Evidence-Based Treatment for Posttraumatic Stress Disorder: Preparing for the Aftermath of Disaster

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The Problem of PTSD

PTSD

- A. Exposure to a traumatic event as defined by both A1 and A2
  - A1. Person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or threat to the physical integrity of self or others
  - A2. Person's response involves intense fear, helplessness, or horror

PTSD (cont'd)

- B. Traumatic event is persistently reexeperienced (need at least one)
  - (1) Recurrent, intrusive, distressing recollections; (2) recurrent distressing dreams; (3) flashbacks; (4) psychological distress in response to reminders; (5) cued physiological reactivity

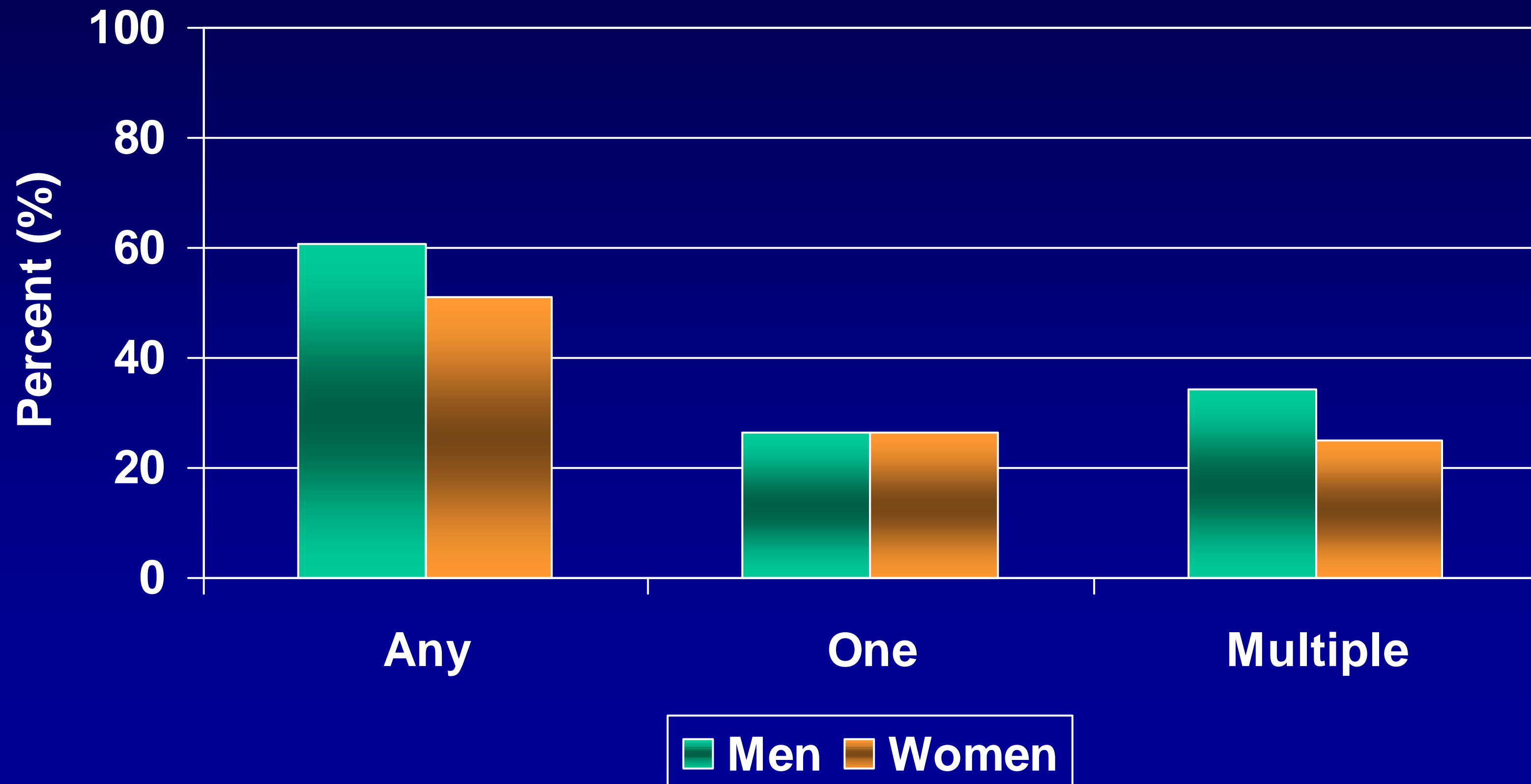
PTSD (cont'd)

- C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (need at least three)
  - (1) Avoiding thoughts, feelings, conversations about trauma; (2) avoiding activities, people, places, or people that arouse recollections of the trauma;
  - (3) Inability to recall important aspects of the trauma; (4) marked diminished interest or participation in significant activities; (5) feelings of detachment or estrangement from others; (6) restricted range of affect; (7) sense of foreshortened future

PTSD (cont'd)

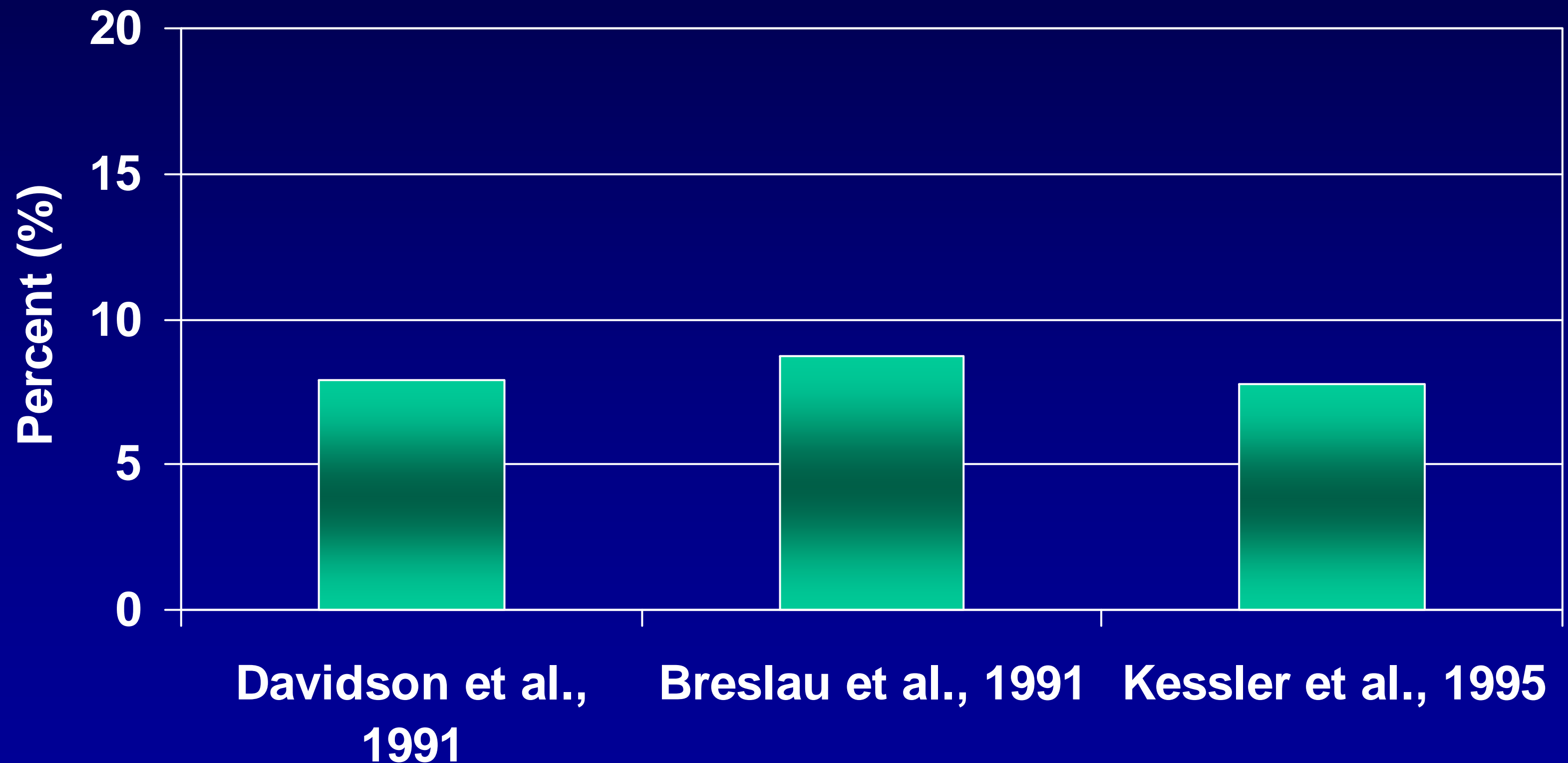
- D. Persistent symptoms of increased arousal (need at least two)
  - (1) Difficulty falling or staying asleep; (2) irritability or outbursts of anger; (3) difficulty concentrating; (4) hypervigilance; (5) exaggerated startle response
- E. Duration of disturbance is more than one month
  - Acute PTSD: Duration is 1-3 months
  - Chronic PTSD: Duration is > 3 months
  - Specify if delayed onset:
    - Symptom onset $\geq$ 6 months after trauma

