NCTSN The National Child Traumatic Stress Network

Complex Trauma in the National Child Traumatic Stress Network

Bessel van der Kolk, M.D., Joseph Spinazzola, Ph.D., Julian Ford, Ph.D., Margaret Blaustein, Ph.D., Melissa Brymer, Psy.D., Laura Gardner, BsPH, Susan Silva, Ph.D., Stephanie Smith, Ph.D.

Complex Trauma Taskforce: MISSION

The mission of the Complex Trauma Taskforce is to assist and advise the NCTSN, increase public awareness and influence social policy on:

(a) the characterization and diagnostic classification of children and adolescents exposed to multiple or prolonged traumatic events, and

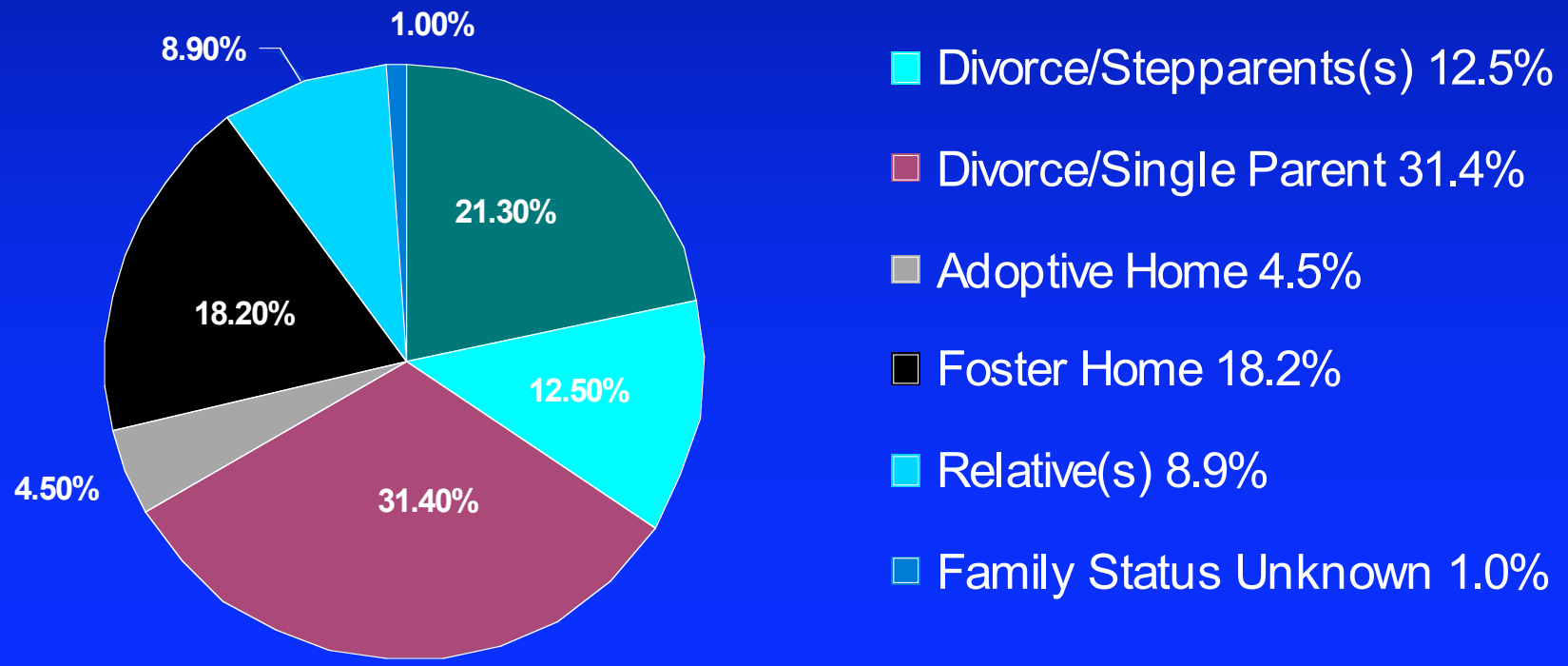
(b) the development and dissemination of effective, accessible and sustainable prevention and intervention services for these children and their caregivers that address the full complexity of associated functional impairment and psychiatric sequelae encountered in real-life clinical settings

2003 Survey of 2,200 children across NCTSN.

Gender

- Female 56.9%
- Male 43.1%

Family Status



Child Trauma Exposure: Age of Onset

- Mean Age of Onset: 5.0 (SD = 2.8)
  - Median: 5.0
  - Min, Max: 0, 13.0

Early Exposure: Over 1/3 of the sample is adolescent and yet 98% of clinicians surveyed report average age of onset under 11

Number of Child Trauma Exposure Types

- Mean Number of Exposure Types: 2.9 (SD = 1.8)
  - Median: 3.0
  - Min, Max: 1, 11

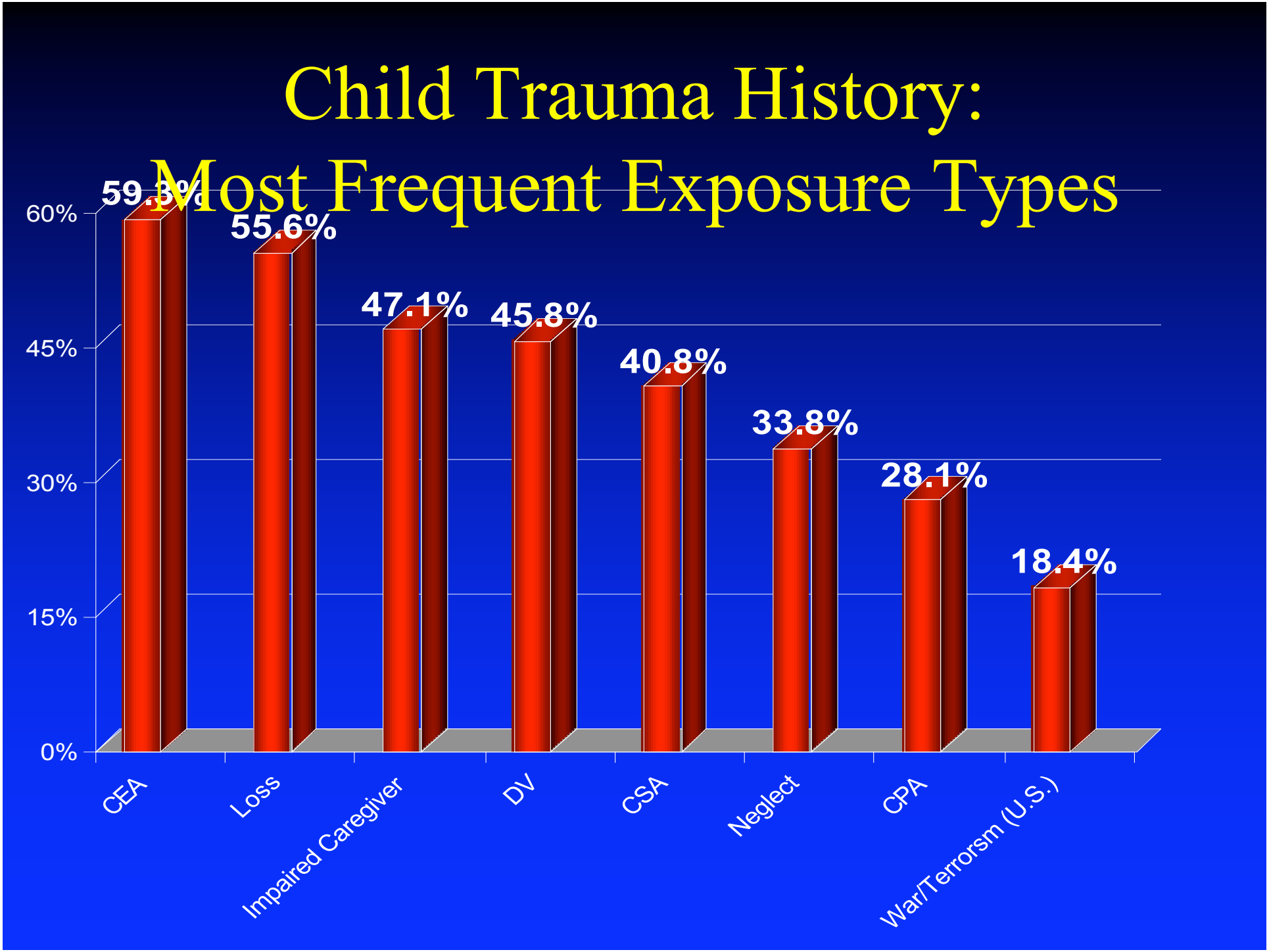
History of Multiple Exposure Types:
94% of clinicians surveyed report average child exposure to more than one type of trauma

