations

- Co-occurrence of ACEs was high among SRSTC population
- Exception of parental divorce and parent being incarcerated

ACEs & Mental Health Px

- Child harm items
 - Pedophilic Disorder; any paraphilic disorder; anxiety disorders
- Household dysfunction:
 - Anxiety disorders and ASPD
- ACE total score
 - Anxiety and Depressive disorders



ACEs & ASPD

- ACE total score
 - One unit change increases odds of being diagnosed with ASPD by 12%



ACEs & PCL-R

- Household dysfunction → Factor 2 (Social Deviance)
- Household dysfunction → *Facets* 3 (Lifestyle) & 4 (Antisocial)

ACE & PCL-R

- Child harm: significant negative predictor of Facet 2 (Affective)
 - Cautious interpretation
 - Less emotional distress
 - CU traits may be protective
 - Kristic, Knight, & Robinson (2016) findings



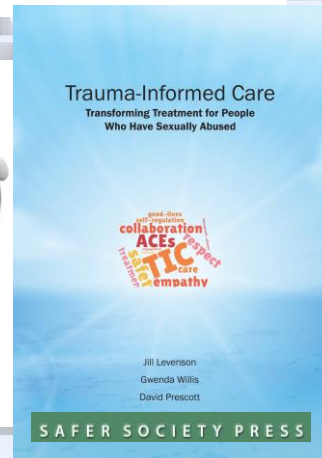
ACE & Static-99R

- Child harm significantly predicted:
 - Sexual deviance
- Household dysfunction
 - negative predictor of sexual deviance
 - significant predictor of youthful stranger aggression
 - significant predictor of age

How do ACEs translate into sexual assault?*

*Sex offenders use sexual assault to meet emotional and social needs

- Children are less threatening
- Early conditioning experiences
- Learned behavior
- Sexualized coping
- Self-regulation deficits/problems



Levenson, Willis, & Prescott (2017)

Neurobiological Effects of Childhood Adversity

Attachment

- Early trauma impacts relational skills
- Impairs Trust

Cognition

- Following trauma, brain selectively focuses on maintaining safety rather than planning, learning, or future-oriented activities

Self-regulation

- Cognitive processing impairment can result in long-term effects on emotional and behavioral self-control capacities

Levenson 2016

TIC & Prevention

What do we know about human nature?

Children need to feel

- Accepted
- Valued
- Connected
- Empowered

In the absence of this...

- Crime
- Gangs
- Boundary violations
- Self Medication

TX = corrective experience: opportunities for

- Attachments
- Meaningful pursuits
- Self efficacy
- Self Sufficiency

Levenson, Willis & Prescott (2017)

Public Policy



Today's abused and neglected children are more likely than non-abused youngsters to become tomorrow's criminal offenders.

Disadvantaged communities breed hopelessness, disempowerment, and maladaptive coping.

Investing in primary prevention services for at-risk families and marginalized communities is critical to breaking the intergenerational cycle of violence.

Levenson, Willis & Prescott (2017)