Lifetime Prevalence Of Trauma

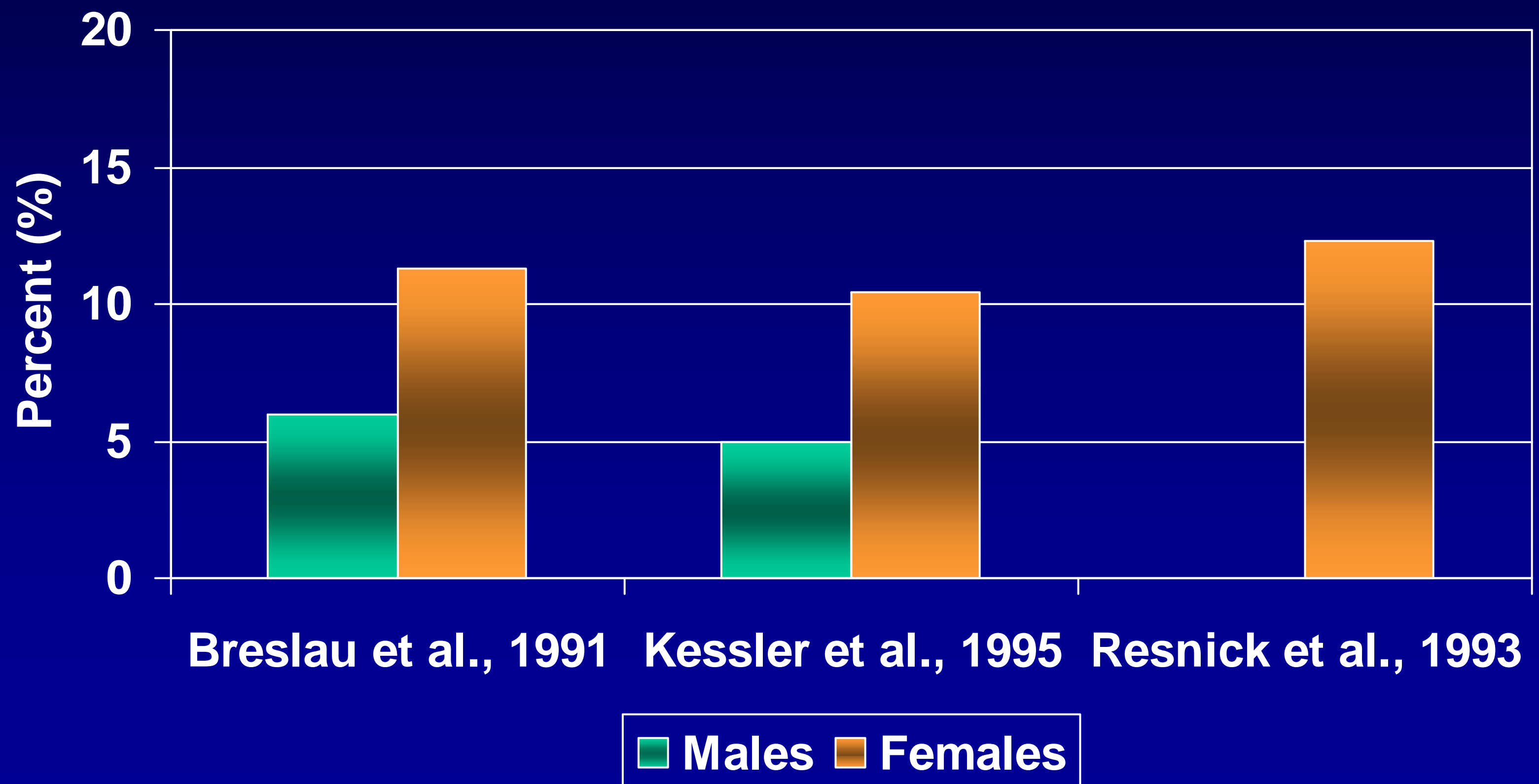


Kessler et al., 1995

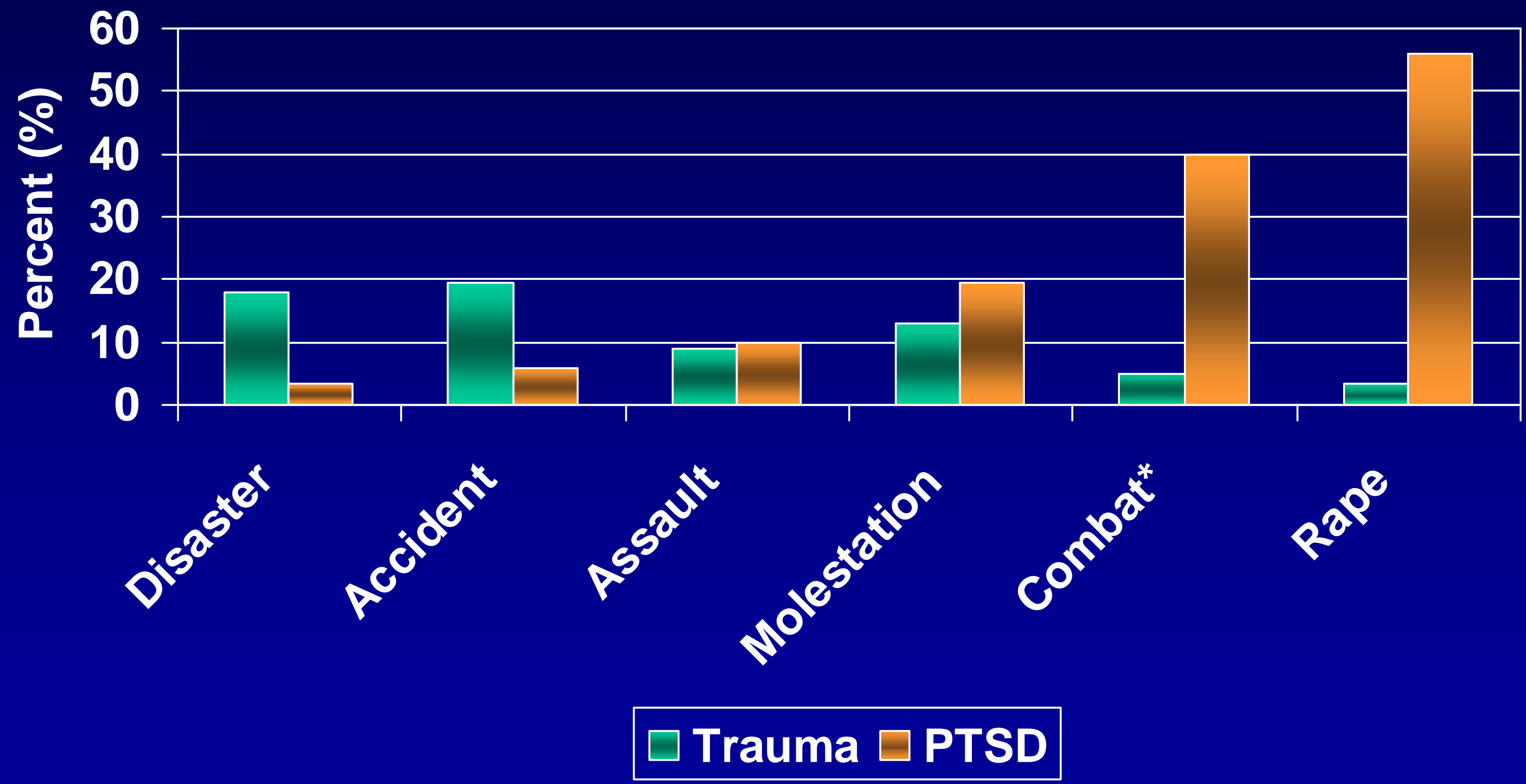
Lifetime Prevalence Of PTSD In The Community



