



# APA ANNUAL CONVENTION

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## Validation of the Battered Woman Syndrome Questionnaire

Nova Southeastern University

# Validation of the Battered Woman Syndrome Questionnaire

Nova Southeastern University

## Overview

- 40 Year History of the BWSQ

Lenore Walker, Ed.D.

- Adult Factors

Estefania V. Masias, M.S.

- Childhood Factors

Leah Taylor, M.S.

- Relationship Factors

Elizabeth Fuller, M.S.

- Validity and Reliability

Danielle Millen, B.A.

- Factor Analysis

Tom Kennedy, PH.D.

# BWSQ Project Beginnings

- 1974-1975
- Recognized battered moms from battered child
- Qualitative interviews with convenience sample of 100+ BW
- Traveled to England & U.S. visiting shelters
- Themes
  - Cycle of violence
  - Loose belief in escape but better coping skills
  - No differences in demographics
- Several HHS grants and Congressional Testimony

# 1978-1983 NIMH RO1 Grant

- Interviewed 400 self referred BW who met criteria in 6 state Rocky Mt Region
- 30 interviewers trained
- Stratified sample according to census
- BWSQ developed with Q & several assessment
- Forced choice and open-ended Q
- Different sections of BWSQ
- Took 4 to 6 hours
- After analysis (BWS Book 1<sup>st</sup> Ed) shortened to 3

# BWS Book 2<sup>nd</sup> Ed 2000

- Reviewed literature
- Added sections where agreement & disagreement with original findings
- Developed treatment plans (STEP)
- Used data to testify in legal cases- BWS Self Defense

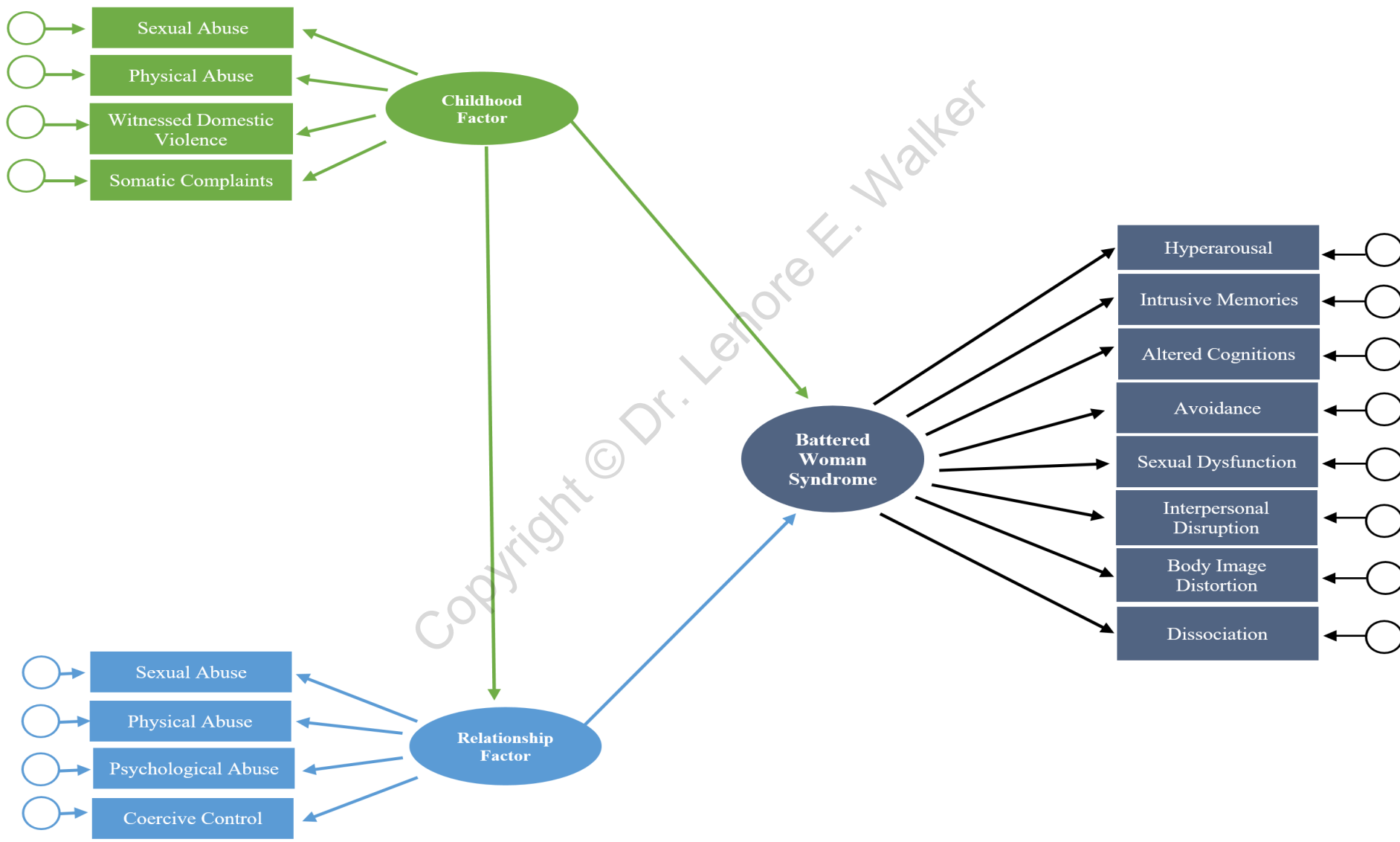
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# NSU Presidential Grant 2003 - 2005

- Revised BWSQ several times to keep Q that reliably measured what we asked.
- Dropped Q that did not yield results.
- Shortened to 2 ½ to 3 hours
- Interviewed community women & MHC
- Interviewed women in DV & SUB units in local jail
- Interviewed BW in Spain, Russia, Colombia, Trinidad, etc

# 2005 – 2017

- 2009 – Student research published together with review of new literature in BWS-3<sup>rd</sup> Ed
- Added Attachment Scale, Derogatis Sex & Body Consciousness Scales, SASSI, DAPS & TSI
- 2014 - Added ACE study research scales
- 2016 – Student research published together with review of new literature in BWS-4<sup>th</sup> Ed
- 2017 – Undertook validation of BWSQ





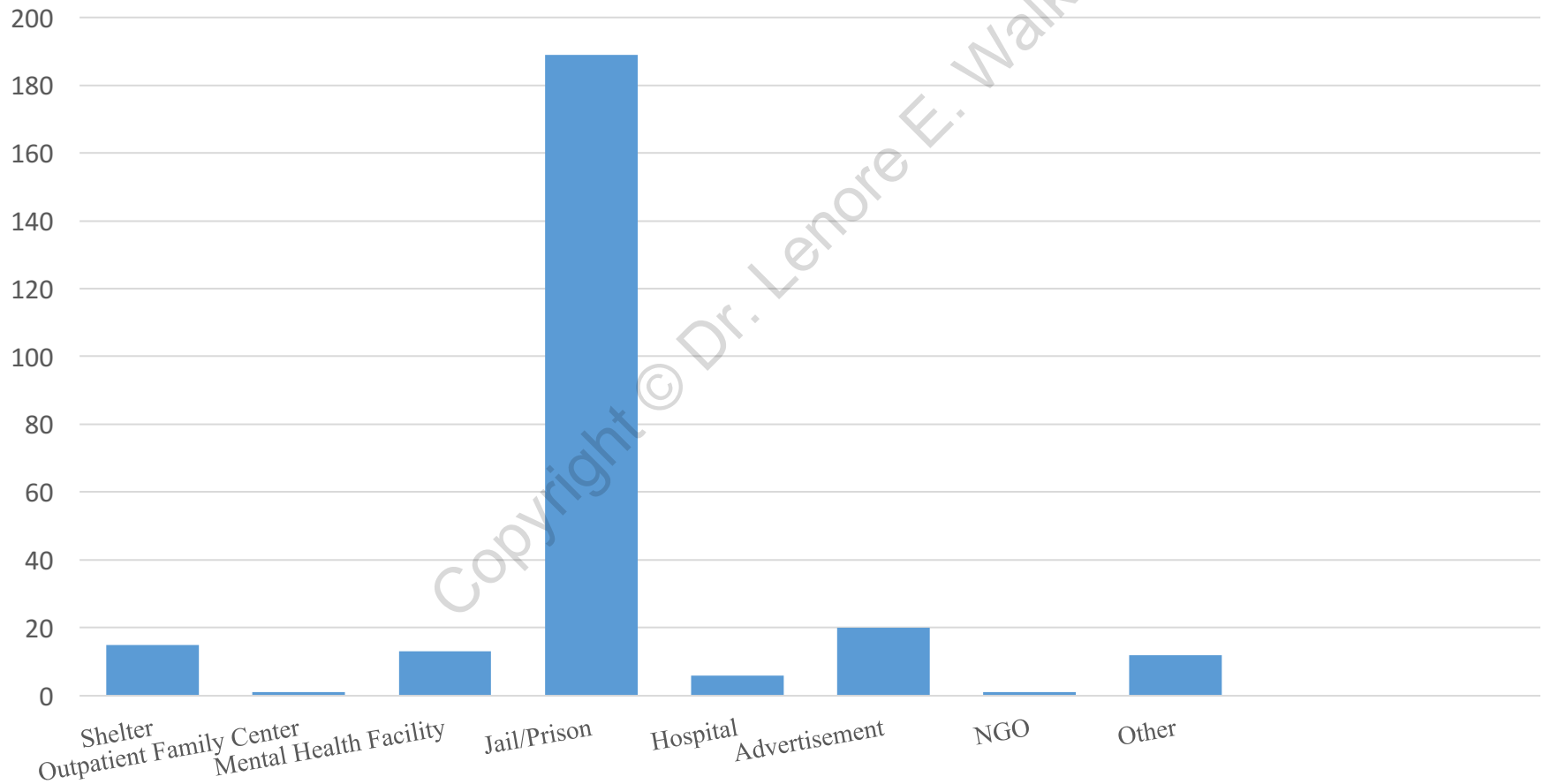
# Sample Characteristics

- Participants were recruited from different locations including prison/jail settings as well as from community samples.
- Recruitment of women within a detention facility in Broward County, Florida.
  - Women were mostly recruited from a substance abuse program by doctoral candidates in clinical psychology.
  - Open recruitment allowed for a random sampling of the population within the detention center.
- Participation was completely voluntary.
  - Women were briefed on the contents of the questions and the length of the assessments prior to agreeing to participate.
- Brief psychoeducation on battering is provided in order to avoid confusion.
- Currently takes anywhere from two to three hours to administer.