Child Trauma Exposure Duration

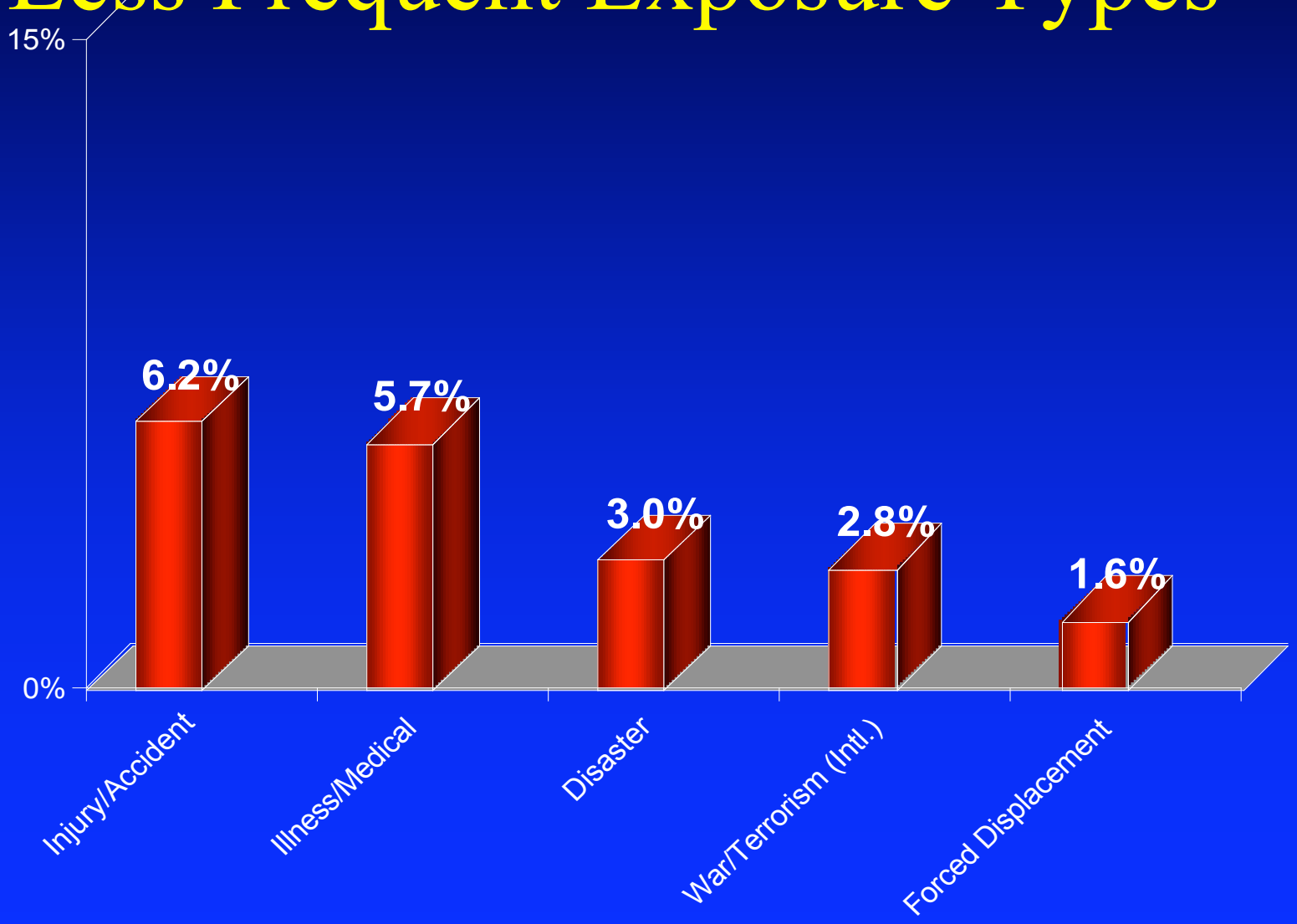
- Duration of Trauma
  - Multiple-event or chronic trauma: **77.6%**
  - Singe Event or Acute Trauma: 19.2%
  - Unknown: 3.2%