Prevalence of PTSD by Gender

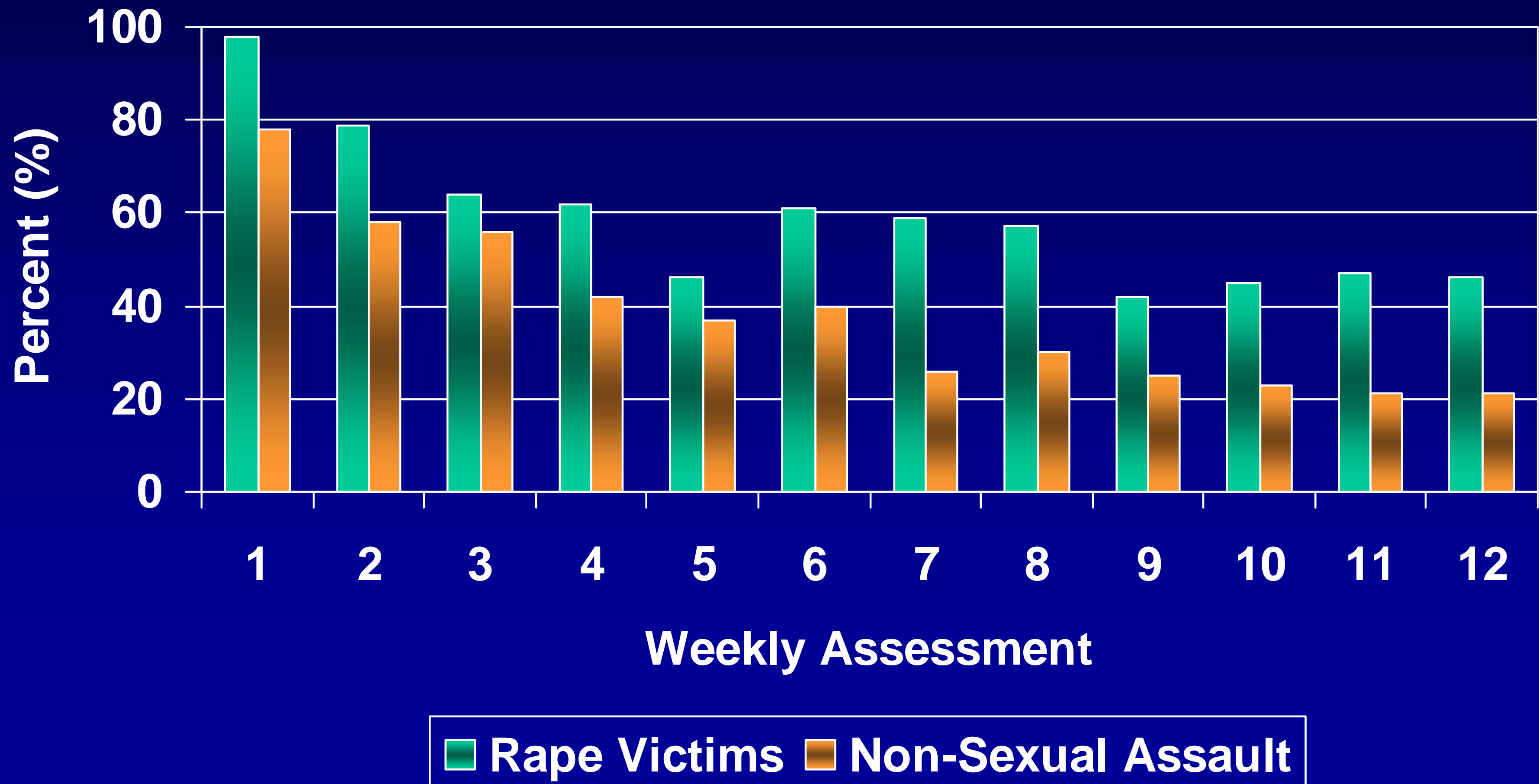


Rate of PTSD is Influenced by the Nature of the Trauma

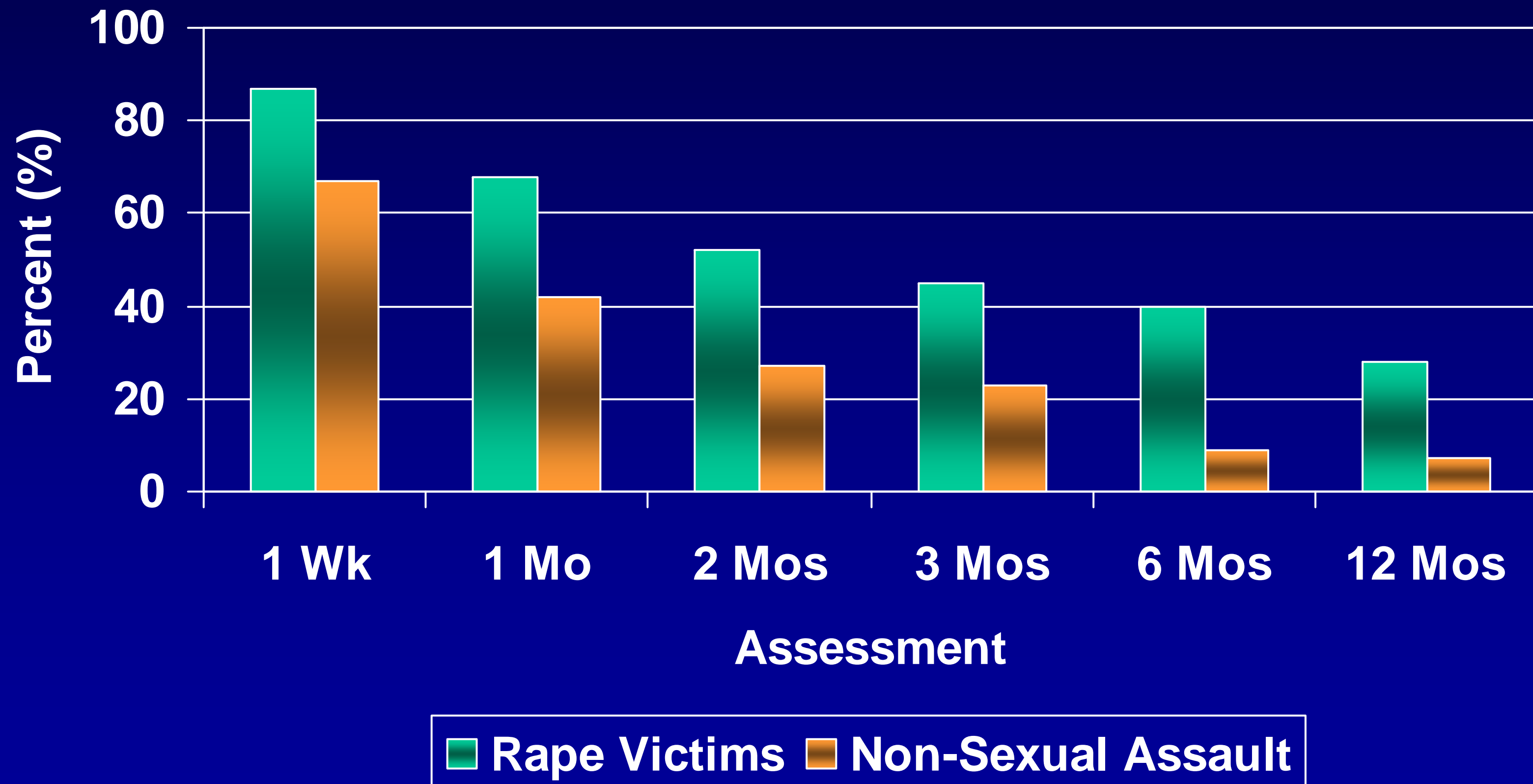