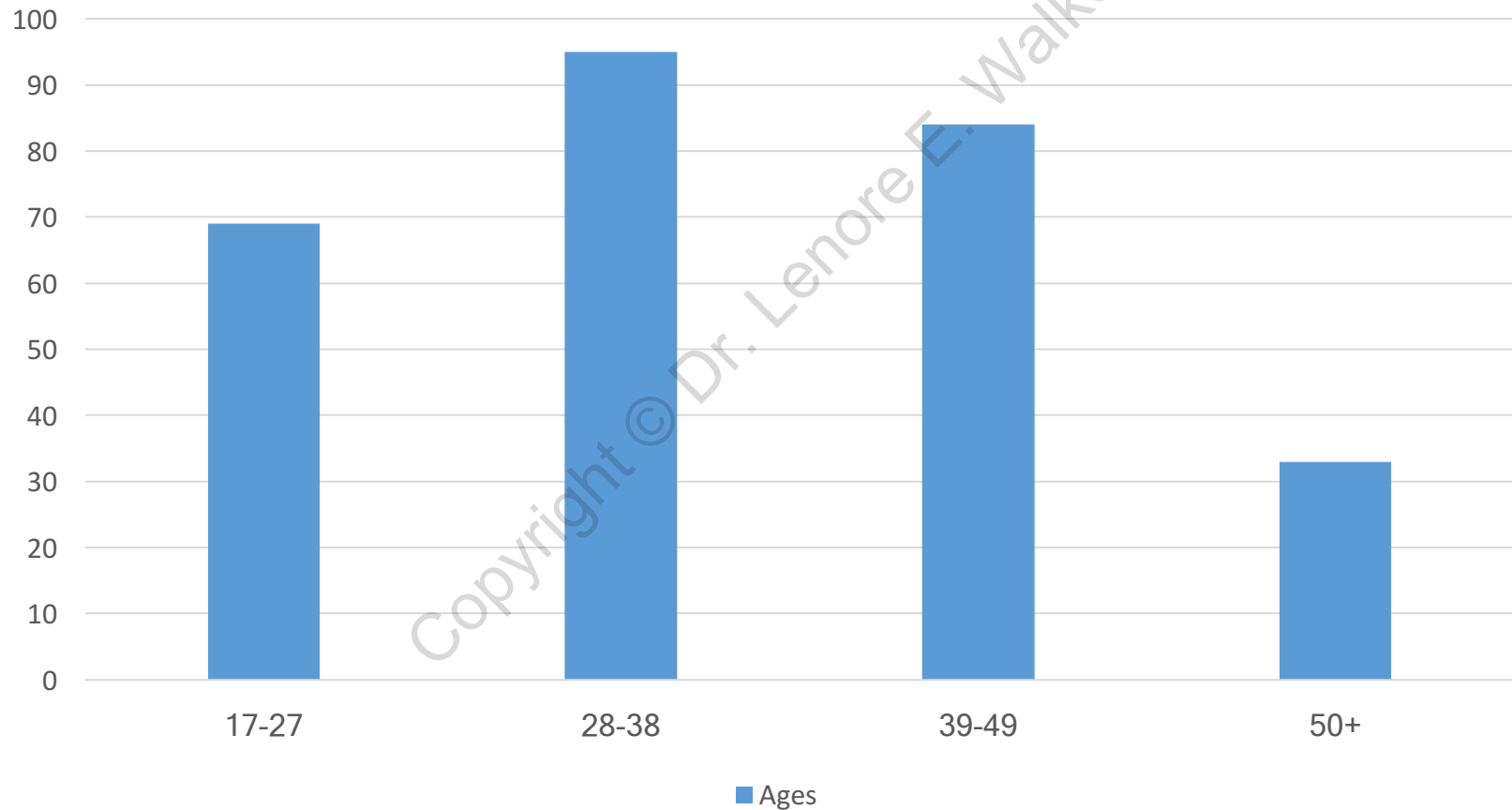
# Breakdown of the BWSQ

- Part I: Demographics
- Part II: Childhood History
- Part III: Significant Battering Relationship
  - Section 1: Power and Control
  - Section 2: Sexuality
  - Section 3: Legal History
  - Section 4: Substance Use
  - Section 5: General Battering
- Part IV: Four Battering Incidents
  - First, Most Recent, Worst, and Typical Incident
- Part V: Current Functioning
- Part VI: Strengths