CHILD & ADOLESCENT TRAUMA EXPOSURE TYPES

Child Trauma History: Most Frequent Exposure Types

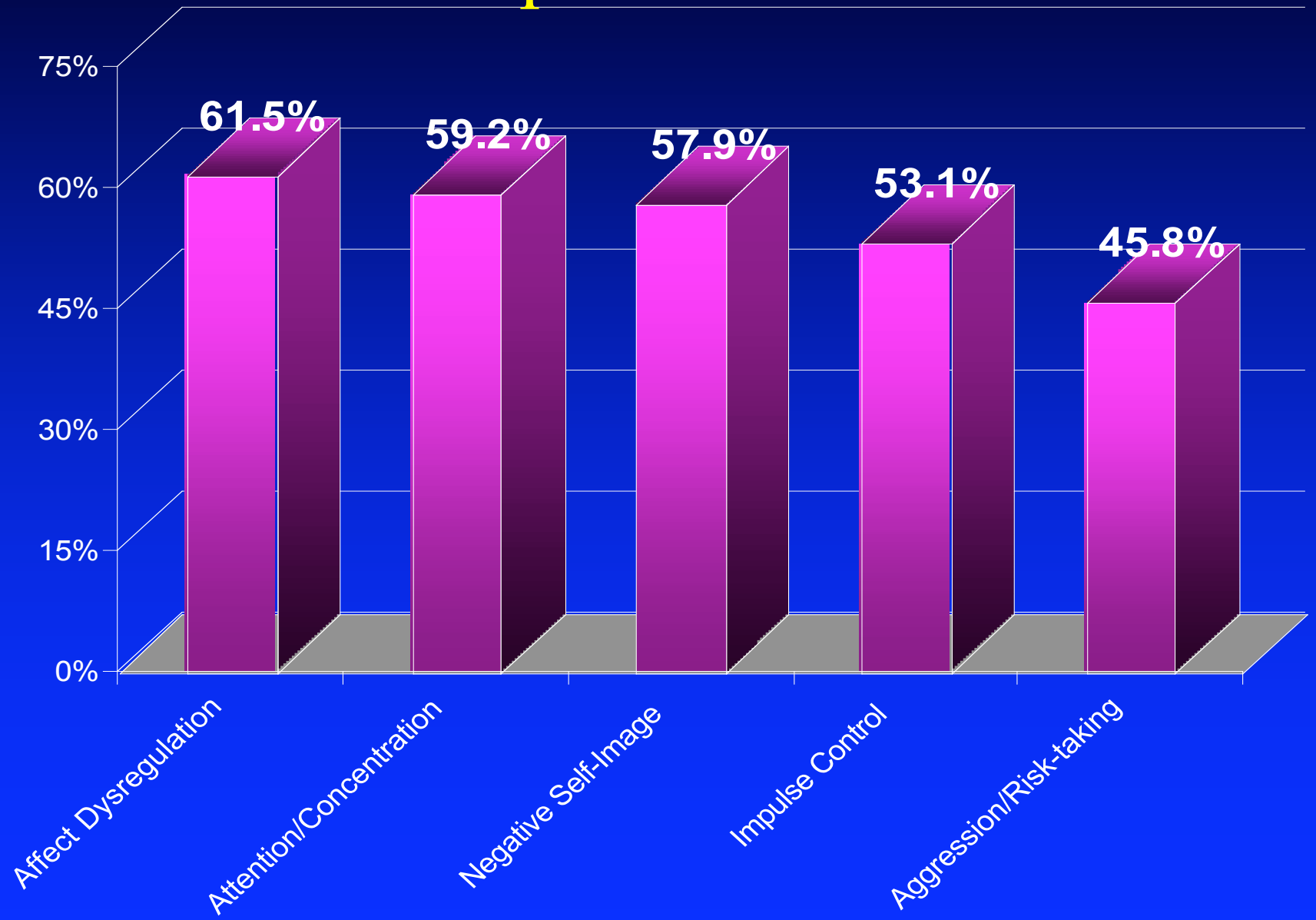


Child Trauma History: Less Frequent Exposure Types

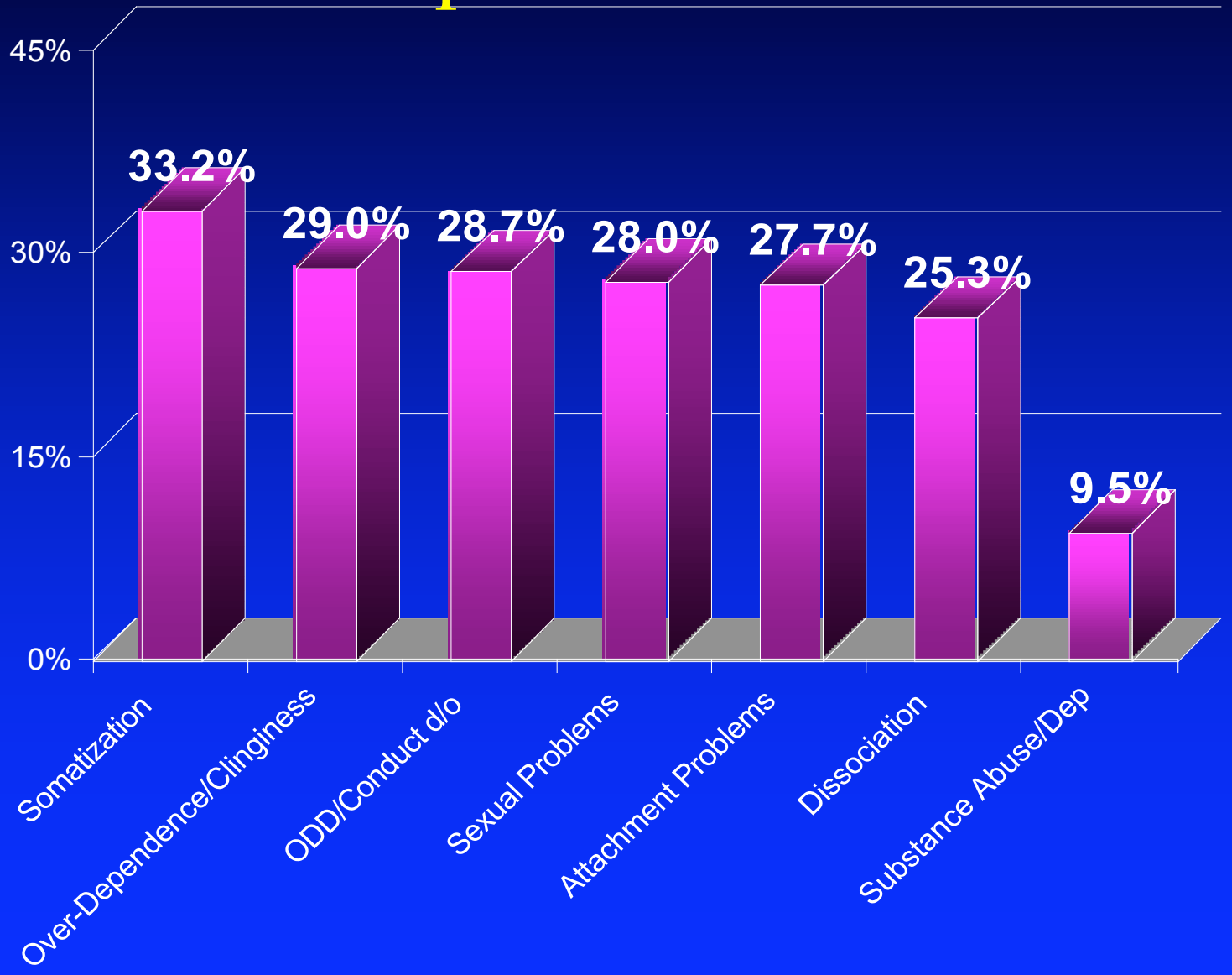


COMPLEX POSTTRAUMATIC SEQUELAE

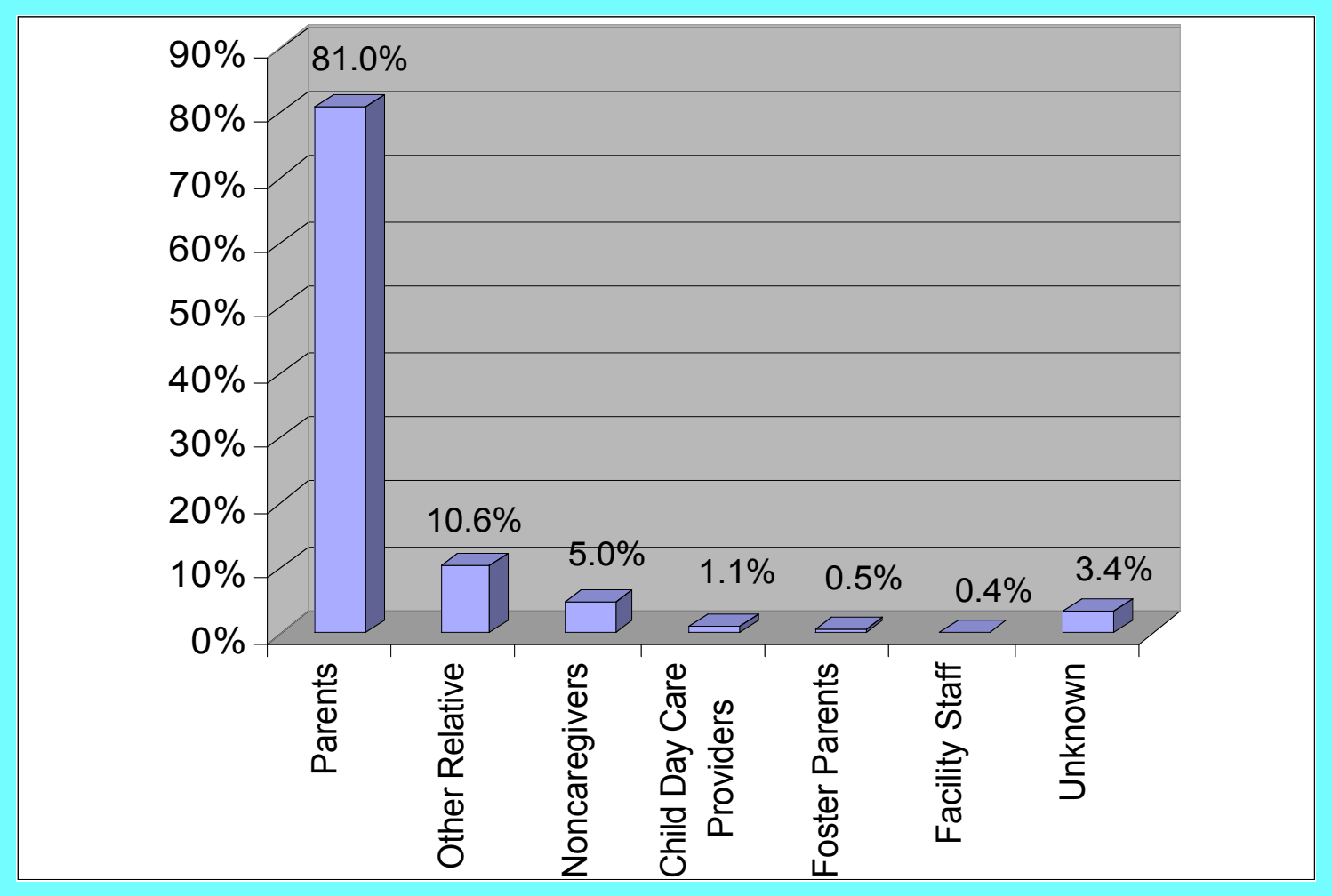
Complex Posttraumatic Sequelae: Most Frequent Difficulties



Complex Posttraumatic Sequelae: Less Frequent Difficulties



Relationship of Victims to Perpetrators in Substantiated Cases



Adverse Childhood Experiences Are Very Common

Percent reporting types of ACEs:

Household exposures:

Alcohol abuse	23.5%
Mental illness	18.8%
Battered mother	12.5%
Drug abuse	4.9%
Criminal behavior	3.4%

Childhood Abuse:

Psychological	11.0%
Physical	30.1%
Sexual	19.9%

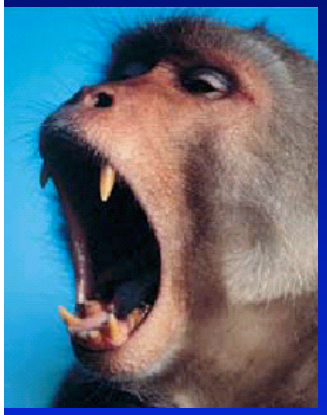
CDC
SAFER·HEALTHIER·PEOPLE

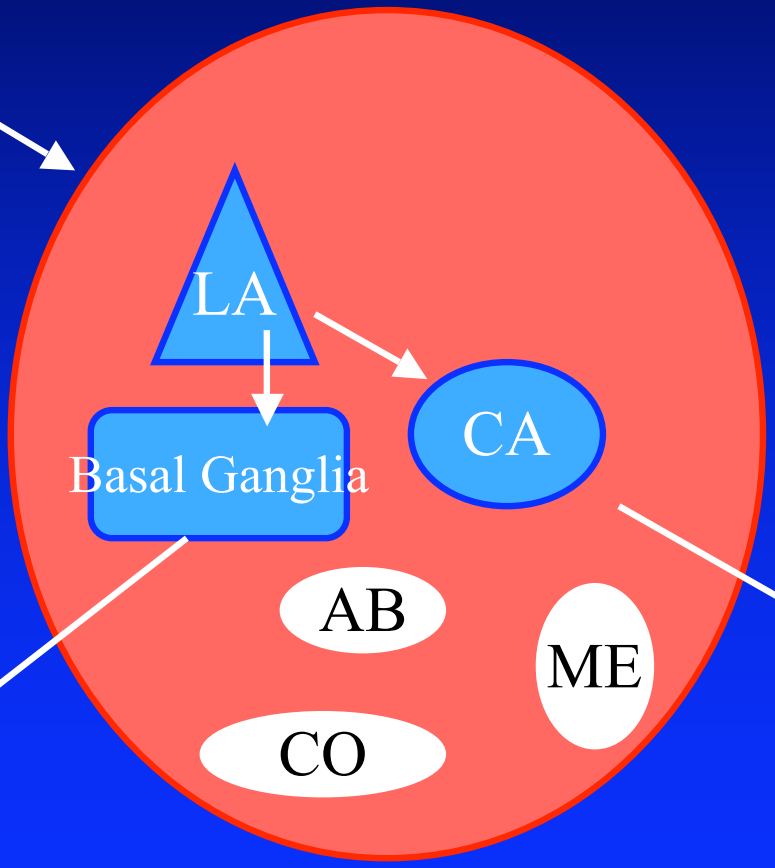
Estimates of the Population Attributable Risk* (PAR) of ACEs for Selected Outcomes in Women

Mental Health:	PAR
Current depression	54%
Depressed affect	41%
Suicide attempt	58%
Drug Abuse:	
Alcoholism	65%
Drug abuse	50%
IV drug abuse	78%
Promiscuity	48%
Crime Victim:	
Sexual assault	62%
Domestic violence	52%

How the brain "gets on with life"
(LeDoux, 2003)