Kessler et al., 1995

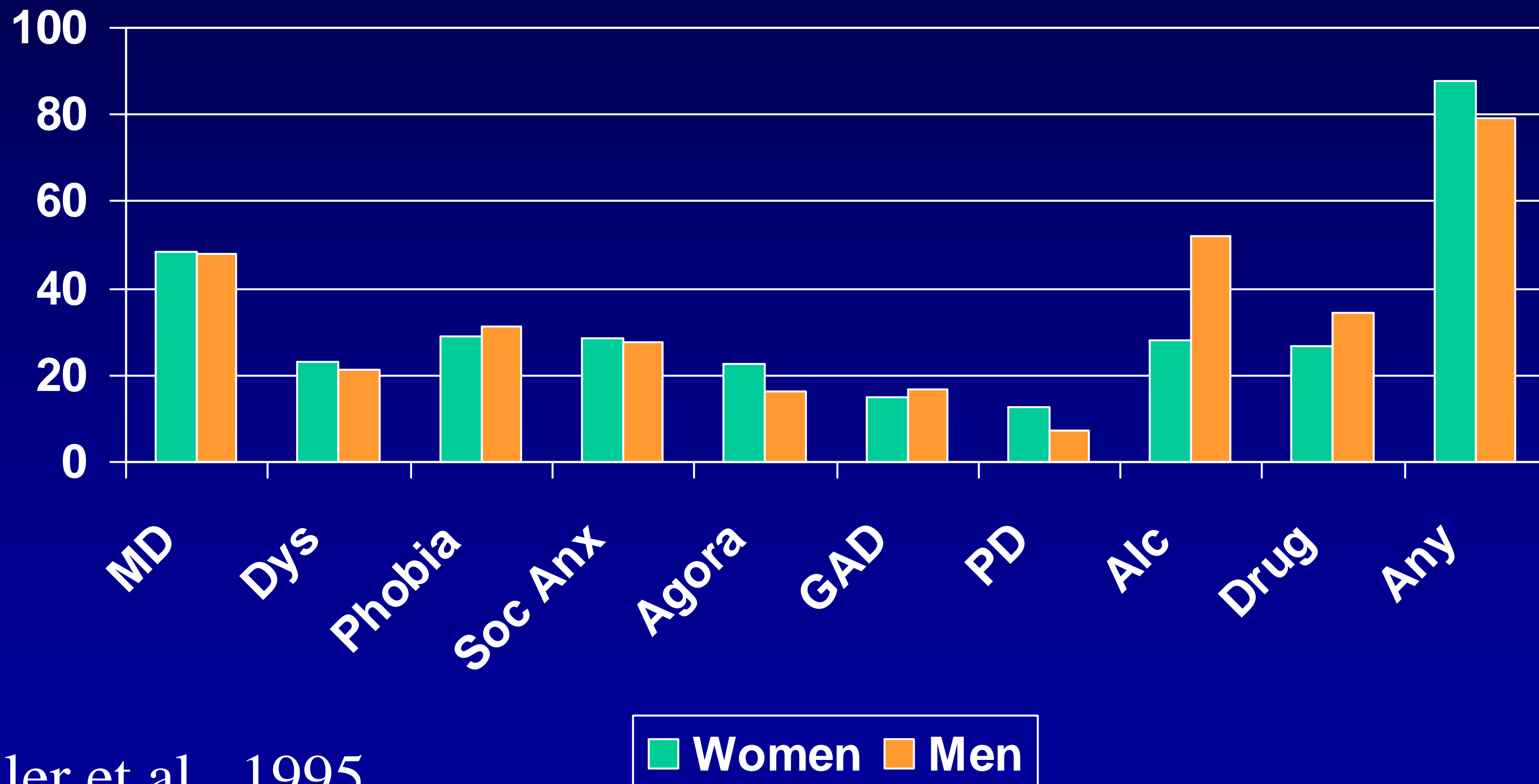
Natural Recovery: Percentage of Victims with PTSD as a Function of Time