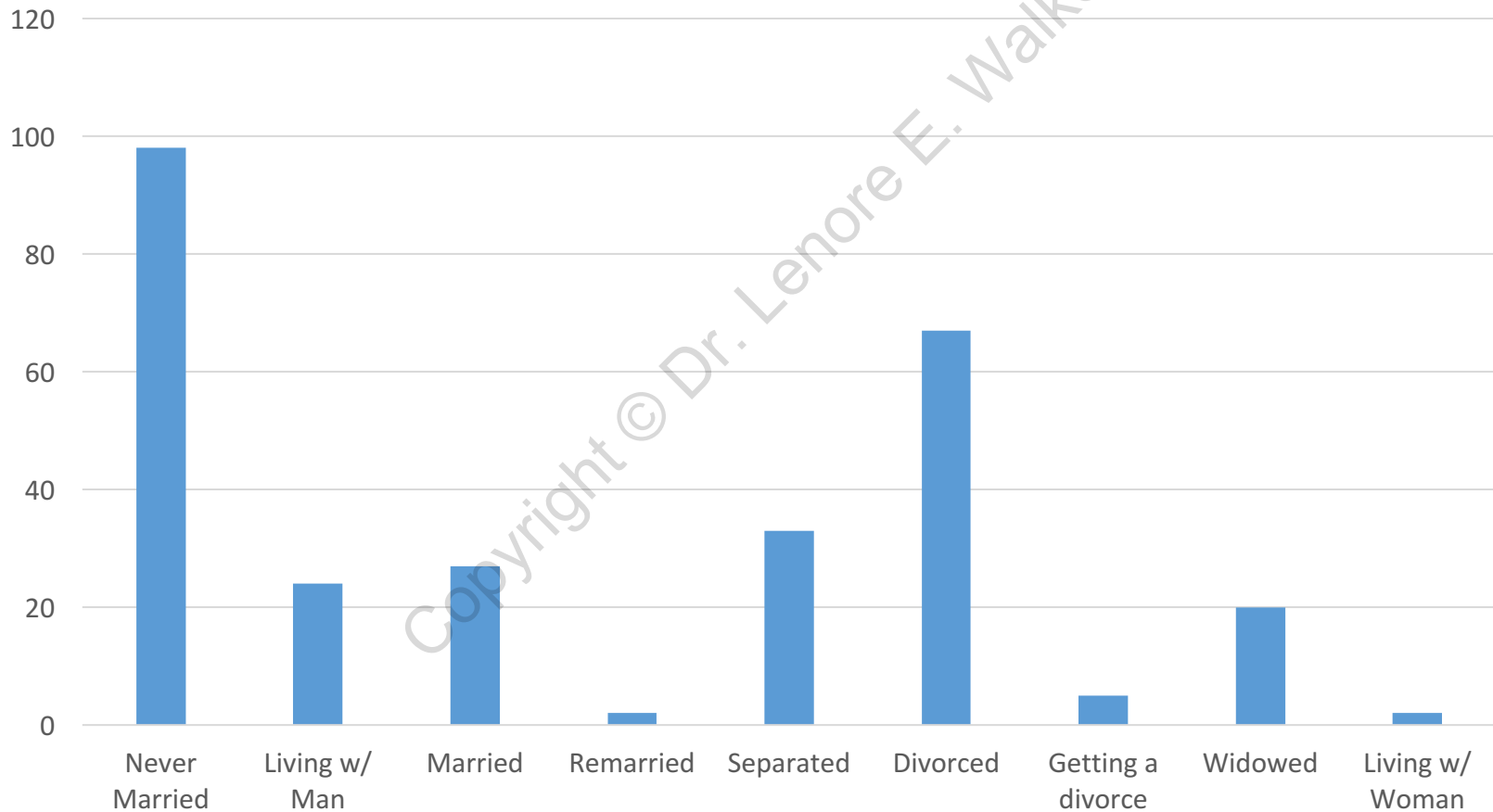
# Our Sample: Referral Location



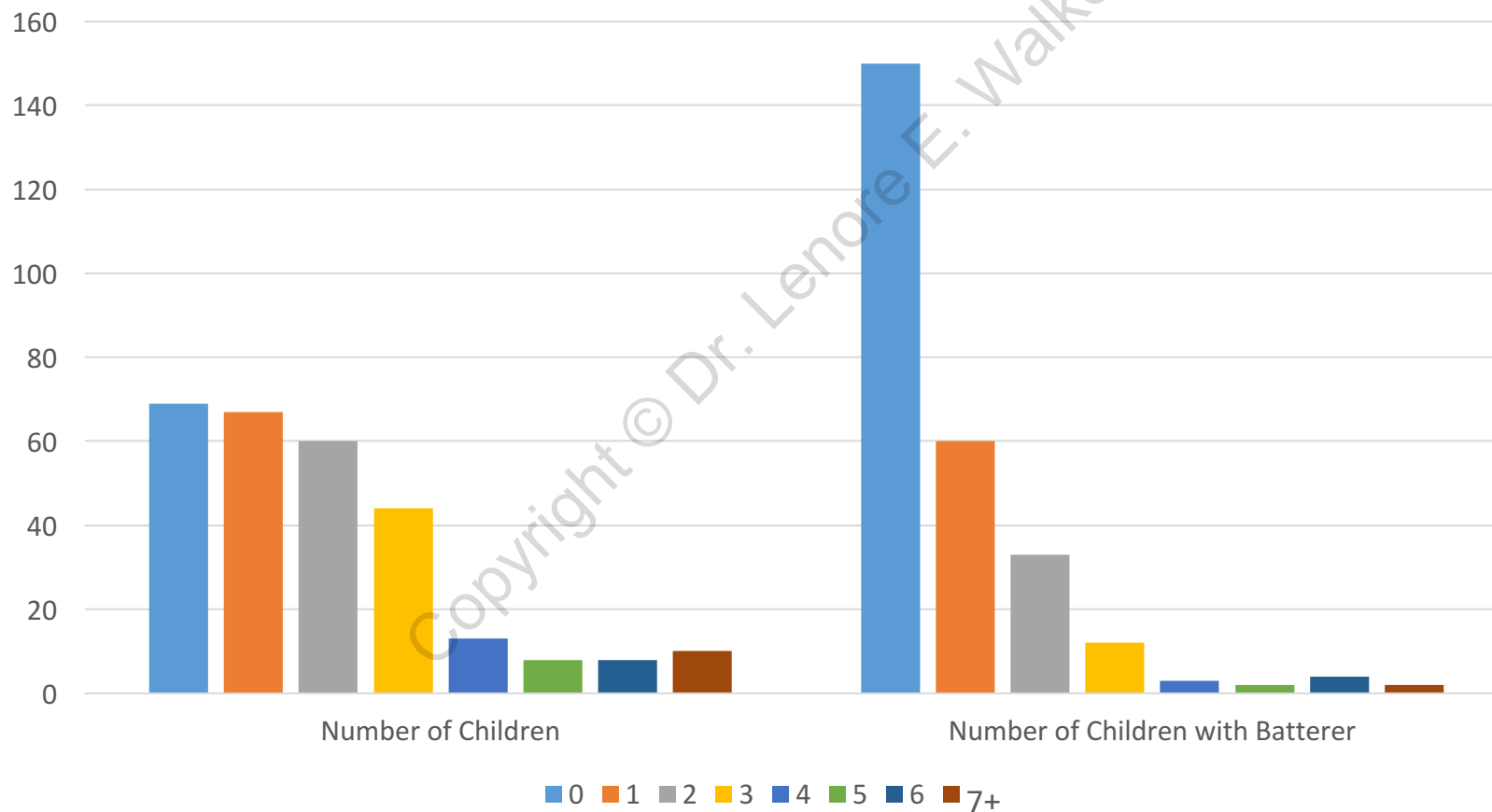
# Demographics: Age



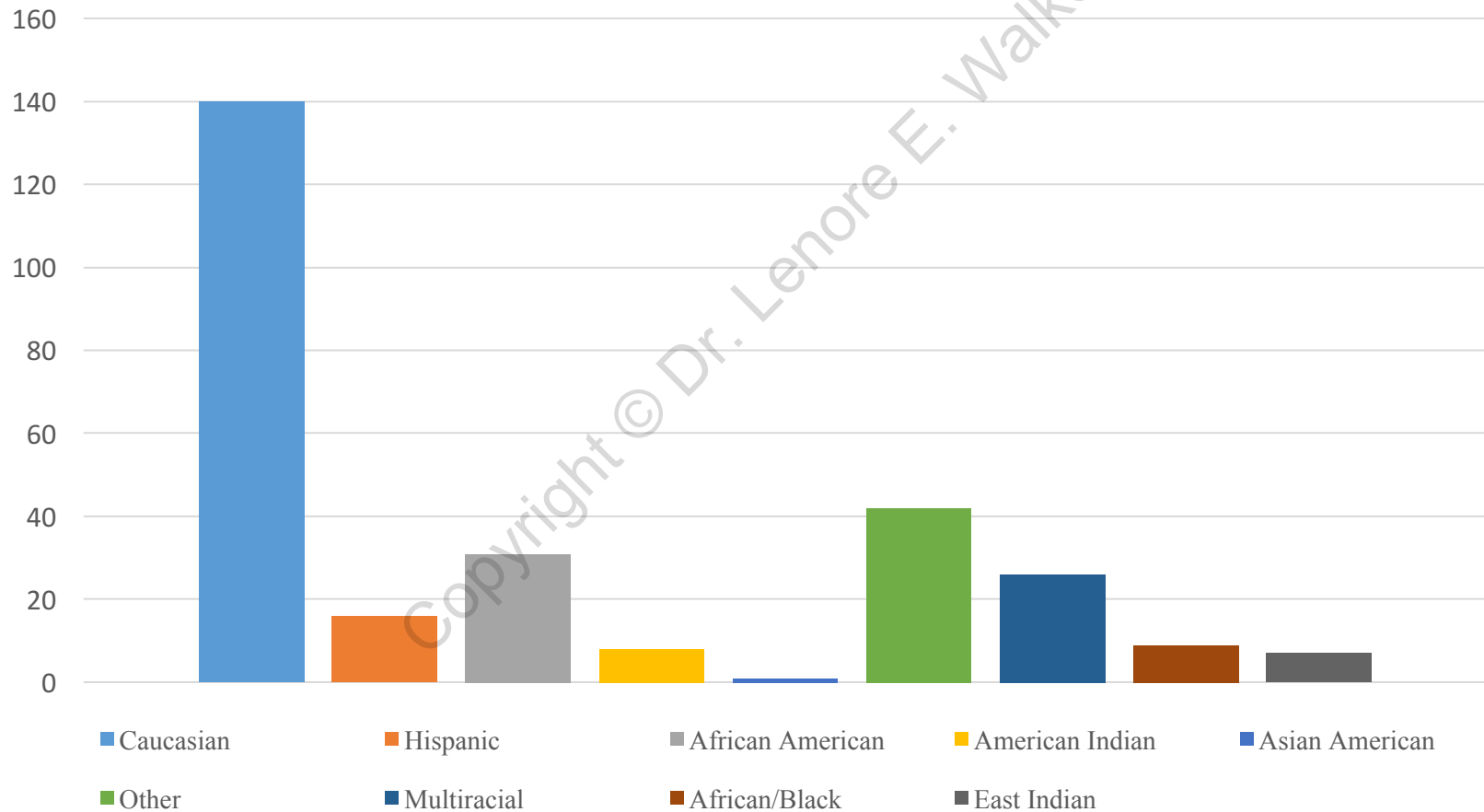
# Demographics: Marital Status



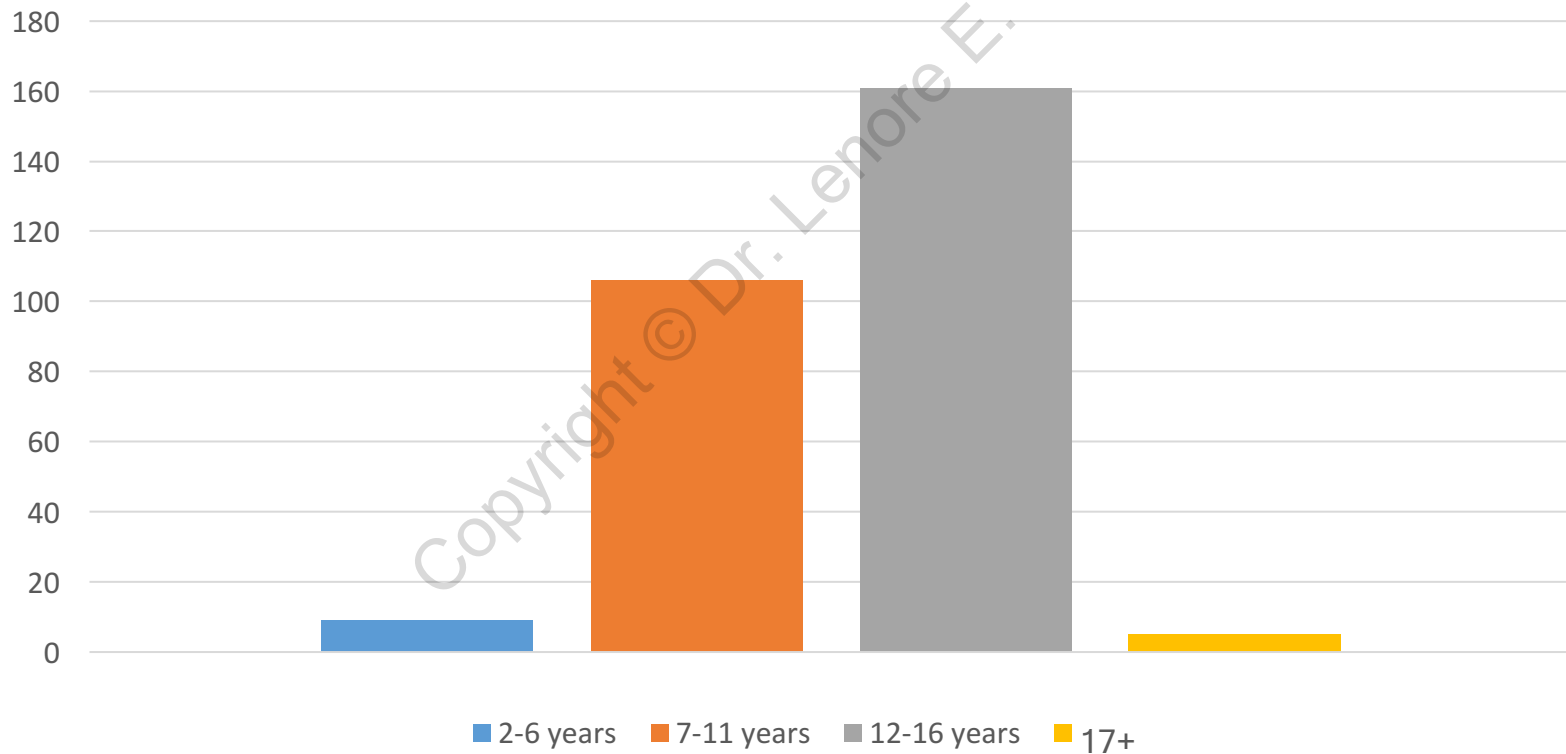
# Demographics: Children



# Demographics: Race/Ethnicity



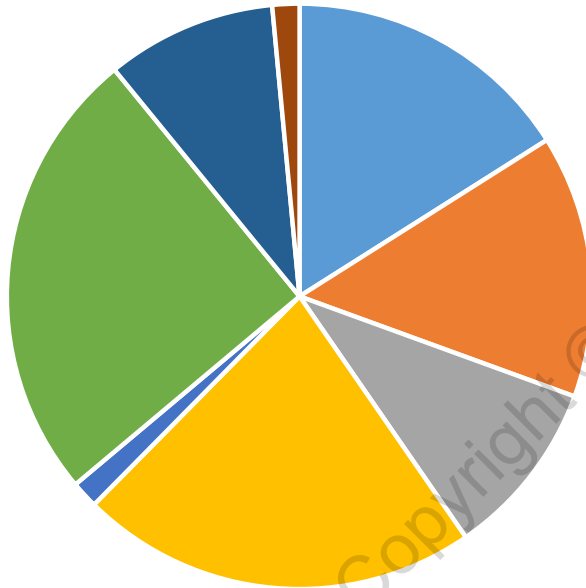
# Demographics: Years of Schooling





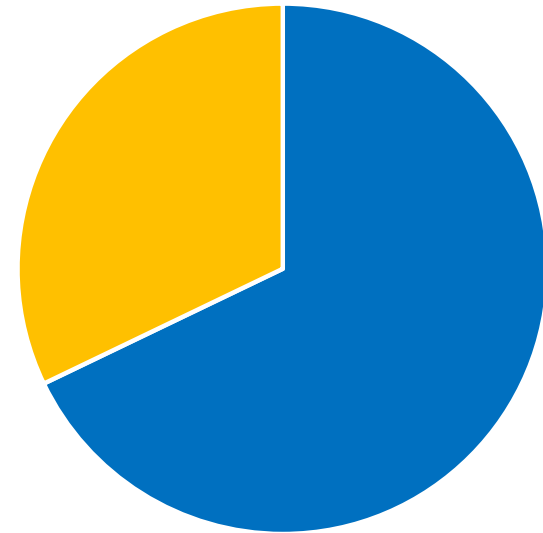
# Substance Use: Woman

History of Use



- Prescription Drugs
- Sedatives/Hypnotics/Anxiolytics
- Opioids
- Stimulants
- GHB
- Marijuana
- Hallucinogens/PCP
- Other