Threat





Active coping
- Planning
- Action

Passive coping
- Freezing
- Despondency

Attachment - Human Studies

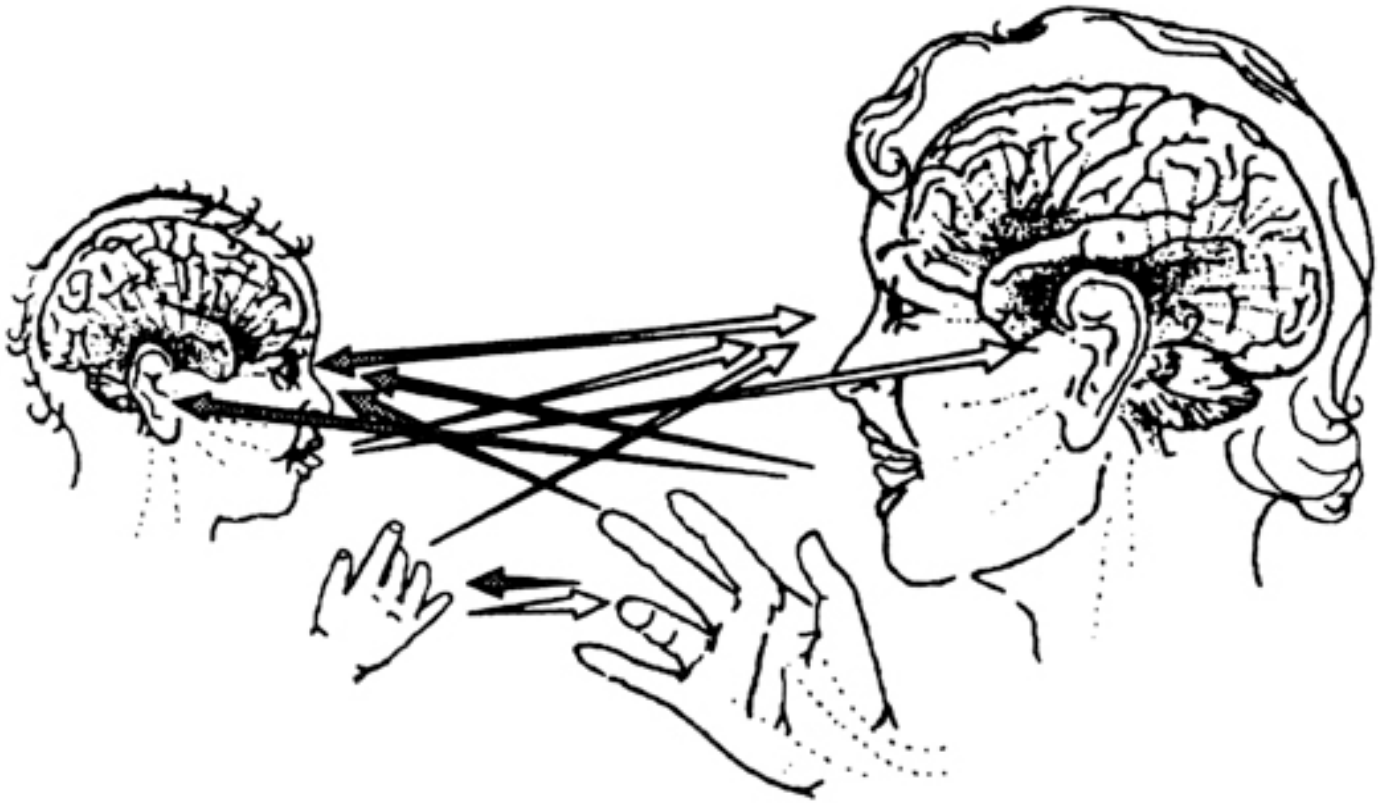
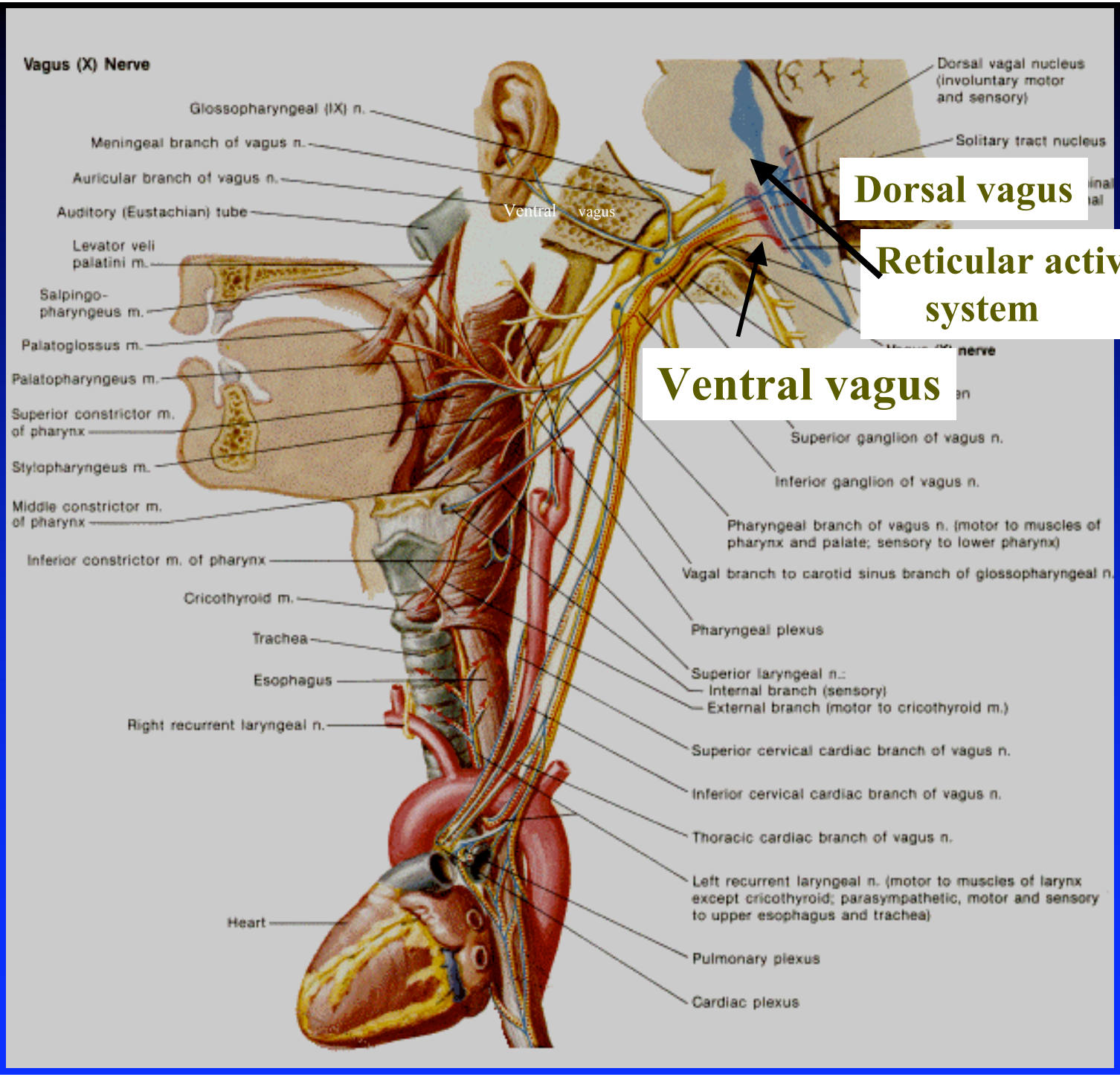
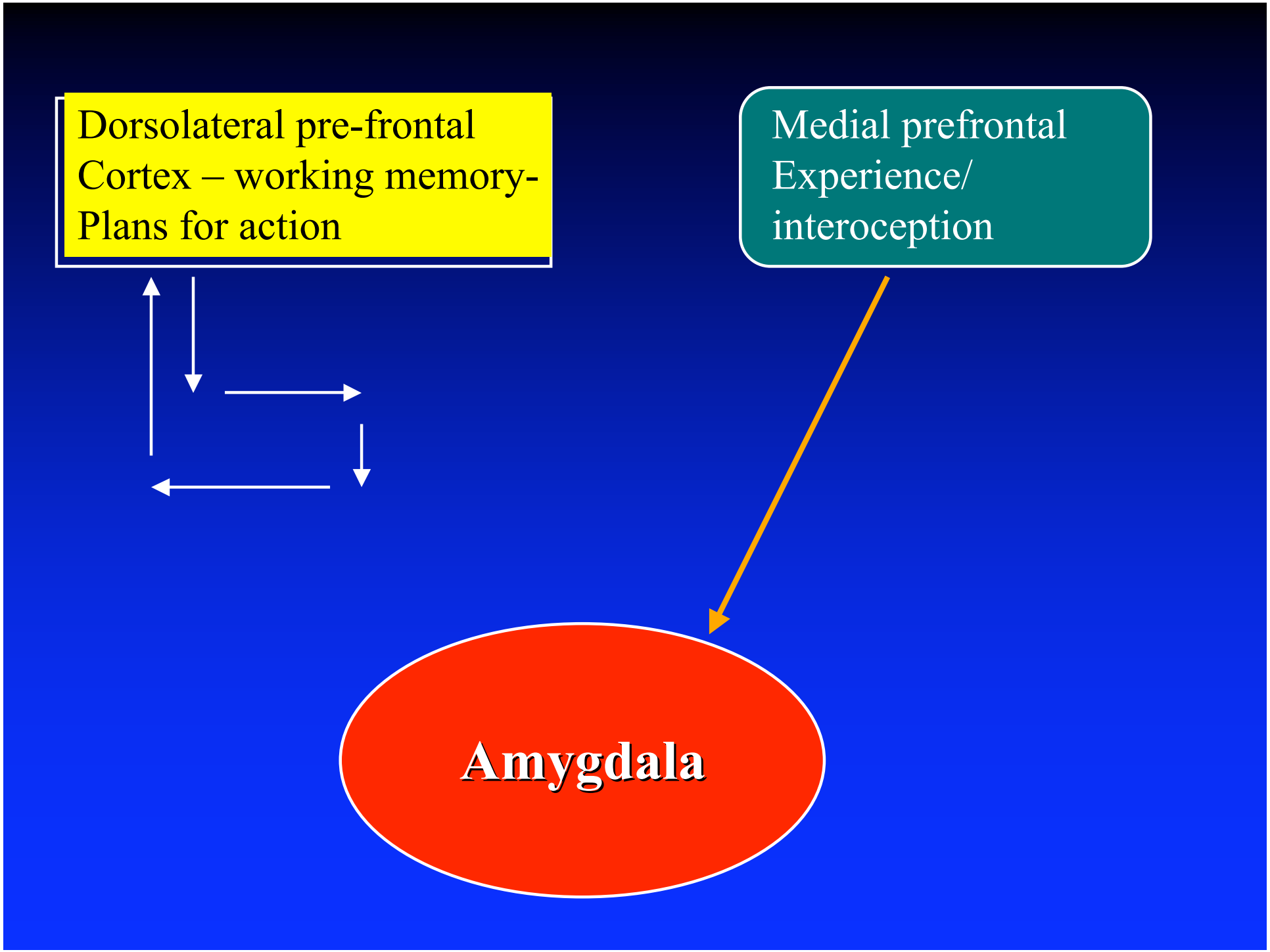


FIGURE 1. Brain–brain interactions during face-to-face communications of proto-conversation, mediated by eye-to-eye orientations, vocalizations, hand gestures, and movements of the arms and head, all acting in coordination to express interpersonal awareness and emotions. Adapted from Aitken & Trevarthen (1993) and used with permission of Cambridge University Press.