Percentage of Victims with PTSD

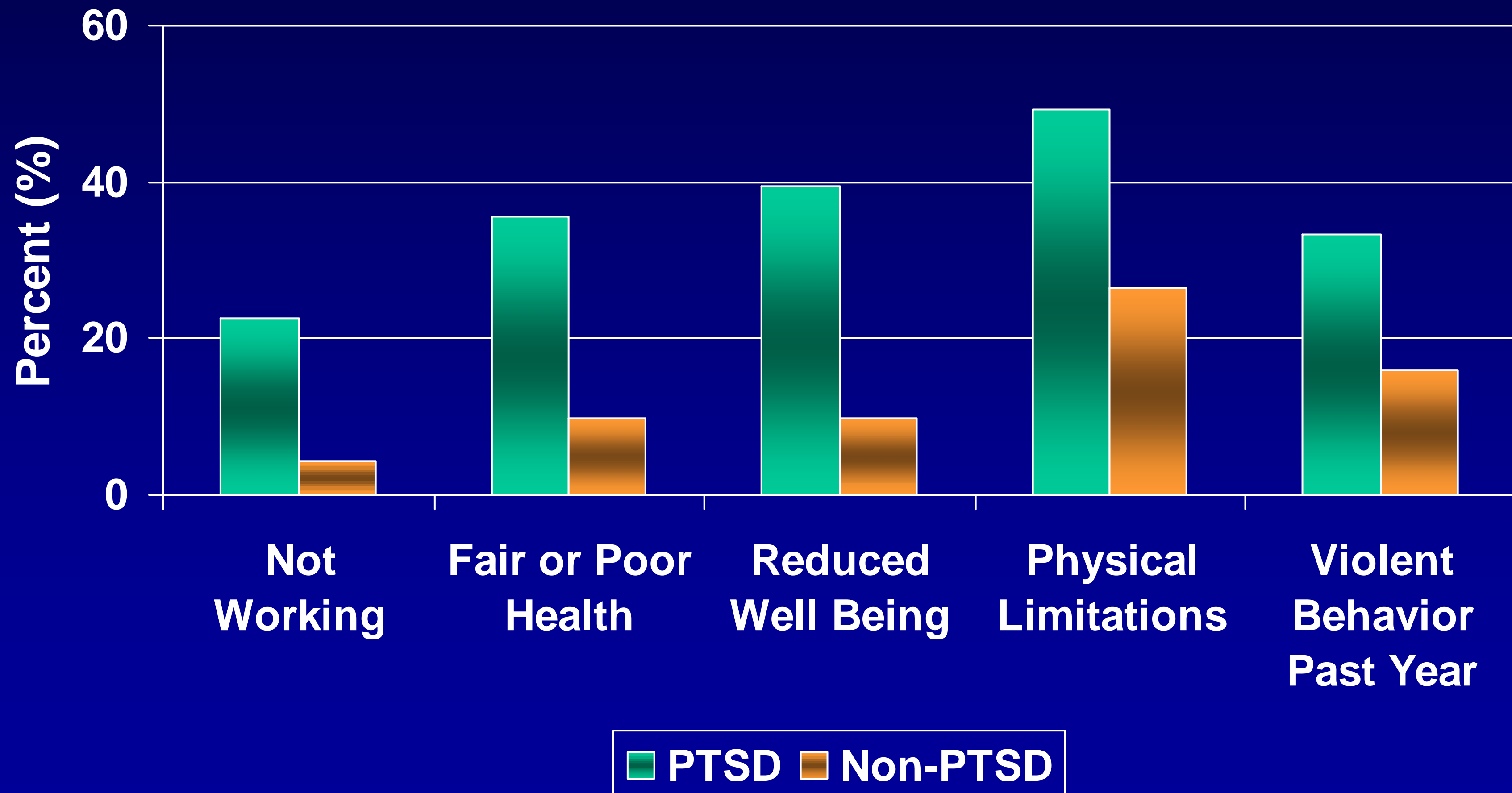


Comorbidity with PTSD



Kessler et al., 1995

PTSD Impairs Quality of Life



Predictors of PTSD from Meta-analyses

- Brewin et al. (2000)
  - Trauma severity
  - Lack of social support
  - Additional life stress
  - Gender
  - Age at trauma
  - Race
  - Education
  - Prior trauma
  - Psychiatric history
- Ozer et al. (2003)
  - Prior trauma
  - Prior psychological adjustment
  - Family history of psychopathology
  - Perceived life threat
  - Posttrauma social support
  - Peritraumatic emotional response
  - Peritraumatic dissociation

Epidemiology of 9/11

Immediate Reactions

- Random Digit Dialing, nationally representative sample of 560 US adults between 9/14/01 – 9/16/01
- 44% of adults had a “substantial stress reaction”
- Predictors: Gender (female), race/ethnicity (non-white), prior mental health problems (yes), distance from WTC (closer), hours of TV viewing (more)

Schuster et al., 2001

Acute Reactions

- Random Digit Dialing, representative sample of 1008 adults living south of 110th St. in Manhattan between 10/16/01 – 11/15/01
- Overall incidence of PTSD was 7.5%, but 20% for those living south of Canal St.
- Predictors: Gender (female), race/ethnicity (non-white; trend), stressors in past year (more), social support (less), distance of residence from WTC (closer), directly witnessed events (yes), loss of possessions (yes), involved in rescue (yes), lost of job (yes), symptoms of panic attack during or soon after event (yes)

Galea et al., 2002

Natural Recovery

- National probability sample of 3496 US adults received Web-based survey 9-23 days after 9/11; a random subsample of 1069 participants living outside of New York City received a second survey two months following 9/11, and third wave (n = 787) was completed six months after 9/11
- 17% of participants had PTSD two months after 9/11, compared to 5.8% at six months
- Predictors: Gender (female), prior physician diagnosis of depression or anxiety disorder (yes), marital status (separated), physical illness (yes), severity of exposure to attacks (greater severity), early disengagement of coping efforts (yes)

Silver et al., 2002

Acute Stress Disorder and the Prediction of PTSD

Acute Stress Disorder (ASD)

- A. Exposure to a traumatic event
- B. Dissociation either while experiencing or after experiencing the trauma (at least 3):
  - Numbing, detachment, absence of emotional responsiveness
  - Reduction in awareness of one's surroundings
  - Derealization
  - Depersonalization
  - Dissociative amnesia

ASD (cont'd)

- C. Reexperiencing the trauma through recurrent images, thoughts, dreams, illusions, flashbacks, distress upon exposure to reminders of the trauma (at least 1)
- D. Marked avoidance of stimuli that arouse recollections of the trauma
- E. Marked symptoms of anxiety or increased arousal
- F. Disturbance causes functional impairment
- G. Lasts a minimum of 2 days, a maximum of 4 weeks, and occurs within 4 weeks of the trauma

Why ASD?