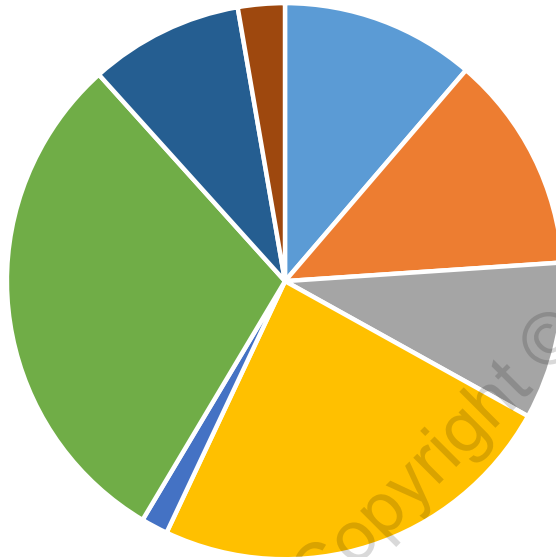
Alcohol Use



- Used
- Never Used

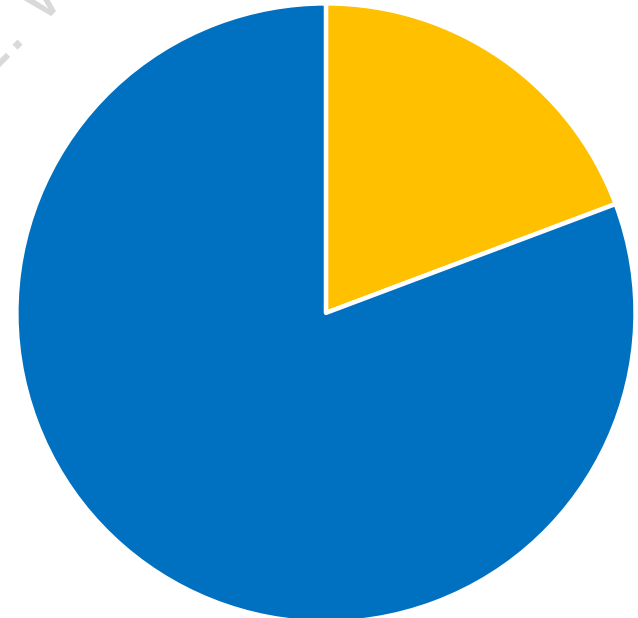
# Substance Use: Batterer

History of Use

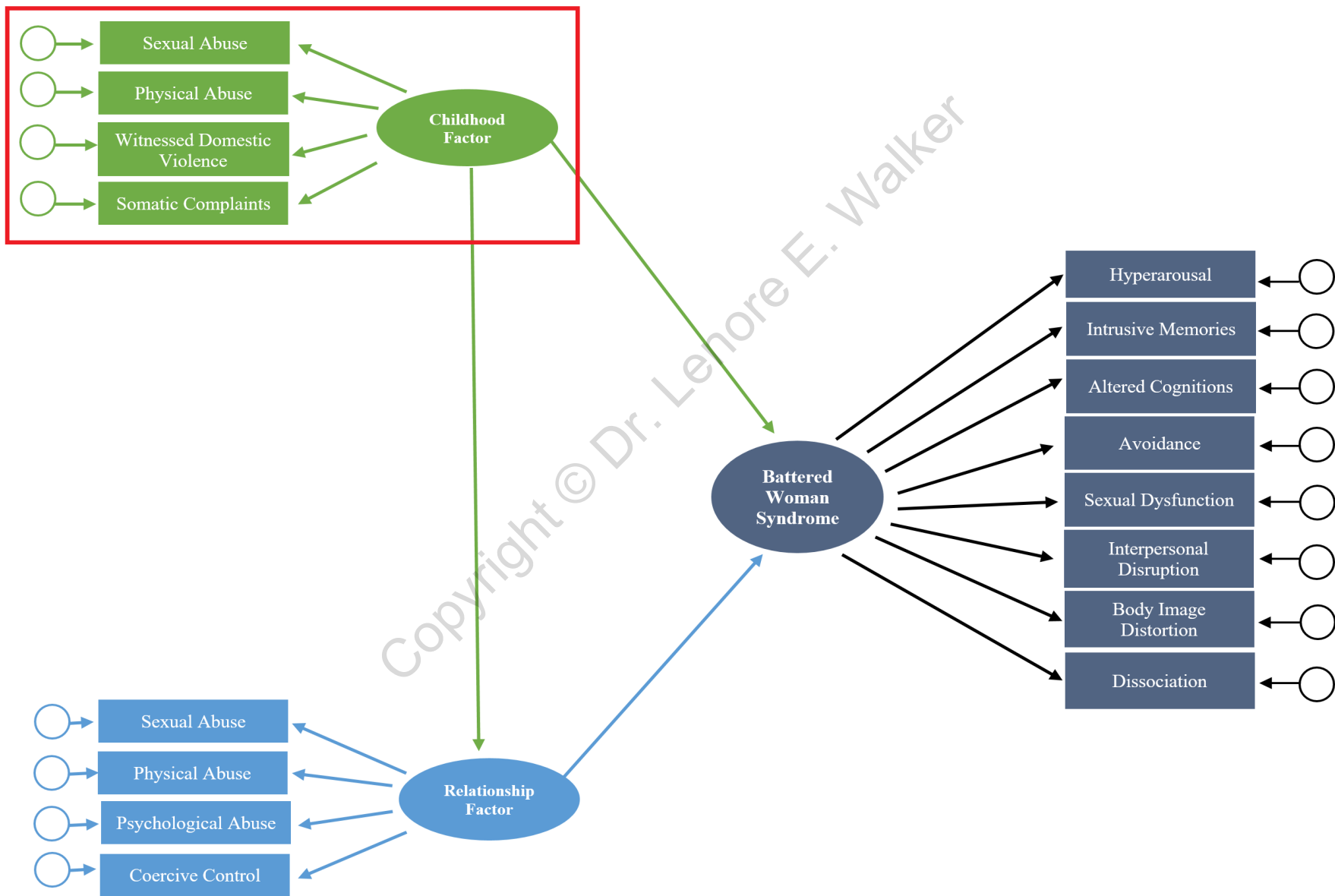


- Prescription Drugs
- Opioids
- GHB
- Hallucinogens/PCP
- Sedatives/Hypnotics/Anxiolytics
- Stimulants
- Marijuana
- Other

Alcohol Use



- Never Used
- Used



# Childhood Risk Factors for IPV

- Women who were abused as children have an increased risk of abuse in adulthood
  - Positive correlation between childhood violent experiences and risk for adult re-victimization
  - IPV risk as an adult increased with the frequency of childhood physical and sexual abuse
- Exposure to family aggression increases IPV risk
  - Witnessing maternal battery further increases risk as frequency of the battery increases

# Impacts of Childhood Trauma

- Abused children are found to have higher risk for psychological, behavioral, and physical problems such as:
  - Depression, suicide, anxiety, substance abuse, aggression, PTSD, violence, antisocial behaviors, dissociation, self-injury, and sexual dysfunction
- Development of insecure attachment at an early age
  - Learn to idolized or internalize abuse to protect image of caregiver “try to be good” or appease abuser
- Sense of helplessness due to the unpredictable nature of violence
  - Hypervigilance to signs of violence and “freeze” responses

Coid, et. (2001), Herman (1997), Gold (2000), Whitfield, Anda, Dube, & Felitti (2003)

# Impacts of Childhood Trauma

- Fundamental problems in basic trust and autonomy
  - Difficulty establishing independence, intimacy, and identifying healthy relationships
  - “Repetition is the mute language of the abused child (Herman, 1997, p. 110)”
- Impairment in intimate relationships
  - More likely to seek out powerful authority figures
  - Difficulty establishing boundaries
  - Repetitive patterns of demeaning self and idolizing others

# Impacts of Childhood Trauma

- Expectations for behavior and patterns are taught, modeled, and instilled implicitly and explicitly within the family context
  - Passive interpersonal styles (i.e., unassertiveness and appeasement)
  - Intense needs for validation, dependency, and affection
  - Easy “targets” to intimidate and coerce

Herman (1997), Gold (2000), Whitfield et al. (2003)

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Herman (1997), Gold (2000), Whitfield et al. (2003)



# How the BWSQ measured Childhood Factors

- Measured the frequency and severity of:
  - Corporal punishment
  - Physical abuse
  - Sexual abuse
  - Verbal abuse
  - Witnessing IPV within the home
  - Somatic/psychological complaints

“By battering, I mean a pattern of physical, sexual, and/or psychological abuse among family members that is different from typical family conflict.”

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# Experiencing Childhood Battering

- 15.4% reported being hit with an object 2-3x a week and 7% daily
- Almost 17% indicated being both verbally and physically abused by their father with 30% stating “repeatedly”
- 27.6% reported being both physically and verbally abuse by their mother with 35% endorsing it happened “repeatedly”

# Witnessing DV within the Home

- 70.3% endorsed witnessing battering in their childhood home
- Nearly 29% witnessed father both verbally and physically abusing mother with 38.5% reporting witnessing it “repeatedly”
- 12% witnessed mother battered father both verbally and physically with 19% witnessing it “repeatedly”
- 46.8% witnessed a parent both physically and verbally battering a sibling “repeatedly”

“Sexual abuse is defined as any unwanted and/or forced sexual activity. This may include being touched, being made to touch someone else, intercourse, or witnessing sexual activity.”

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# Measuring Sexual Abuse in Childhood

- Questioned the frequency of the following behaviors:
  - Participant forced to fondle perpetrator
  - Perpetrator fondling the participant
  - Participant forced to perform oral sex
  - Perpetrator forced intercourse
  - Perpetrator forced seductive behavior
  - Perpetrator forced participant to view porn
- Perpetrators included: Father, Sibling, Relative, and Other

# Sexual Abuse During Childhood

- 55.2% reported experiencing inappropriate touching during childhood
- The most common form of sexual abuse was fondling
- A relative or an “other” were the most common perpetrators
- Behaviors that were endorsed were most commonly occurred “several times”

# Frequency of Childhood Sexual Abuse

	Fondled by	Forced to Fondle	Oral Sex	Intercourse	Seductive behavior	Viewing porn
Father	9.1%	4.5%	2.8%	1.7%	2.8%	2.1%
Sibling	4.2%	1.7%	.7%	.3%	2.1%	.3%
Relative	<b>15.4%</b>	<b>8.7%</b>	5.6%	5.9%	5.2%	2.1%
Other	<b>17.8%</b>	<b>9.8%</b>	<b>8.0%</b>	<b>8.7%</b>	<b>9.4%</b>	<b>4.2%</b>