Vagus (X) Nerve
Glossopharyngeal (IX) n.
Meningeal branch of vagus n.
Auricular branch of vagus n.
Auditory (Eustachian) tube
Levator veli palatini m.
Salpingo-pharyngeus m.
Palatoglossus m.
Palatopharyngeus m.
Superior constrictor m. of pharynx
Stylopharyngeus m.
Middle constrictor m. of pharynx
Inferior constrictor m. of pharynx
Cricothyroid m.
Trachea
Esophagus
Right recurrent laryngeal n.
Heart
Ventral vagus
Dorsal vagal nucleus (involuntary motor and sensory)
Solitary tract nucleus
Dorsal vagus
Reticular activating system
Ventral vagus
Superior ganglion of vagus n.
Inferior ganglion of vagus n.
Pharyngeal branch of vagus n. (motor to muscles of pharynx and palate; sensory to lower pharynx)
Vagal branch to carotid sinus branch of glossopharyngeal n.
Pharyngeal plexus
Superior laryngeal n.:
Internal branch (sensory)
External branch (motor to cricothyroid m.)
Superior cervical cardiac branch of vagus n.
Inferior cervical cardiac branch of vagus n.
Thoracic cardiac branch of vagus n.
Left recurrent laryngeal n. (motor to muscles of larynx except cricothyroid; parasympathetic, motor and sensory to upper esophagus and trachea)
Pulmonary plexus
Cardiac plexus


Dorsolateral pre-frontal Cortex – working memory- Plans for action
Medial prefrontal Experience/ interoception
Amygdala

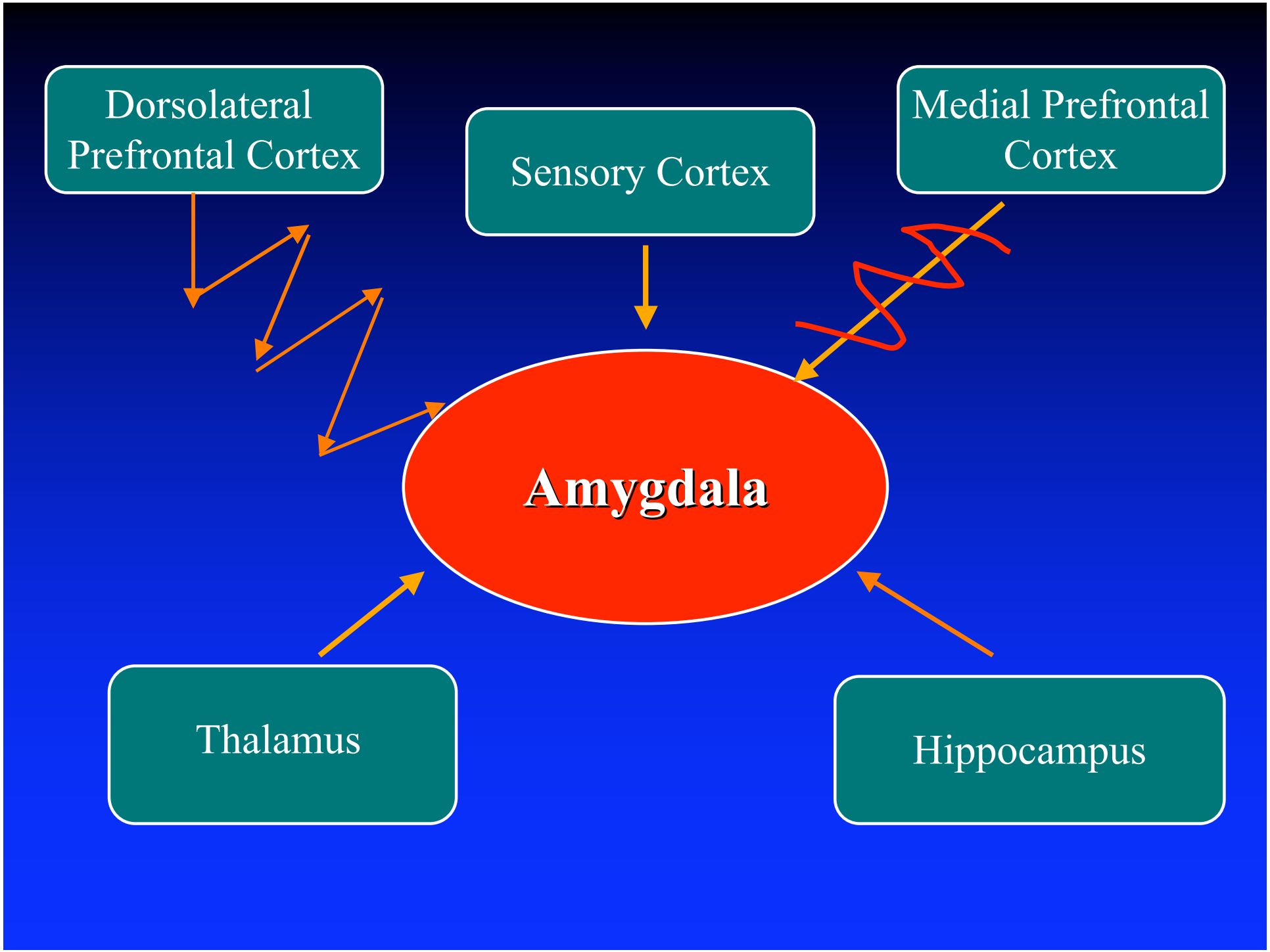
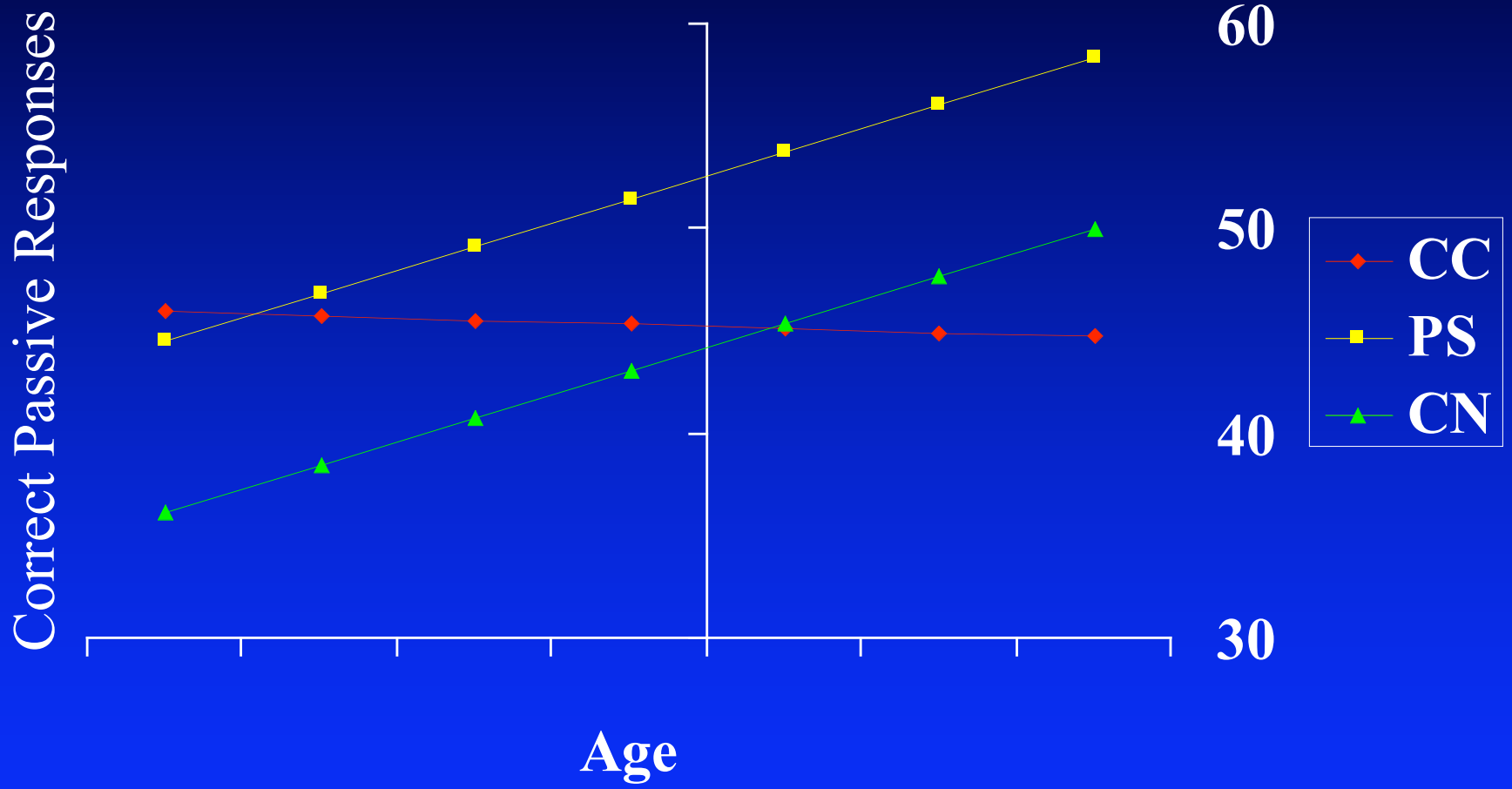
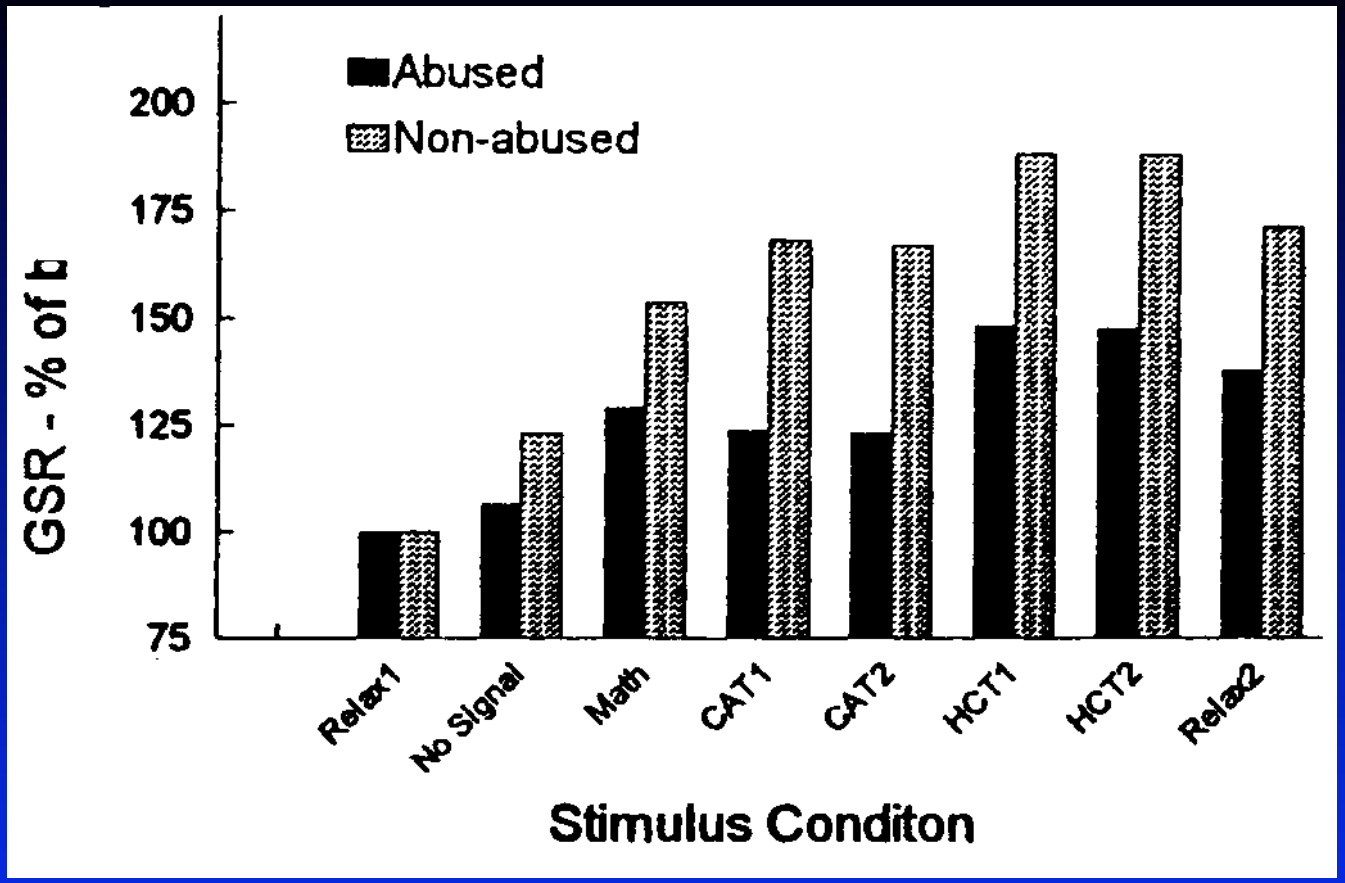