- Recognize posttraumatic stress can occur in the acute trauma phase

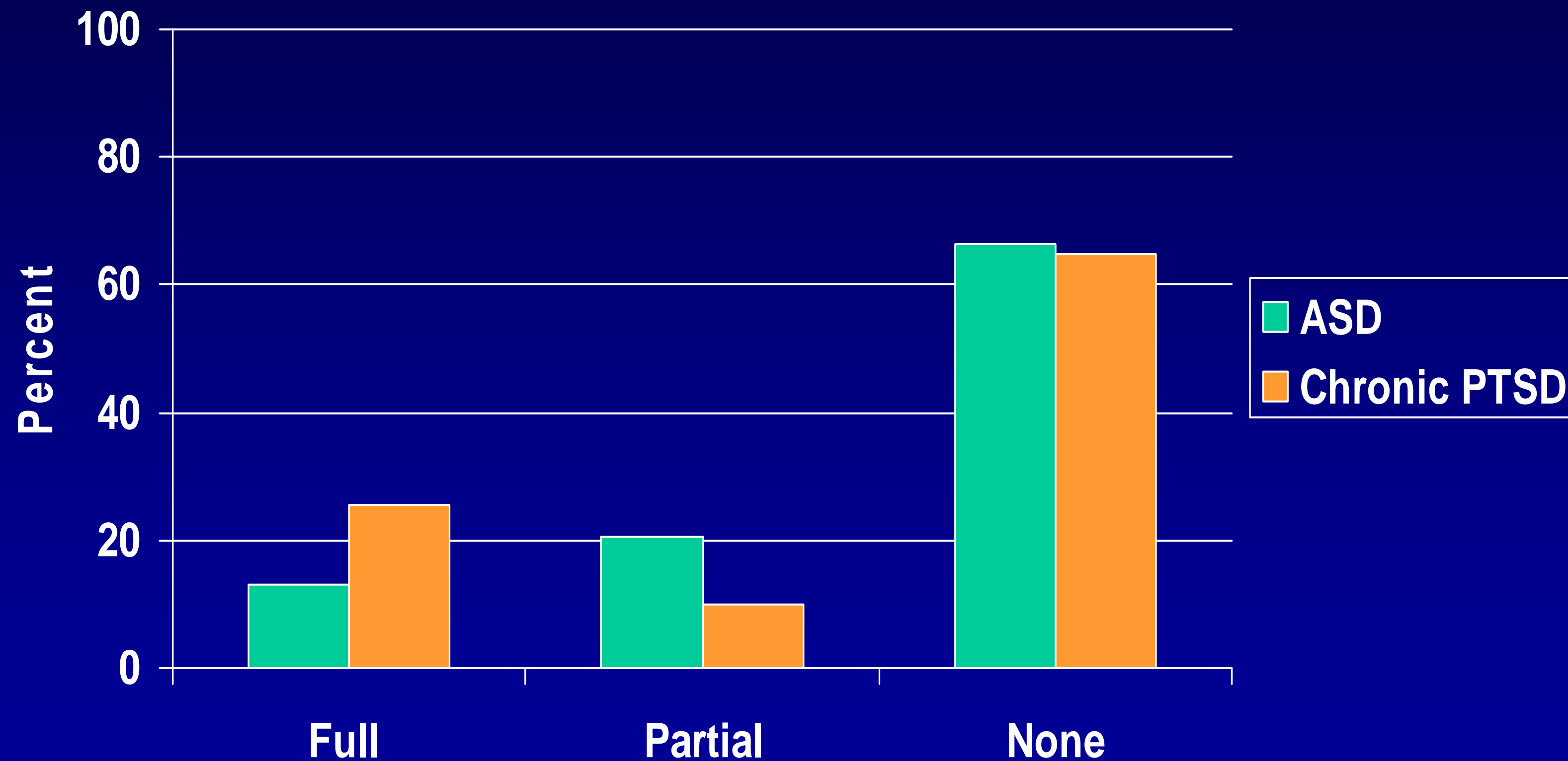
- Permit the prediction of chronic PTSD
  – ASD emphasizes the role of dissociative symptoms in preventing long-term recovery

Criticisms of ASD

- Insufficient evidence to support the necessity of dissociation in the acute trauma response
- Questionable practice to introduce a new diagnosis in order to predict another diagnosis
- Concern about pathologizing transient stress reactions
- Questionable practice to distinguish between two diagnoses with similar symptom clusters on the basis of duration

Harvey & Bryant, 2002

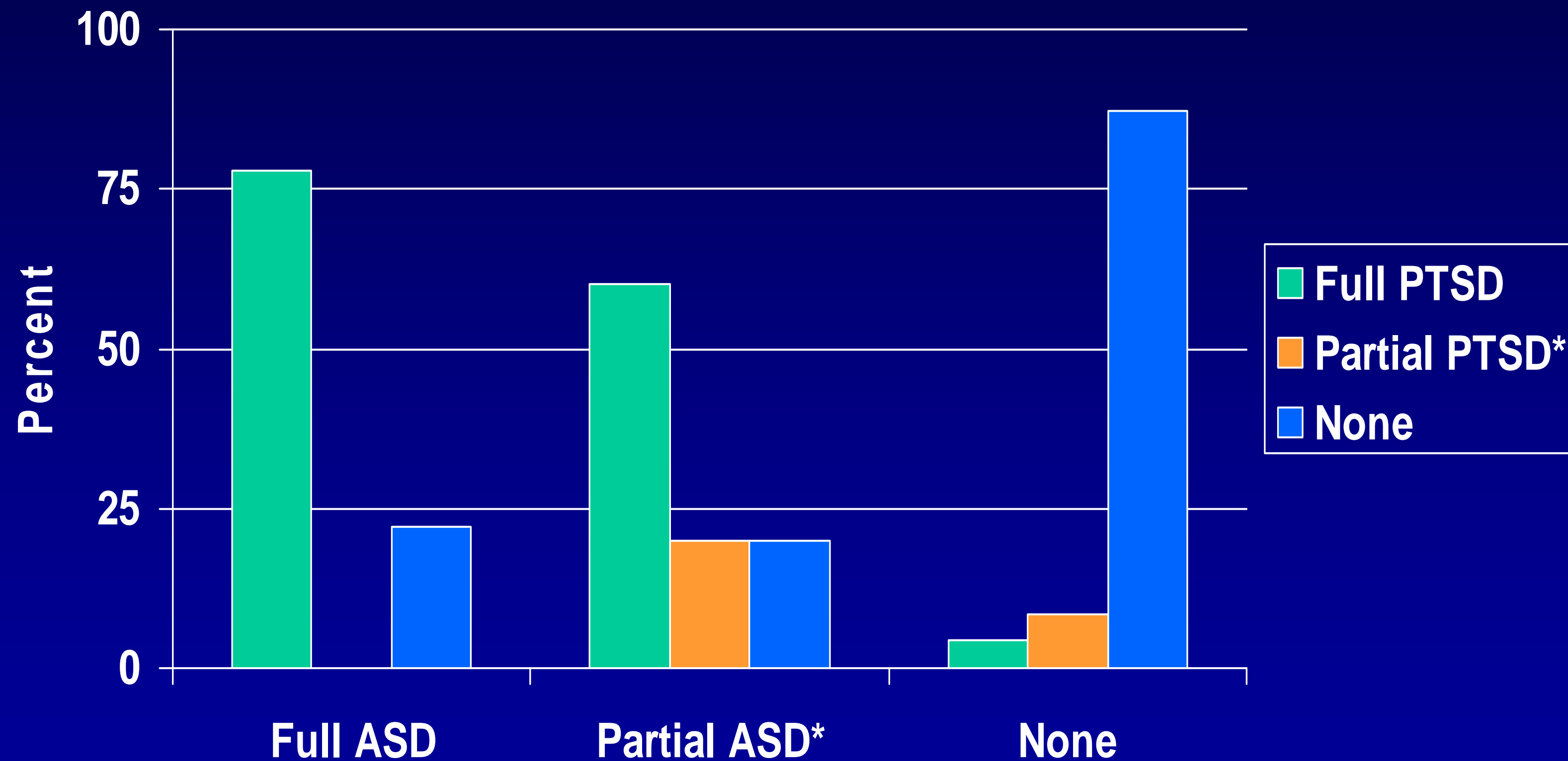
ASD and Chronic (6 mos) PTSD Following MVA