# Somatic Complaints

- “Serious” health concerns
- “Somatic” complaints
- “Psychological” complaints

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# “Serious” Health Concerns

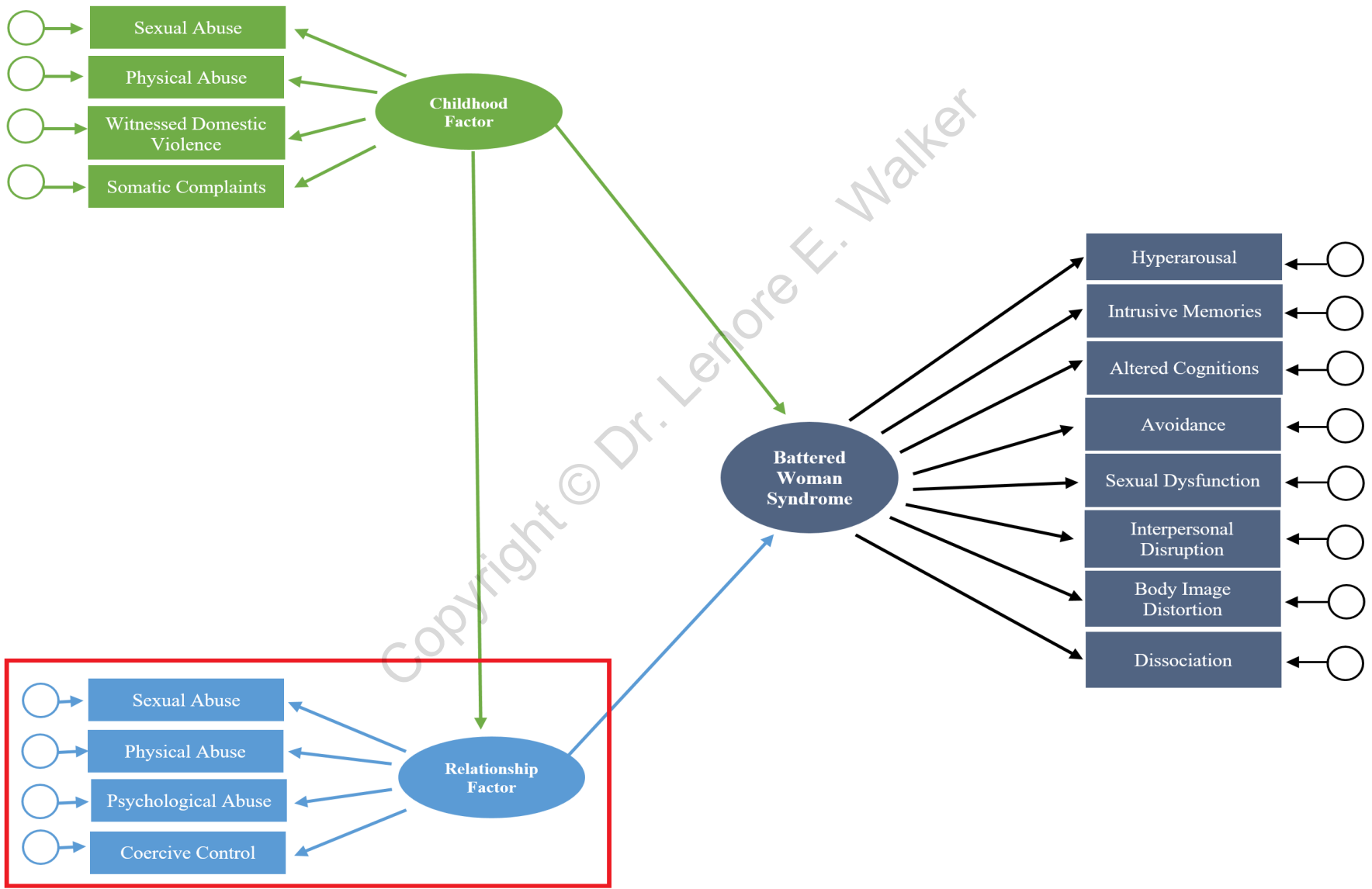
	Hospitalized	Serious Injury	Serious Disease
Never	40.9	56.3	83.2
Rarely	34.3	24.5	7.3
Sometimes	13.6	9.4	3.5
Often	5.9	4.5	1.0
Most Times	3.1	3.1	1.7

# General Somatic Complaints

	HBP	Headaches	Asthma	Weight Problems	Eating Problems	GI Problems	Menstrual Problems	Other
Never	86	37.8	73.4	61.9	62.2	57.7	60.9	61.9
Rarely	3.5	16.1	2.1	4.5	6.6	3.5	8.9	2.1
Sometimes	3.5	<b>18.9</b>	7.7	<b>12.2</b>	<b>9.8</b>	8.0	<b>8.5</b>	3.8
Often	1.4	<b>15.7</b>	4.9	<b>8.0</b>	<b>10.8</b>	6.3	<b>9.6</b>	3.1
Most times	2.8	<b>9.4</b>	<b>9.4</b>	<b>11.2</b>	<b>8.7</b>	6.3	<b>11.7</b>	7.0

# Psychological Complaints

	Depression	Sleep Problems
Never	36.0	56.6
Rarely	5.2	5.4
Sometimes	<b>18.2</b>	<b>11.8</b>
Often	<b>18.5</b>	<b>12.9</b>
Most Times	<b>19.6</b>	<b>12.5</b>



# Coercive Control

- What is coercive control?

“The use of non-violent tactics aimed at maintaining dominance over one’s partner” (Crossman & Hardesty, 2017)

- Includes:

1. Social isolation
2. Financial restrictions and control
3. Threats of harm to self and others

- A pattern of coercive control can precede or increase the likelihood of IPV (Graham-Kevan & Archer, 2008)

# Coercive Control

## Sample Questions:

1. How often does he know where you are when you are not together?
2. Are there places you would like to go but don't because you feel he wouldn't want you to?
3. Do you generally do what he asks you to?
4. When you and he disagree on major issues, who would win?
5. What most likely happened when you did leave him?

# Coercive Control

## Social Support:

- Women experiencing IPV report smaller social networks than women in nonviolent relationships (Katerndahl, Burge, Ferrer, Becho, & Wood, 2013)
- Size of social network is negatively correlated with severity of physical abuse (Coohey, 2007)
- Isolation:
  - Batterer- prevents disclosure, instills dependency, limits access to other resources
    - 62% of our sample were either forbidden or rarely had contact with friends/family
  - Battered woman- protects abuser, protects friends/family
    - Women tend to seek closure (closed networks) among their sources of social support to minimize risk of disclosure (Katerndahl, Burge, Ferrer, Becho, & Wood, 2013)



# Coercive Control

## Disclosure:

- Only 43% of women sampled had told someone about the abuse
- 57% of women who did not disclose gave the following reasons:

Ashamed of what happened	They would ask me why I stayed	Afraid they would not believe me	Afraid of his retaliation	He had threatened me with harm	Other
30%	15%	8%	14%	6%	28%

- Anticipated stigmatization (expectations of being judged or criticized) influence women's decisions to disclose IPV (Overstreet & Quinn, 2013)

# Coercive Control

## Financial Control:

- Economic dependency is linked to an increased risk of intimate partner abuse (Bornstein, 2006; Postmus, Plummer, McMahon, Murshid, & Sung Kim, 2012)
  - Unemployment- 50% of women reported being unemployed
  - Debt- 38% of women reported a moderate to large amount of outstanding debt
  - Access to financial resources:

Resource	Never	Sometimes	Always
Bank Account	35%	5.9%	30.1%
Credit Card	39.2%	6.3%	25.9%
Cash	20.3%	11.2%	40.9%
Car	30.1%	9.4%	34.3%
Phone	10.1%	11.5%	51.7%

# Coercive Control

- Women tended to display their anger/frustration by crying, withdrawing and attempting to talk about the issues
- Men were more likely to curse, shout, threaten and use physical violence

	Men	Women
Talk about it	39.2%	62.9%
Stop speaking/ withdraw	58.7%	75.9%
Cry	28%	<b>81.5%</b>
Curse, Shout	<b>92.7%</b>	69.9%
Direct anger towards objects	69.2%	37.1%
Direct answer towards children/ pets	30.8%	7.3%
Threaten Physical Violence	84.3%	18.5%
Use physical violence	89.5%	26.2%

# Coercive Control

- Difference in batterer responses when women threaten to leave vs. leave the relationship
  - Threaten to leave- Use or threaten physical force
  - Leave- Make promises and give gifts
- Consistent with Walker's Cycle Theory of Violence (1979; 2009; 2016)
  - Loving-Contrition Phase (Phase 3)
  - Batterer is aware that the violence went too far and uses gifts, promises, and loving attention to show the battered woman that he is sorry and things will change and get better

# Frequency of Abuse

- Frequency of abuse was measured using a 5-pt Likert scale and differentiated between psychological, physical and sexual abuse.
  1. Never
  2. Threatened
  3. Once
  4. 2 to 4 times
  5. 5 or more times
- 5 different battering incidents were discussed:
  1. General battering incident
  2. First battering incident
  3. Most recent battering incident
  4. Worst battering incident
  5. Typical battering incident

# Severity of Psychological Abuse

- Psychological abuse has been found to be a significant predictor of PTSD symptomatology (Arias & Pape, 2015)
- After controlling for physical and sexual abuse, psychological abuse was still found to contribute to the prediction of depression and PTSD symptoms (Mechanic, Weaver & Resick, 2008)

Curse, Call names	Display jealousy	Reject you	Threaten to use weapons
Publicly humiliate you	Control your activities	Control your finances	Force to clean or work
Interfere with sleep patterns	Refuse discussions or negotiations	Threaten to commit suicide	Threaten to kill others
Interfere with your eating	Check up on where you are	Force you to sell or use drugs	Threaten to kill you or the children

# Severity of Physical Abuse

- 3 women are murdered every day by a current or former intimate partner (Violence Policy Center, 2016)
- Severity of physical IPV is positively correlated with relationship and sexual dissatisfaction (Helleman, Loeys, Dewitte, De Smet, & Buysse, 2015)

Push, Shove	Slap with open palm	Throw your body	Attempt to poison
Grab limbs or shoulders	Punch with fist	Choke/Smother	Use of a knife
Bite	Kick	Burn	Use of a gun
Throw objects at you	Hair pulling	Attempt to drown	Use of a motor vehicle

# Severity of Sexual Abuse

- Sexual abuse is associated with higher rates of gynecological problems (i.e. STIs, pelvic pain, vaginal bleeding) and sexual dysfunction (Coker, 2008)
- Sexual abuse is associated with a higher severity of depressive symptoms and a higher incidence of suicide attempts (Pico-Alfonso, Garcia-Linares, Celda-Navarro, Blasco-Ros, Echeburua, 2006)