Dorsolateral Prefrontal Cortex
Sensory Cortex
Medial Prefrontal Cortex
Amygdala
Thalamus
Hippocampus

Figure 2: PAL Task



Mezzacappa, 2001

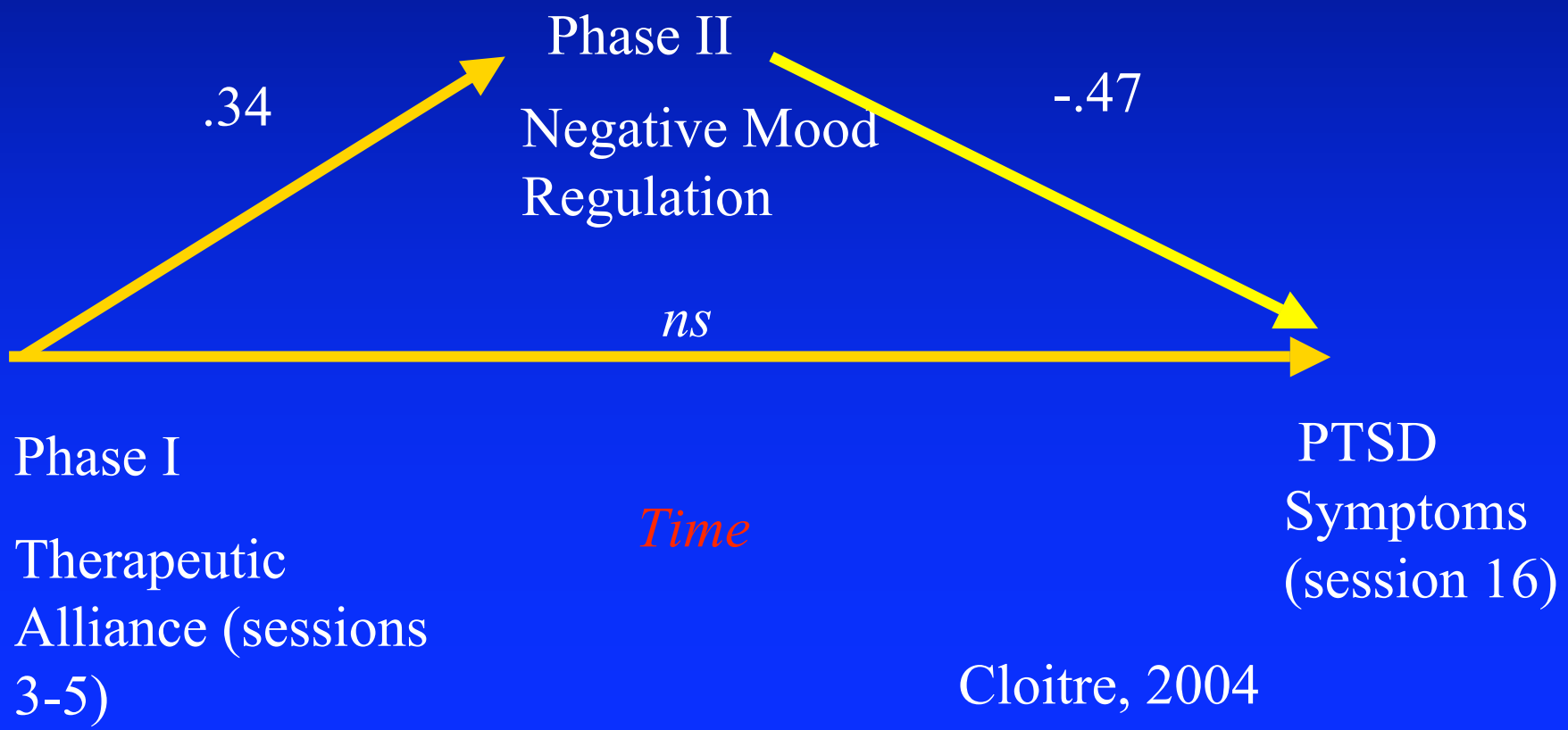


Mean % of baseline GSR in each stimulus condition for child abuse and control groups. 1) Relax (no signal), 2) math calculations, 3, 4) Children's Apperception Test Part 1 and 2; 5, 6) Halsted Category Test, Part 1 and 2, 7) Relaxation condition – post).

J Am Acad Child Adolesc. Psychiat, 2001

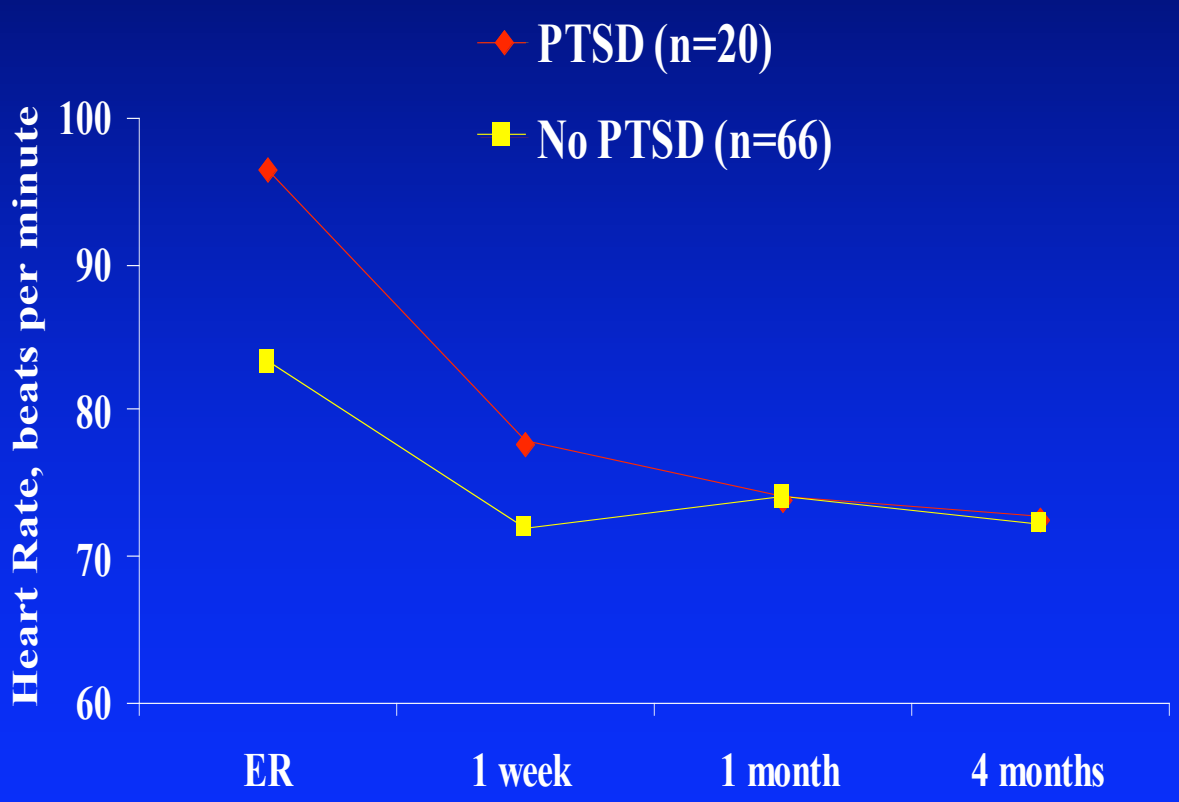
The Therapeutic Alliance Sets the Stage for Emotion Regulation

(Bessel van der Kolk, 2002)