*Partial ASD and PTSD: Meets criteria for all but one symptom cluster

Harvey & Bryant, 1998

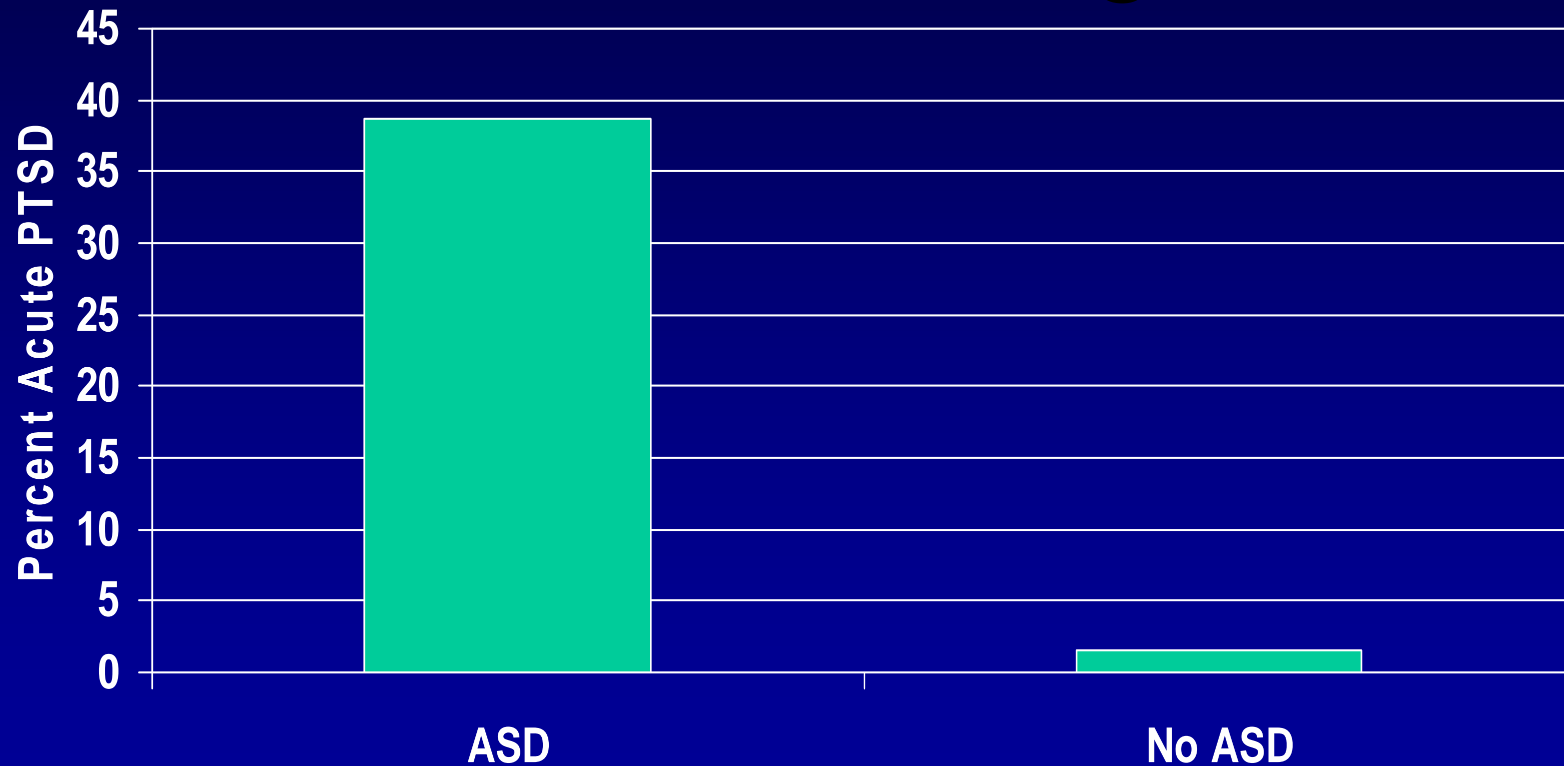
Relationship Between ASD and Chronic PTSD



*Partial ASD and PTSD: Meets criteria for all but one symptom cluster

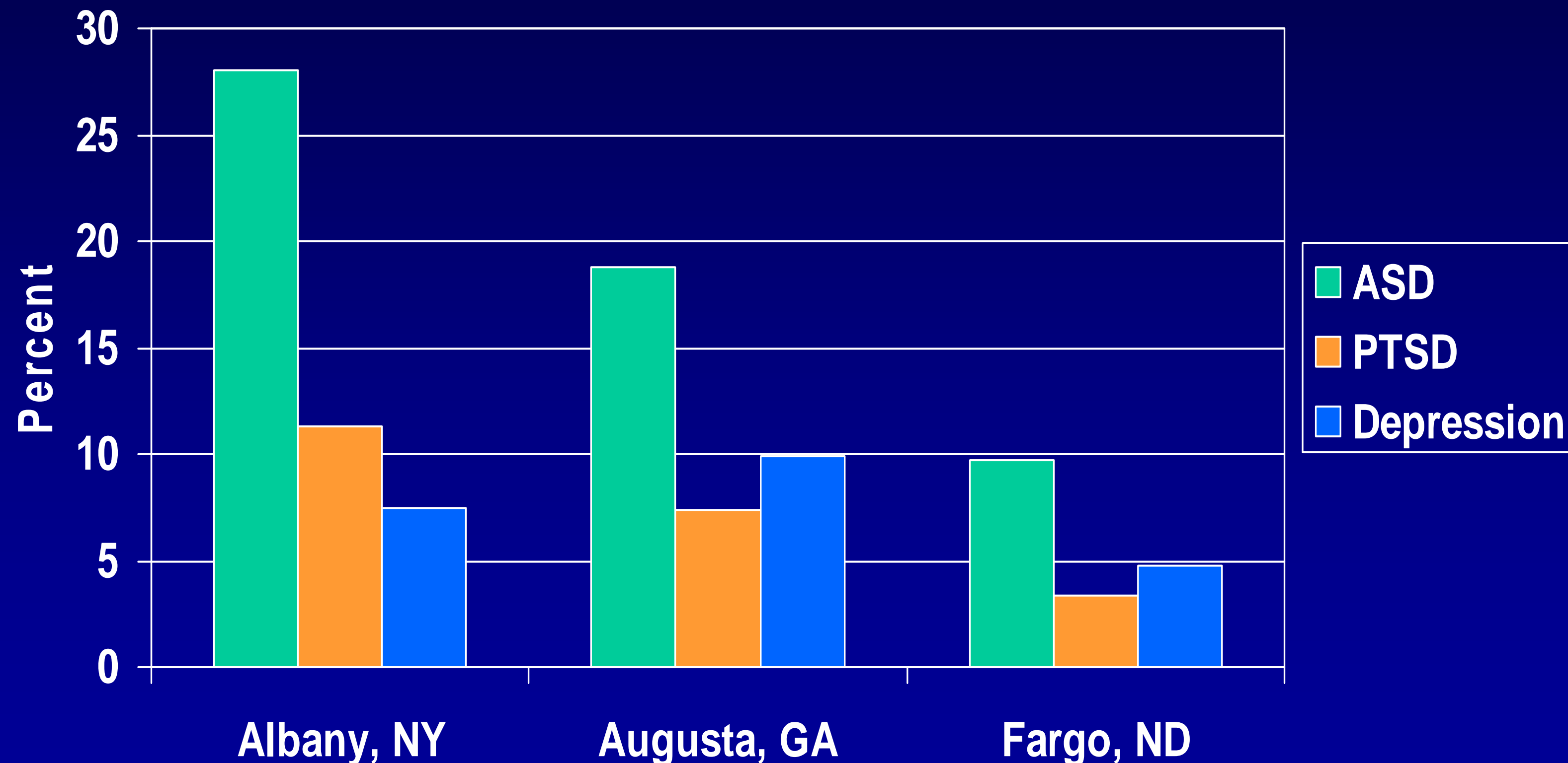
Harvey & Bryant, 1998 (Table 1)