**Make unwanted sexual advances**

**Make unwanted sexual gestures**

**Sexually touch clothing and body parts**

**Make unwanted or rough touching of genitals**

**Force to look at pornography**

**Want sex too often**

**Insert objects into your genitals**

**Force masturbation**

**Force oral sex**

**Force vaginal sex**

**Force anal sex**

**Force to engage in bondage/S&M**

**Force you to have sex with others**

**Want to have sex after battering**

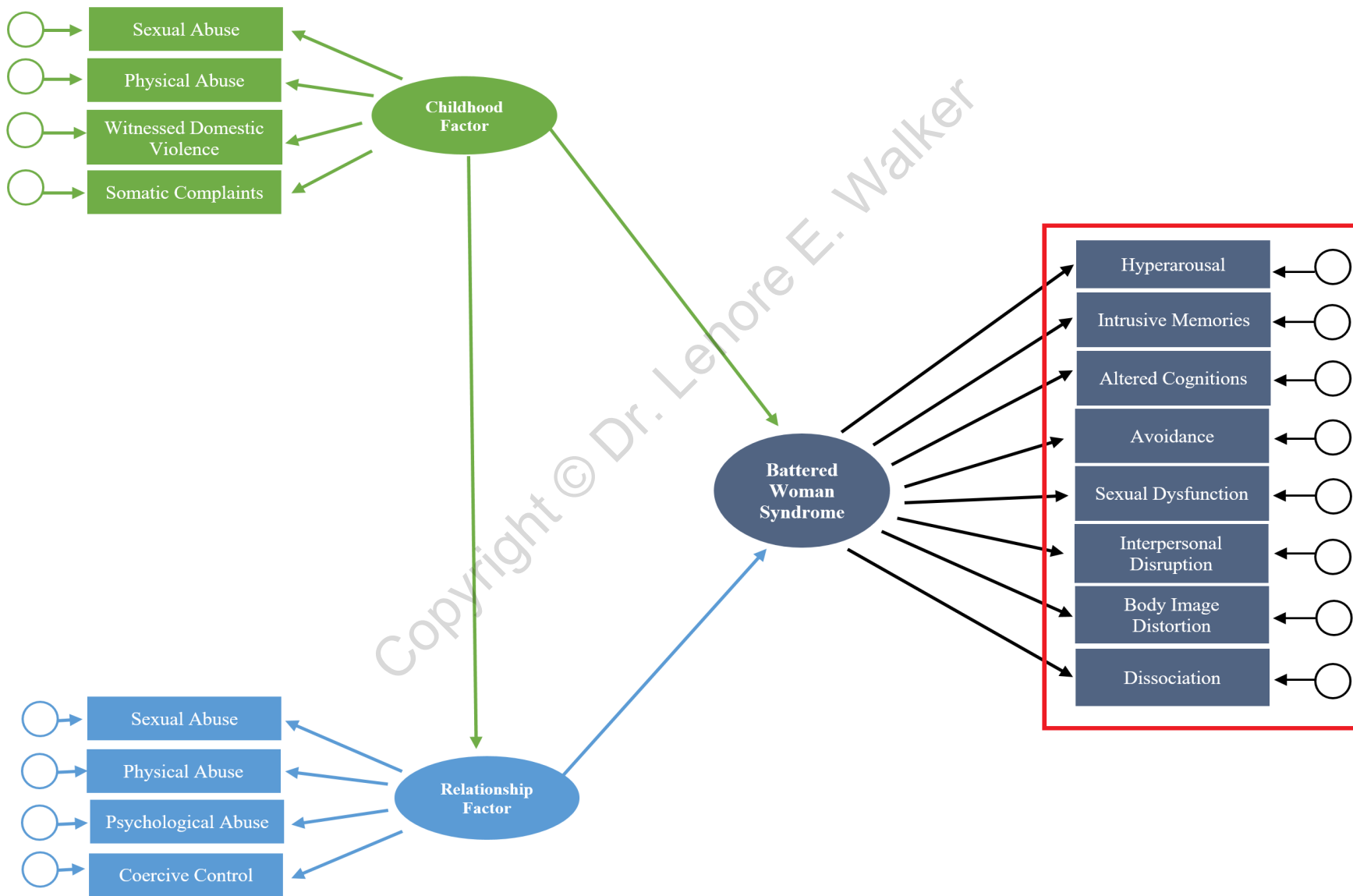
**Have sexual contact when STDs present**

**Force prostitution**



# Summary

- Batterers use a variety of verbal, physical and coercive techniques to gain and maintain control over their victims
  - Social isolation
  - Financial control
  - Relationship engagement
- Frequency and severity of abuse is associated with impairments in physical and psychological health
  - PTSD symptomatology
  - Depression, anxiety and suicidal ideation
  - Sexual dysfunction



# Participants

- Participants were originally recruited from a variety of settings.
- The entire sample ( $N = 285$ ) was instructed to complete the relevant measures.
- Some participants did not complete all sections of the measures

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# Review of the Assessment

- Childhood factors
  - Abuse, health factors, etc.
- Adult factors
  - Education, number of children, etc.
- Relationship factors
  - Physical abuse, sexual abuse, number or relationships, etc
- Current functioning

# Overview

The BWSQ concludes with an assessment of current functioning.

## ***Current Functioning (Validated Measures)***

1. Revised Adult Attachment Scale (AAS)
2. Derogatis Interview of Sexual Functioning Sexual Response (DISF-SR)
3. Objectified Body Consciousness Scale (OBCS)
4. Trauma Symptom Inventory (TSI)

## ***Current Functioning (BWSQ Measures)***

1. BWSQ Interpersonal relationship scale (BWSQ-IR)
2. BWSQ Sexual Dysfunction scale (BWSQ-SD)
3. BWSQ Body Image Distortion scale (BWSQ-BID)
4. BWSQ Post-Traumatic Stress Checklist (BWSQ-PTSC)

# Interpersonal Relationships (BWS-IR)

- 10 questions
  - e.g. How often do you feel you have difficulty making friends?
- 5 point Likert scale
  - 1 never – 5 most times
- Questions 7 & 8 – reverse coded

# Interpersonal Relationships (BWS-IR)

- A factor analysis was performed on all 10 questions using principle axis factoring
- Questions 1 and 5 were then removed
  - Coefficient less than .30
- All remaining items fit into a 1 factor model
  - KMO .864
- Cronbach's Alpha .819

# Sexual Dysfunction (BWS-SD)

- 10 questions
  - e.g. How often do you find yourself interested in sexual activity?
- 5 point Likert scale
  - 1 never – 5 most times
- Question 6 – reverse coded

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# Sexual Dysfunction (BWS-SD)

- A factor analysis was performed on all 10 questions using principle axis factoring
- Question 6 was then removed
  - Coefficient less than .30
  - All other items were .634 or higher
- All remaining items fit into a 1 factor model
  - KMO .916
- Cronbach's Alpha .940

# Body Image Distortion (BWS-BID)

- 10 questions
  - e.g. I am happy with the way that I look
- 5 point Likert scale
  - 1 never – 5 most times
- Questions 4, 6, 7, 8, 9, & 10 – reverse coded

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# Body Image Distortion (BWS-BID)

- A factor analysis was performed on all 10 questions using principle axis factoring
- Question 2 was then removed
  - Coefficient less than .30
  - All other items were .654 or higher
- All remaining items fit into a 1 factor model
  - KMO .874
- Cronbach's Alpha .897

# Post-Traumatic Stress Checklist (BWS-PTSC)

- 17 questions
  - Yes or No
  - Modeled after DSM-IV-TR (APA, 2000)
- Contains 3 parts
  - Re-experiencing
  - Avoidance and Numbing
  - Arousal
- Important note: although modeled after DSM-IV-TR, the symptom endorsement is self-reported by the participant and therefore does not constitute a formal diagnosis.

# Post-Traumatic Stress Checklist (BWS-PTSC)

- A factor analysis was performed on all 17 questions using principle axis factoring
- Question 8 was then removed
  - Coefficient less than .30
  - All other items were .300 or higher
- All remaining items fit into a 1 factor model
  - KMO .814
- Cronbach's Alpha .816

# Convergent Validity

- This study evaluated convergent validity by comparing participants' self-reports on the BWSQ with other validated self-report measures.
  - BWS-IR vs. Revised Adult Attachment Scale (AAS)
  - BWS-SD vs. Derogatis Interview of Sexual Functioning – Sexual Response (DISF-SR)
  - BWS-BID vs. Objectified Body Consciousness Scale (OBCS)
  - BWS-PTSC vs. Trauma Symptom Inventory (TSI)

# BWS-IR vs. AAS

- A total of 210 participants had both BWS-IR and AAS scores.
- All participants with residual z scores 2 standard deviations outside of the norm were removed (9 removed)
- In terms of convergent validity, the BWSQ Interpersonal Relationship scale is positively correlated with the AAS ( $r = .754$ ,  $p < .001$ ).
- Discriminant validity was supported when the BWSQ-IR did not correlate significantly with
  - DISF ( $r = .110$ ,  $p = .167$ )
  - OBCS ( $r = .383$ ,  $p < .001$ ).
- Altogether these results support the psychometric appropriateness and usefulness of the BWSQ-IR Scale measuring interpersonal relationships in a battered woman population.

# BWSQ-SD vs. DISF-SR

- A total of 179 participants had both BWSQ-SD and DISF-SR scores.
- All participants with residual z scores 2 standard deviations outside of the norm were removed (9 removed)
- In terms of convergent validity, the BWSQ-SD scale is positively correlated with the DISF-SR ( $r = .666$ ,  $p < .001$ ).
- Discriminant validity was supported when the BWSQ-SD did not correlate significantly with:
  - AAS ( $r = .155$ ,  $p = .050$ )
  - TSI ( $r = .132$ ,  $p = .206$ )
  - OBCS ( $r = .142$ ,  $p = .166$ ).
- Altogether these results support the psychometric appropriateness and usefulness of the BWSQ-SD Scale measuring sexual dysfunction in a battered woman population.



# BWSQ-BID vs. OBCS

- A total of 118 participants
- All participants with residual z scores 2 standard deviations outside of the norm were removed (7 removed)
- In terms of convergent validity, the BWSQ-BI scale is positively correlated with the OBCS ( $r = .650, p < .001$ ).
- BWSQ-BI did not correlate significantly with  
TSI ( $r = .169, p = .158$ )  
DISF ( $r = .105, p = .245$ ).
- Altogether these results support the psychometric appropriateness and usefulness of the BWSQ-BI Scale measuring body image in a battered woman population.

# BWSQ-PTSC vs. TSI

- A total of 160 participants had both BWS-PTSC and TSI scores.
- All participants with residual z scores 2 standard deviations outside of the norm were removed (11 removed)
- BWSQ-PTSC scale is positively correlated with the TSI ( $r = .654, p < .001$ ).
- BWSQ-PTSC did not correlate significantly with:  
OBCS ( $r = .383, p = .005$ )  
DISF ( $r = .212, p = .041$ ).
- Altogether these results support the psychometric appropriateness and usefulness of the BWSQ-PTSC measuring trauma in a battered woman population.