Self-regulation is critical issue

Heart Rate following Trauma

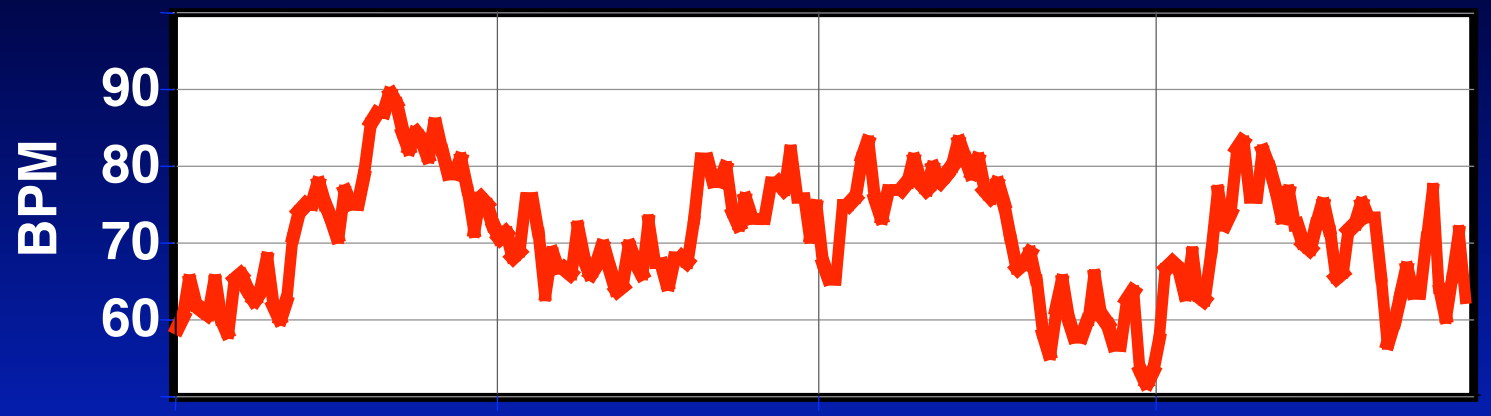


↑ HR in immediate aftermath predicts PTSD

Suggests greater SNS activity or sensitivity predicts PTSD

Shalev et al, Arch Gen Psychiatry, 1998

Low HRV

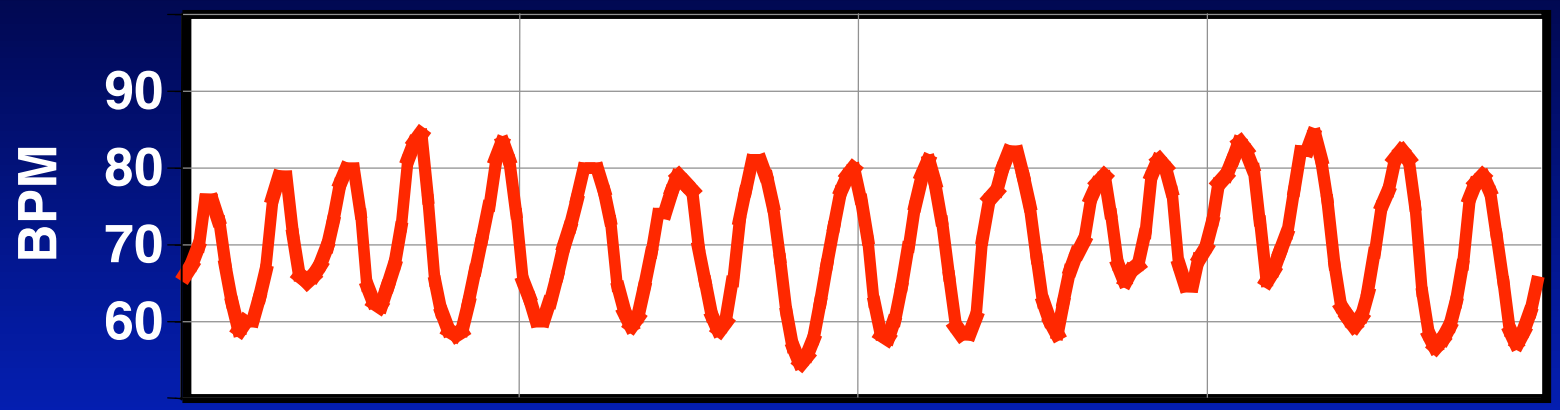


- Chaos
- Anxious and depressed states

  Carney et al., 1988 J Psychosom. Res.
  McCraty et al, 2001 *Bio. Psychol.*
  Rechlin et al. 1994 *J. Affect. Dis.*
  Shibagaki & Furuya, 1997 *Percep. Mot. Skills*
- Predictor of mortality : CVD, cancer, etc.

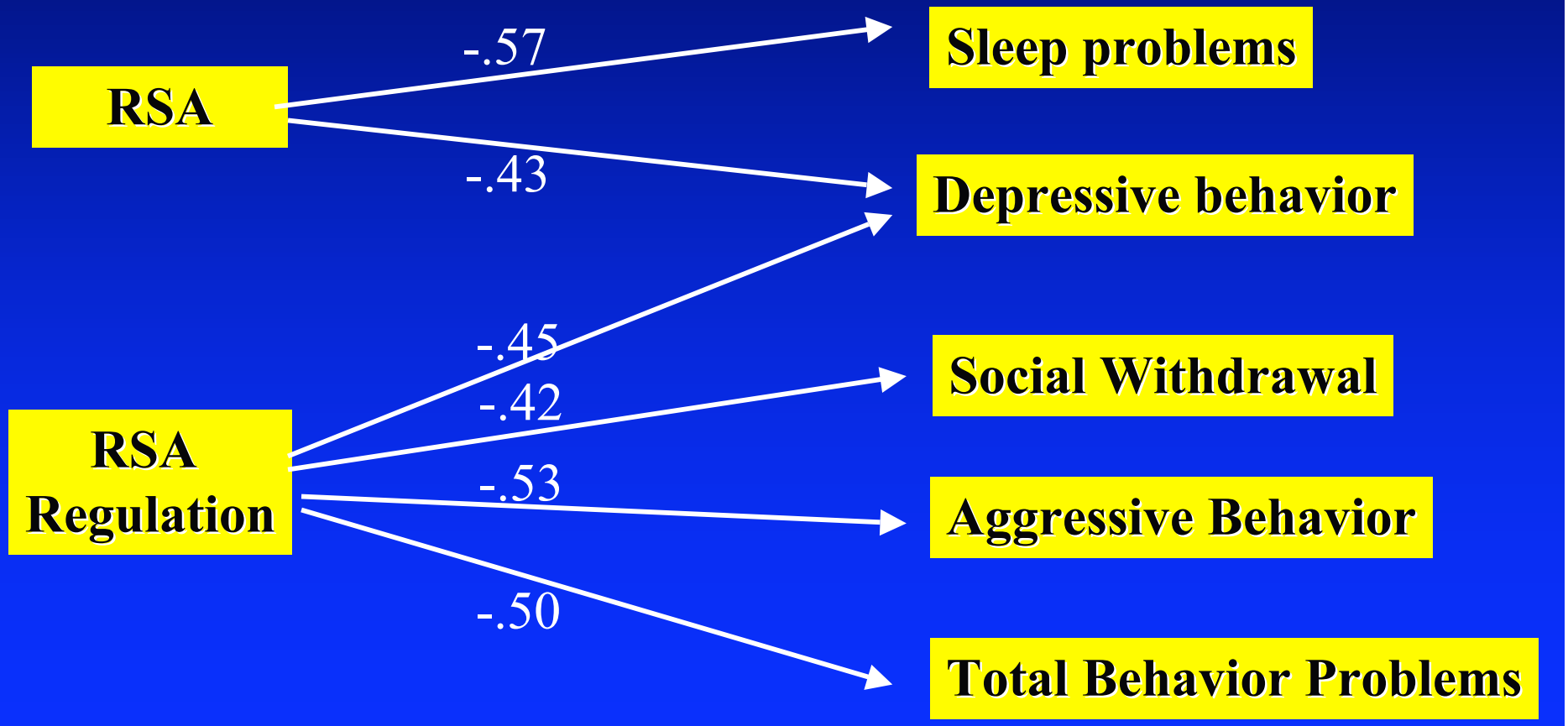
  Tsuji et al., 1994 *Circulation*; Dekker et al., 1997 *Am. Jal. Epidem.*; La Rovere et al., 1998, *Lancet*

High HRV

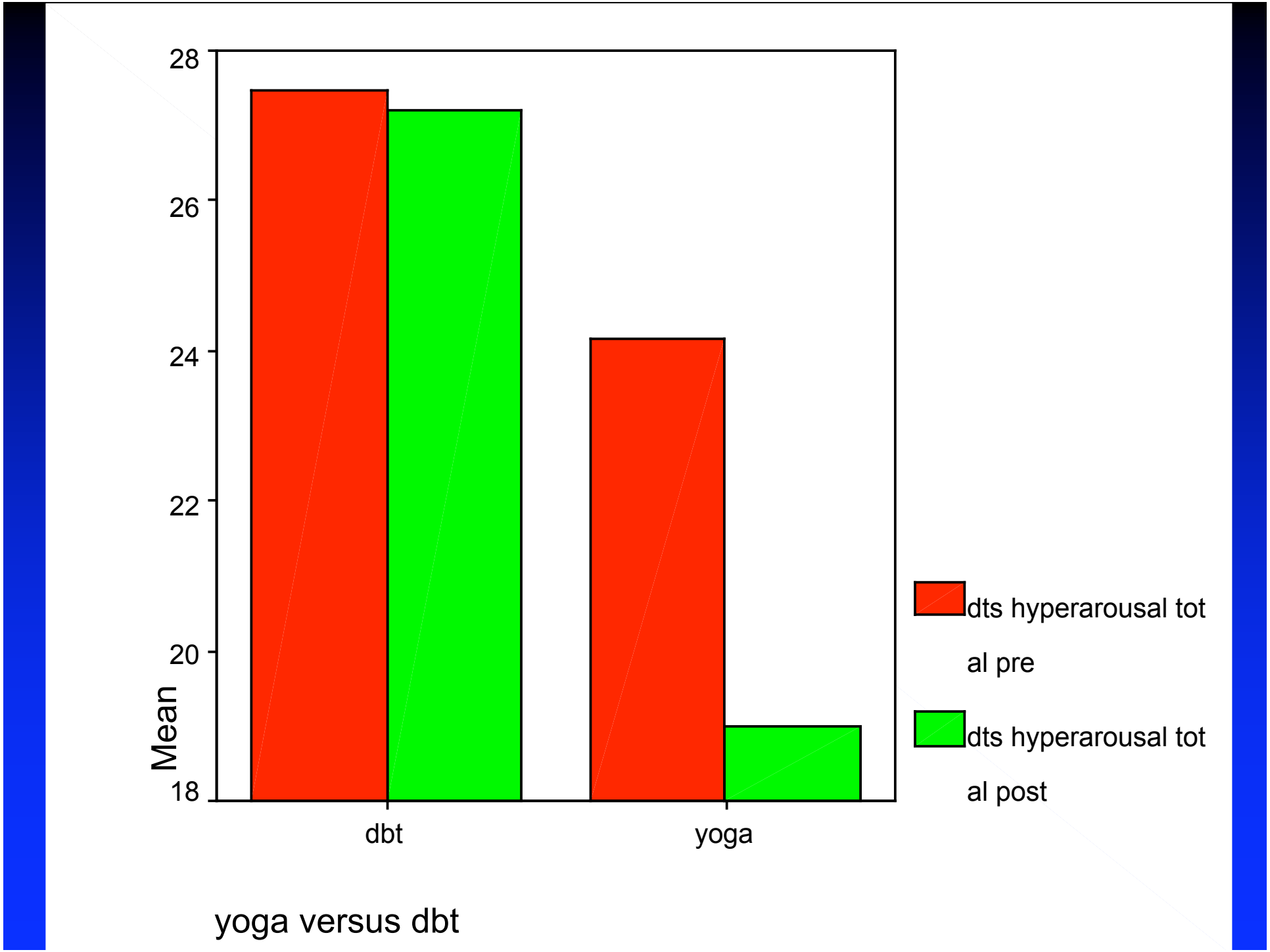


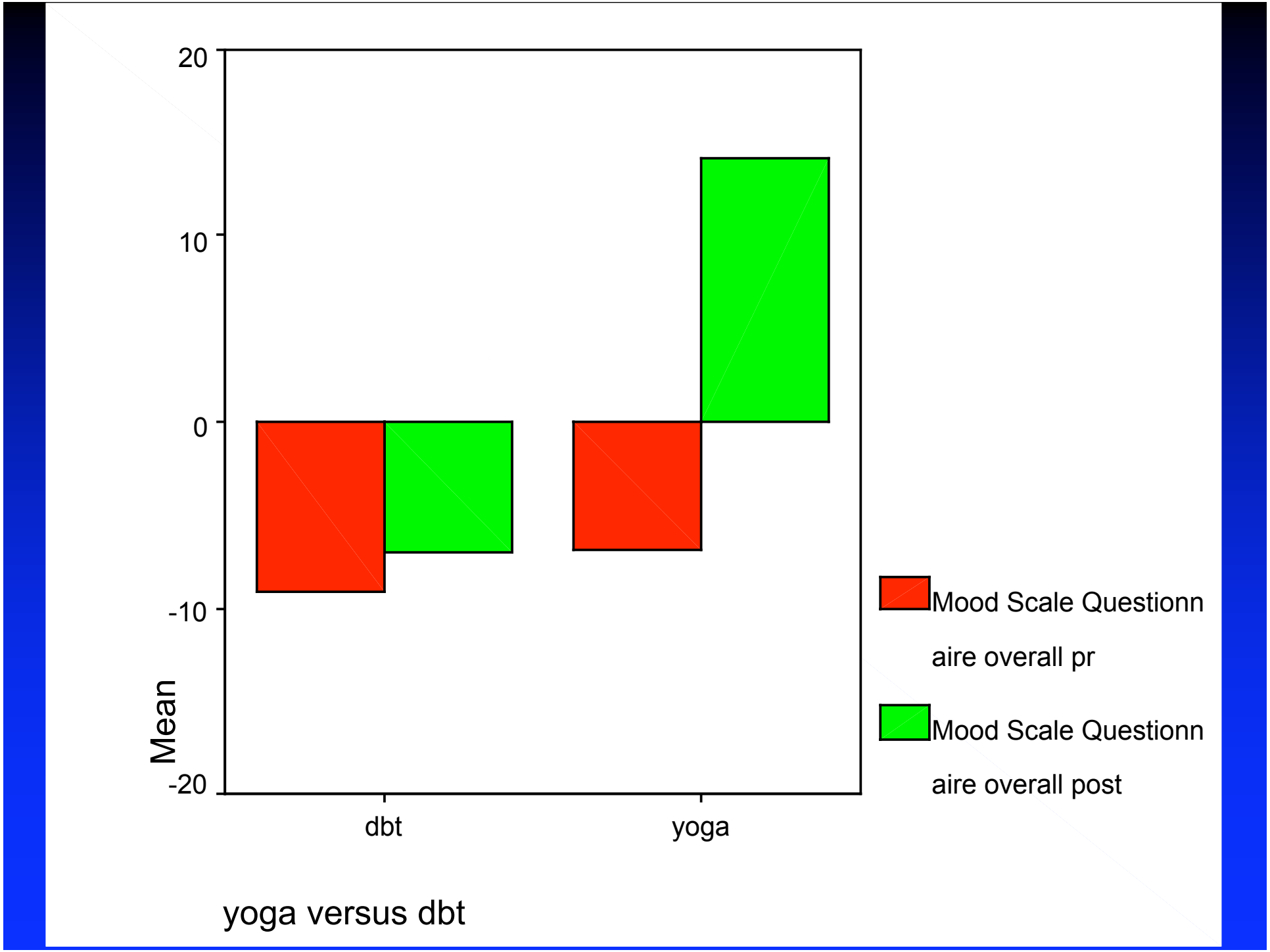
- Coherence
- Positive emotions
  McCraty et al., 1995 *Am. Jal Card*
- Predicts resistance to stress
  Porges et al., 1996 *Dev. Psychobiology*
  Katz & Gottman, 1997 *J Clin Child Psychol*

Vagal Regulation and pre-school behavior problems



Porges, Roosevelt, Portales & Greenspan (1996): Developmental Psychobiology


28
26
24
22
20
18
Mean
dbt
yoga
dts hyperarousal tot al pre
dts hyperarousal tot al post
yoga versus dbt


20
10
0
-10
-20
Mean
dbt
yoga
Mood Scale Questionn
aire overall pr
Mood Scale Questionn
aire overall post
yoga versus dbt

CONCLUSIONS

- The Network primarily serves children exposed to multiple-exposure, chronic and early-onset trauma

- Predominant traumas are interpersonal in nature (child maltreatment, family violence, U.S. community/political violence (war/terrorism)
- These exposure lead to prevalent problems with affect regulation, attention, self-image, impulse control, aggressive behaviors, risk-taking, somatization & attachment
- No clinical consensus on effective treatments for this majority subpopulation of child trauma victims

IMPLICATIONS

Three Critical Questions:

- What are the implications for characterization & diagnosis of children exposed to complex trauma?
- How should this inform policy initiatives for traumatized children?
- What are the implications of these findings for child complex trauma treatment development and clinician training initiatives?

Prevalence of Psychiatric Disorders in Sample of 204 Physically and Sexually Abused Children

		ABUSE GROUPS					
	Total	Boys	Girls	Boys	Girls	Boys	Girls
Diagnoses	%	%	%	%	%	%	%
Separation Anxiety/Overanx	**59**	44	**58**	48	**100**	**59**	**79**
Oppositional Defiant Disorde	**36**	46	22	**56**	20	**64**	47
Phobic	**36**	44	36	24	30	25	**58**
PTSD	**34**	20	35	18	50	58	53
ADHD	**29**	**40**	22	**36**	10	**67**	26
Conduct Disorder	**21**	**44**	11	21	10	67	21
Dysthymia	**19**	16	13	24	20	17	42
Obsessive-Compulsive	**14**	0	14	18	20	8	27
Major Depression	**13**	12	11	12	20	8	32
Avoidant	**10**	12	7	18	30	8	0
Bipolar Disorders	**9**	4	9	9	20	0	21
		Sexual (N=127)		Physical (N=43)		Both (N=34)	

Note: 62% of subjects were outpatients, 25% inpatients, and 13% were referred by local agencies

Source: Ackerman et al. "Prevalence of Post Traumatic Stress Disorder and Other Psychiatric Diagnoses in Three Groups of Abused Children (Sexual, Physical, and Both)." *Child Abuse and Neglect,* 1998, Vol. 22, No. 8.

NCTSN DSM V Developmental Trauma Taskforce

Marylene Cloitre, Julian Ford, Sandra Kaplan, Alicia Lieberman, Frank Putnam, Robert Pynoos, Glenn Saxe, Michael Scheeringa, Bessel A. van der Kolk.

Developmental Trauma Disorder

- **A. Exposure**
  - **1. Multiple or chronic exposure to one or more forms of developmentally adverse interpersonal trauma** (abandonment, betrayal, physical sexual assaults, neglect, coercive practices, emotional abuse, witnessing).
  - affects a developmental segment
- **B. Subjective Experience**
  - (rage, betrayal, fear, resignation, shame).

B. Triggered pattern of repeated dysregulation in response to trauma cues

- **1. Dysregulation Type** ***evidence of some type of PTSD?? Interference with core developmental competencies. That have behavioral manifestations***
  - **Affective**
  - **Somatic** (physiological, motoric, medical)
  - **Behavioral** (e.g. re-enactment, self mutilation)
  - **Cognitive** (thinking that it is happening again, *confusion,* dissociation, depersonalization*)*.
  - **Relational** (attachment clinging, oppositional, distrustful).
  - Self-care

B. Triggered pattern of repeated dysregulation in response to trauma cues

2. Regulation Strategy

- **Anticipatory** (e.g avoiding, bullying, ingratiating)
- **Coping** (e.g. cutting, assaulting, dissociating)
- **Restorative** (e.g. compliance, avoidance,)
- **Disorganized**

Developmental Impact on other disorders

- Substance abuse,
- Bipolar
- Depression
- Somatization

C. Generalized expectancies

- Negative self-attribution
- Loss of protective caretaker
- Loss of protection of others
- Loss of trust in social agencies to protect
- Expectation? of future victimization

D. Functional Impairment

- Scholastic
- Familial
- Peer
- Legal
- Vocational