# What does this all mean?

- Multi-Trait Mono-Method
- On diagonal is statistically significant above and beyond the off diagonal

	Interpersonal Relationships	Sexual Dysfunction	Body Image Distortion	Post-Traumatic Checklist
InterRel	1	.246**	.365**	.526**
AAS	.754**	.155*	.329**	.540**
SexDys	.246**	1	.184*	.256*
DISF	.110	.666**	.105	.212
BodyImage	.365**	.184*	1	.361**
OBCS	.383**	.142	.650**	.383**
PTCL	.526**	.256*	.361**	1
TSI	.458**	.132	.169	.654**

\*\*Correlation is significant at the 0.01 level (2-tailed)

\*Correlation is significant at the 0.05 level (2-tailed)

# Domestic Violence (US dept. of Justice Statistics)

- According to the Department of Justice, the rate of Intimate Partner Violence (IPV) has dropped by 64 percent from 1994 to 2010, however, it trails the overall drop in violent crime over the same time period.
- Closer examination shows that from 2001 to 2010 the trend has stabilized with no decrease. While overall violent crime continues to decline.
- Data from the most recent comparable years reported (2014-2015) suggests IPV is on the rise.

# IPV Victimization Rate

**TABLE 1**  
Violent victimization, by type of violent crime, 2014 and 2015

Type of violent crime	Number		Rate per 1,000 persons age 12 or older	
	2014*	2015	2014*	2015
<b>Violent crime<sup>a</sup></b>	5,359,570	5,006,620	20.1	18.6
Rape/sexual assault <sup>b</sup>	284,350	431,840 ‡	1.1	1.6 ‡
Robbery	664,210	578,580	2.5	2.1
Assault	4,411,010	3,996,200	16.5	14.8
Aggravated assault	1,092,090	816,760 ‡	4.1	3.0 ‡
Simple assault	3,318,920	3,179,440	12.4	11.8
Domestic violence <sup>c</sup>	1,109,880	1,094,660	4.2	4.1
Intimate partner violence <sup>d</sup>	634,610	806,050 ‡	2.4	3.0
Stranger violence	2,166,130	1,821,310	8.1	6.8
Violent crime involving injury	1,375,950	1,303,290	5.2	4.8
<b>Serious violent crime<sup>e</sup></b>	2,040,650	1,827,170	7.7	6.8
Serious domestic violence <sup>c</sup>	400,030	460,450	1.5	1.7
Serious intimate partner violence <sup>d</sup>	265,890	333,210	1.0	1.2
Serious stranger violence	930,690	690,550 ‡	3.5	2.6
Serious violent crime involving weapons	1,306,900	977,840 †	4.9	3.6 ‡
Serious violent crime involving injury	692,470	658,040	2.6	2.4

# Domestic Violence Data

- 1 in 3 women have been physically abused by an intimate partner.<sup>i</sup>
- 1 in 5 women have been severely physically abused by an intimate partner.<sup>i</sup>
- On a typical day, domestic violence hotlines nationwide receive approximately 20,800 calls.<sup>ii</sup>

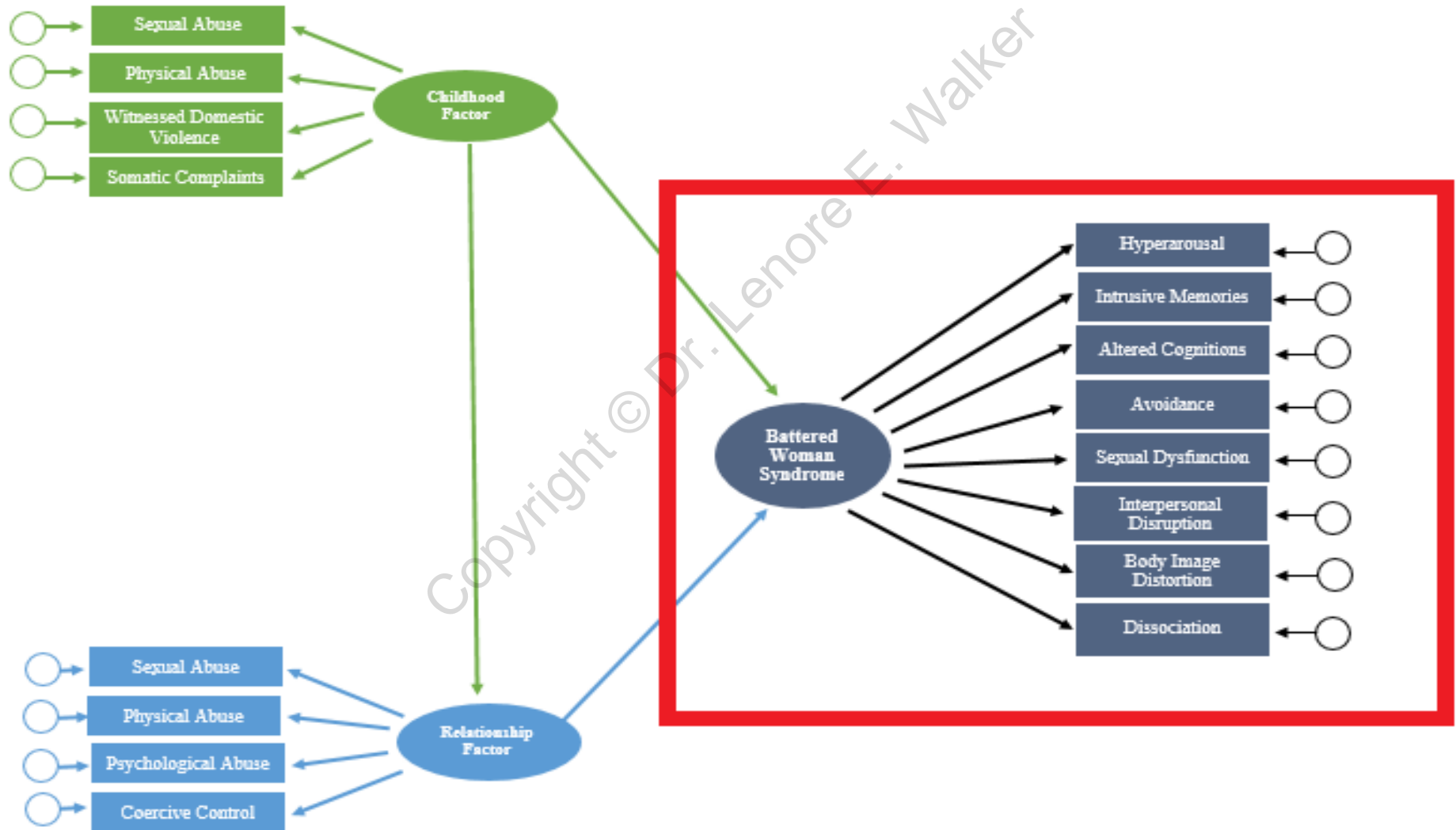
<sup>i</sup>Black, M.C., Basile, K.C., Breiding, M.J., Smith, S.G., Walters, M.L., Merrick, M.T., Chen, J. & Stevens, M. (2011). The national intimate partner and sexual violence survey: 2010 summary report.

<sup>ii</sup>National Network to End Domestic Violence (2015). '14 domestic violence counts national summary.

# Battered Women syndrome

- Eight themes emerged from the 100's of battered women who completed the questionnaire (*parcels*)
  1. Re-experiencing the trauma events intrusively
  2. High levels of avoidance and numbing of emotions
  3. Cognitive difficulties and alterations in mood
  4. High levels of arousal and anxiety
  5. Disruption in interpersonal relationships
  6. Physical health and body image problems
  7. Sexual and intimacy issues
  8. Dissociation

# Battered Women Syndrome





# Parceling & It's Benefits

- Provide greater reliability than individual items
- Provide improved representations of constructs, as opposed to individual items
- Improve distributional problems found when using individual items
  - Skewness and Kurtosis
- Improve model fit
- Allow for the use of smaller samples

# Parceling & It's Problems

- Parcels
  - Can lead to improper models for constructs (e.g., inappropriate number of factors)
    - Less factors
  - Can lead to biased (i.e., inflated) fit indices and/or parameters
    - Less error variance

# A Solution for Parceling

- When parceling...
  - Ensure that the items to be parceled are unidimensional
  - Utilize homogeneous parceling as opposed to distributive parceling
    - Homogeneous parceling makes it easier to identify problems with the model (e.g., model fit biases)

# BWSQ-Factor Structure

A clearly defined one dimensional factor structure was theorized and validated, so the 54 questions were parceled into 8 domains.

1. Intrusive Memories (Criterion B): 5 questions
2. Avoidance (Criterion C): 2 questions
3. Altered Cognitions (Criterion D): 5 questions
4. Hyperarousal (Criterion E): 5 questions
5. Interpersonal Disruption 10 questions
6. Sexual Dysfunction 9 questions
7. Body Image Distortion 9 questions
8. Dissociation 9 questions

# BWSQ-Factor Structure

	Dissociation	IPD	SD	BID	IM	A	AC
Interpersonal Disruption	.362**						
Sexual Dysfunction	.316**	.305**					
Body Image Distortion	.258**	.327**	.236**				
Intrusive Memories	.353**	.293**	.299**	.274**			
Avoidance	.233**	.371**	.277**	.188**	.463**		
Altered Cognitions	.371**	.464**	.254**	.250**	.443**	.416**	
Hyperarousal	.337**	.331**	.228**	.257**	.550**	.379**	.398**

Note. \*\* Correlation is significant at the 0.01 level (2-tailed).

Correlations between parcels

# BWSQ-Factor Structure

For reference, Kaiser put the following values on the results:

- 0.00 to 0.49 unacceptable.
- 0.50 to 0.59 miserable.
- 0.60 to 0.69 mediocre.
- 0.70 to 0.79 middling.
- 0.80 to 0.89 meritorious.
- 0.90 to 1.00 marvelous.

## KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.847
Bartlett's Test of Sphericity	Approx. Chi-Square	526.460
	df	28
	Sig.	.000

# BWSQ-Factor Structure

- One factor accounted for 42% of the variance across all the parcels

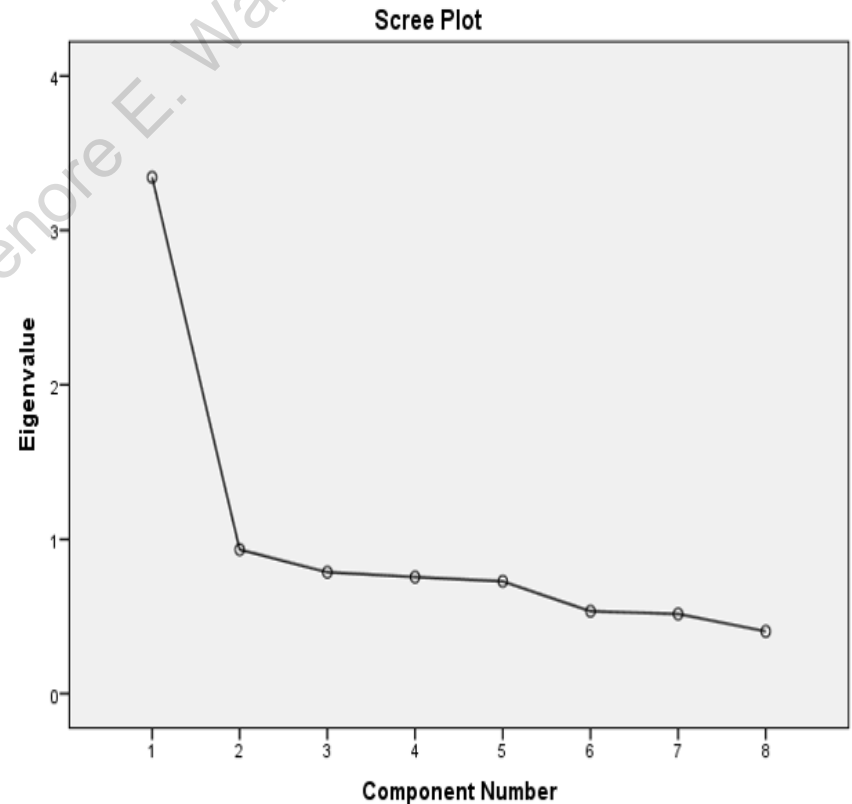
## Total Variance Explained

Factor	Total	Eigenvalues		Extraction Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.344	41.795	41.795	2.707	33.840	33.840
2	.933	11.665	53.460			
3	.787	9.833	63.292			
4	.756	9.444	72.737			
5	.728	9.095	81.832			
6	.534	6.673	88.505			
7	.516	6.453	94.958			
8	.403	5.042	100.000			

Extraction Method: Principal Axis Factoring.

# BWSQ-Factor Structure

- Clear inflection point on scree plot





# BWSQ-Factor Structure

## PARALLEL ANALYSIS:

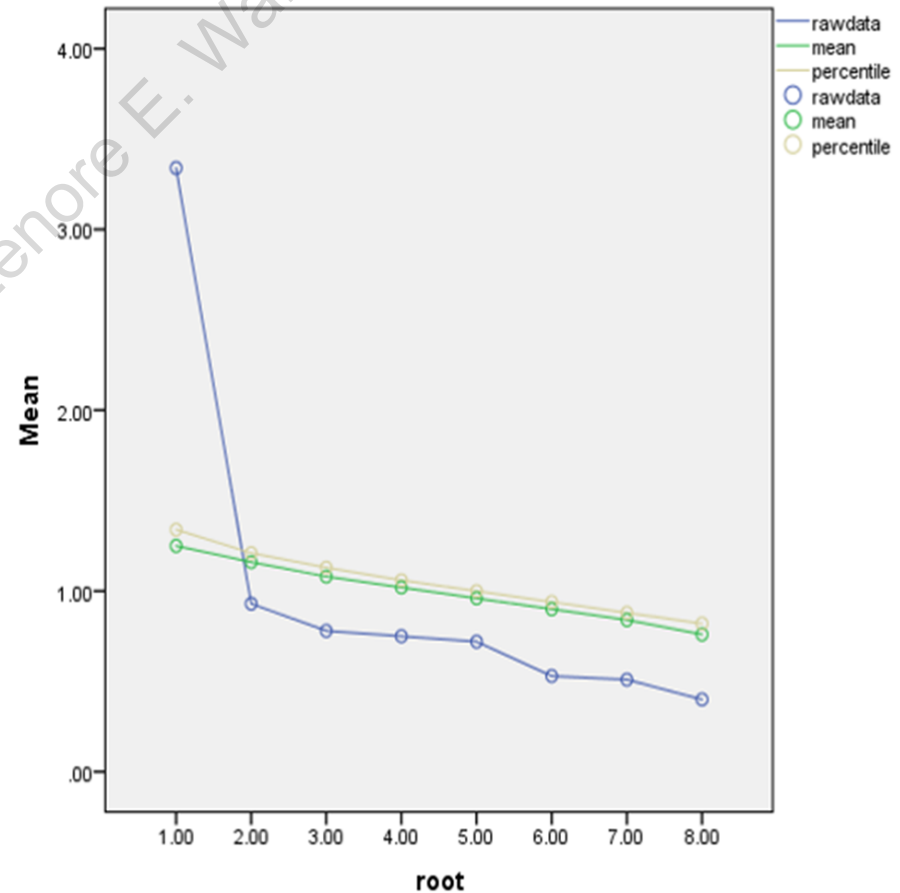
### PAF/Common Factor Analysis & Raw Data Permutation

#### Specifications for this Run:

# cases 282  
# parcels 8  
# datasets 10000  
Percent 95

#### Raw Data Eigenvalues & Mean & Percentile Random Data Eigenvalues

Root	Raw Data	Means	Percentile
1.000000	3.343565	1.257786	1.339923
2.000000	.933232	1.164420	1.215809
3.000000	.786601	1.094133	1.144358
4.000000	.755543	1.023640	1.064613
5.000000	.727620	.961581	1.008372
6.000000	.533846	.900166	.941656
7.000000	.516216	.841673	.883098
8.000000	.403377	.756602	.818150



# BWSQ-Factor Structure

Individual parcel loadings on the Factor

>.3 general rule of thumb

>.4 conservative rule of thumb

## Factor Matrix<sup>a</sup>

	Factor 1
Intrusive Memories	.687
Altered Mood and Cognition	.663
Hyperarousal	.634
Interpersonal Disruption	.602
Avoidance	.589
Dissociation	.543
Sexual Dysfunction	.455
Body Image Distortion	.424

Extraction Method: Principal Axis Factoring.

a. 1 factors extracted. 4 iterations required.

## Communalities

	Extraction
Intrusive Memories	.472
Altered Mood and Cognition	.440
Hyperarousal	.402
Interpersonal Disruption	.363
Avoidance	.347
Dissociation	.300
Sexual Dysfunction	.207
Body Image Distortion	.180

Extraction Method: Principal Axis Factoring.

## BWSQ-Factor Structure

Explained variance per parcel  
.18 - .47

# BWSQ: Validity

## Correlations

	Adult Attachment Scale (AAS)	Trauma Symptom Inventory (TSI-1)	Age	Race	Years of Formal Schooling	Referral location
BWSQ	.610	.723	-.031	.137	-.167	-.123

# BWSQ-Reliability

Internal consistency ( $\alpha = .80$ )

	Cronbach's Alpha if Item Deleted
Interpersonal Disruption	.769
Sexual Dysfunction	.789
Body Image Distortion	.794
Intrusive Memories	.761
Avoidance	.774
Negative Mood and Cognition	.764
Hyperarousal	.768
Dissociation	.778

# Battered Women Syndrome Questionnaire (BWSQ)

## ***Current Functioning (BWSQ Measures) – 54 Items***

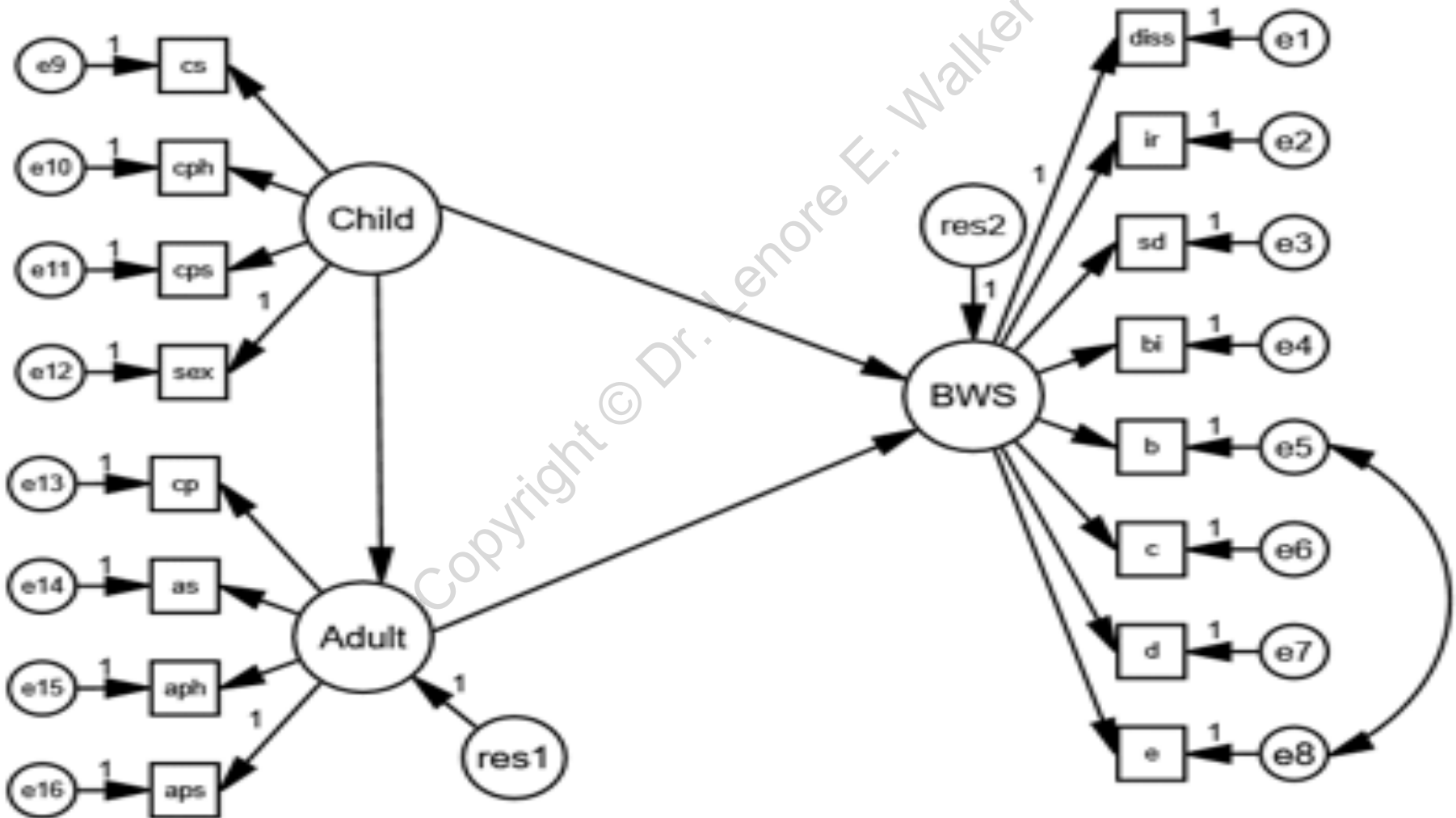
1. BWS Interpersonal Disruption Scale (BWS-IDS)
2. BWS Sexual Dysfunction Scale (BWS-SDS)
3. BWS Body Image Distortion Scale (BWS-BIDS)
4. BWS Post-Traumatic Stress Checklist (BWS-PTSC)
  - Criterion B, C, D and E
5. BWS Dissociation Scale (BWS-DS)

# Test-Retest

- *Two-way mixed effects model, ICC(3,2)*
- Interclass correlation = .91, with a 95% CI (.77, .97)

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# BWSQ-Structural Equation Model





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