Relationship Between ASD and Acute PTSD in College Students Following 9/11



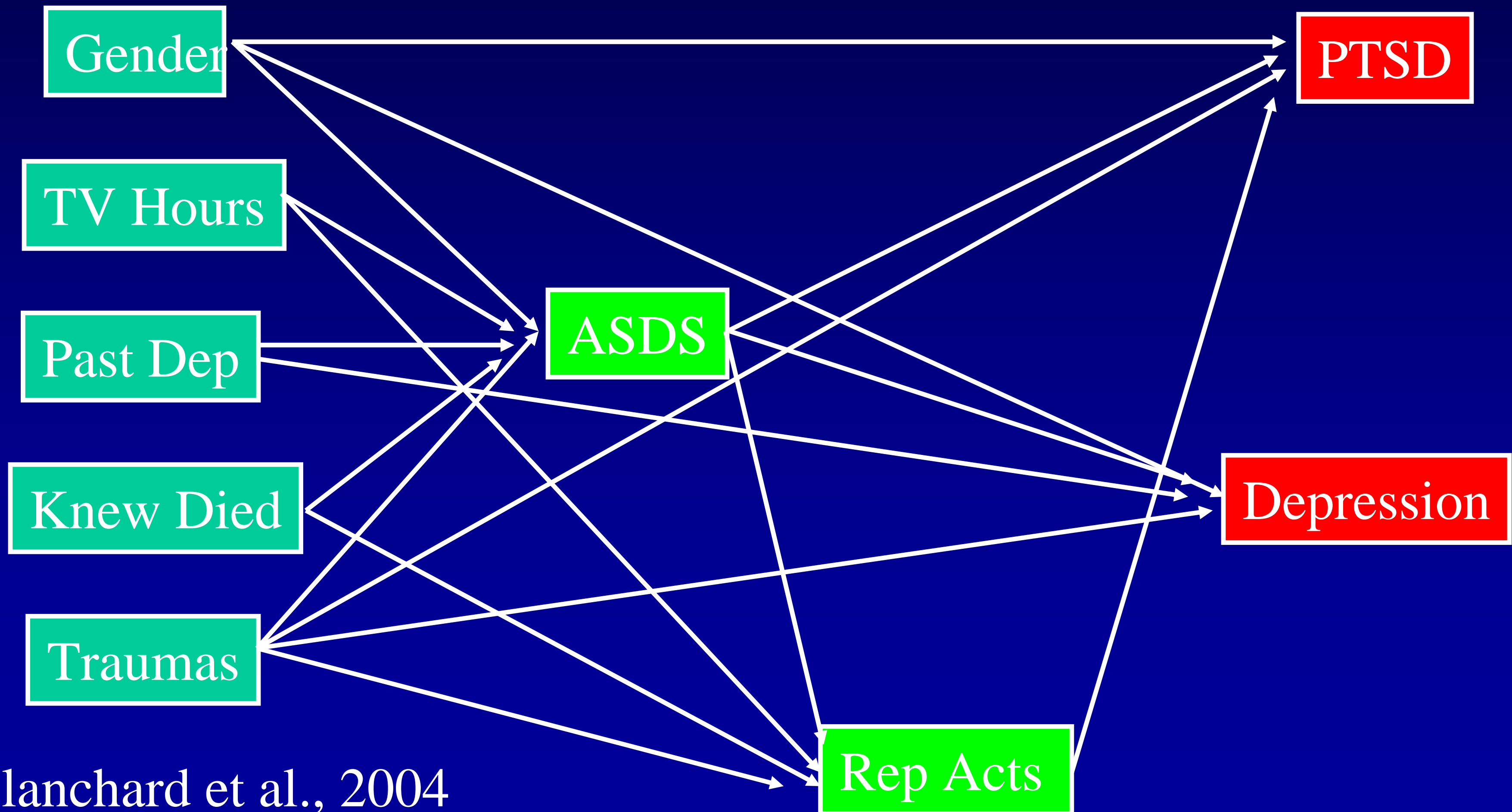
Blanchard et al., 2004

ASD, PTSD, and Depression in College Students Following 9/11



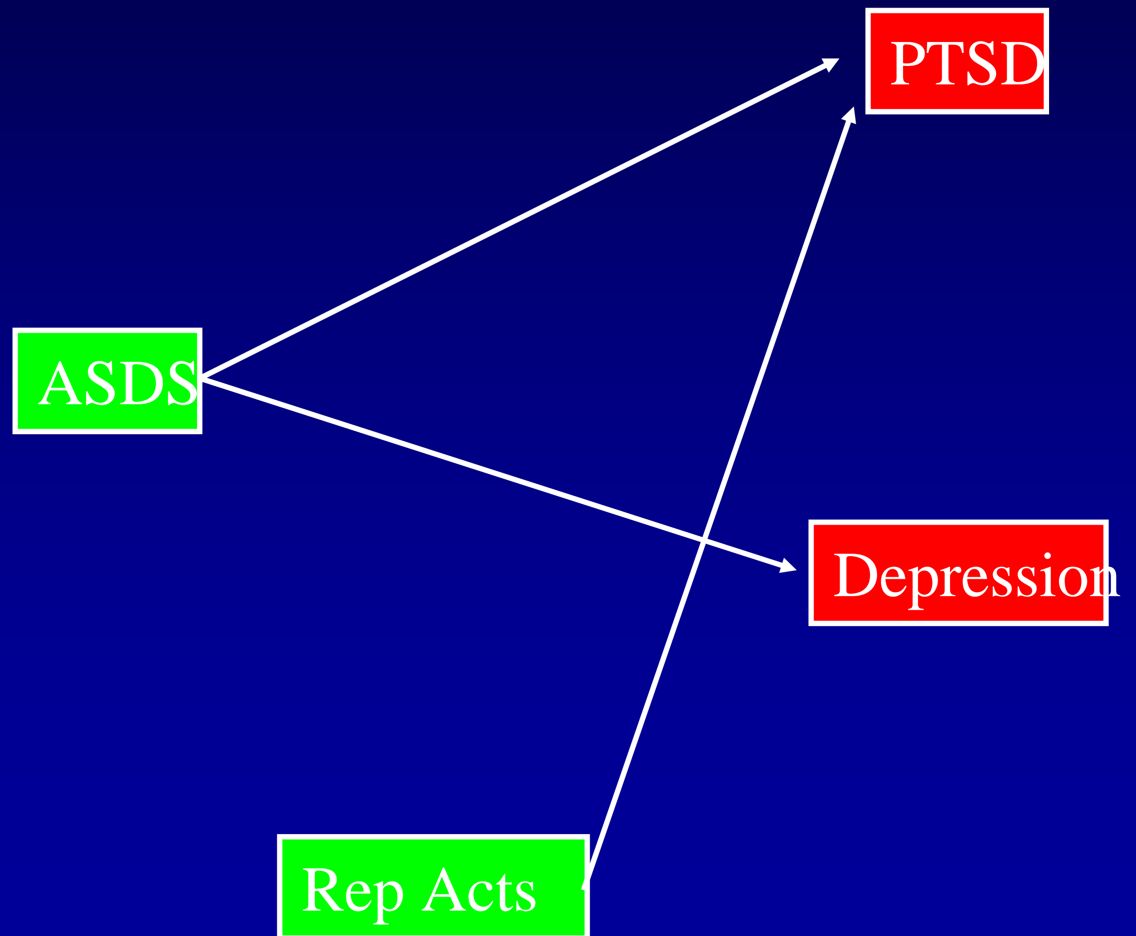
Blanchard et al., 2004

Predictive Model of PTSD and Depression in College Students Following 9/11

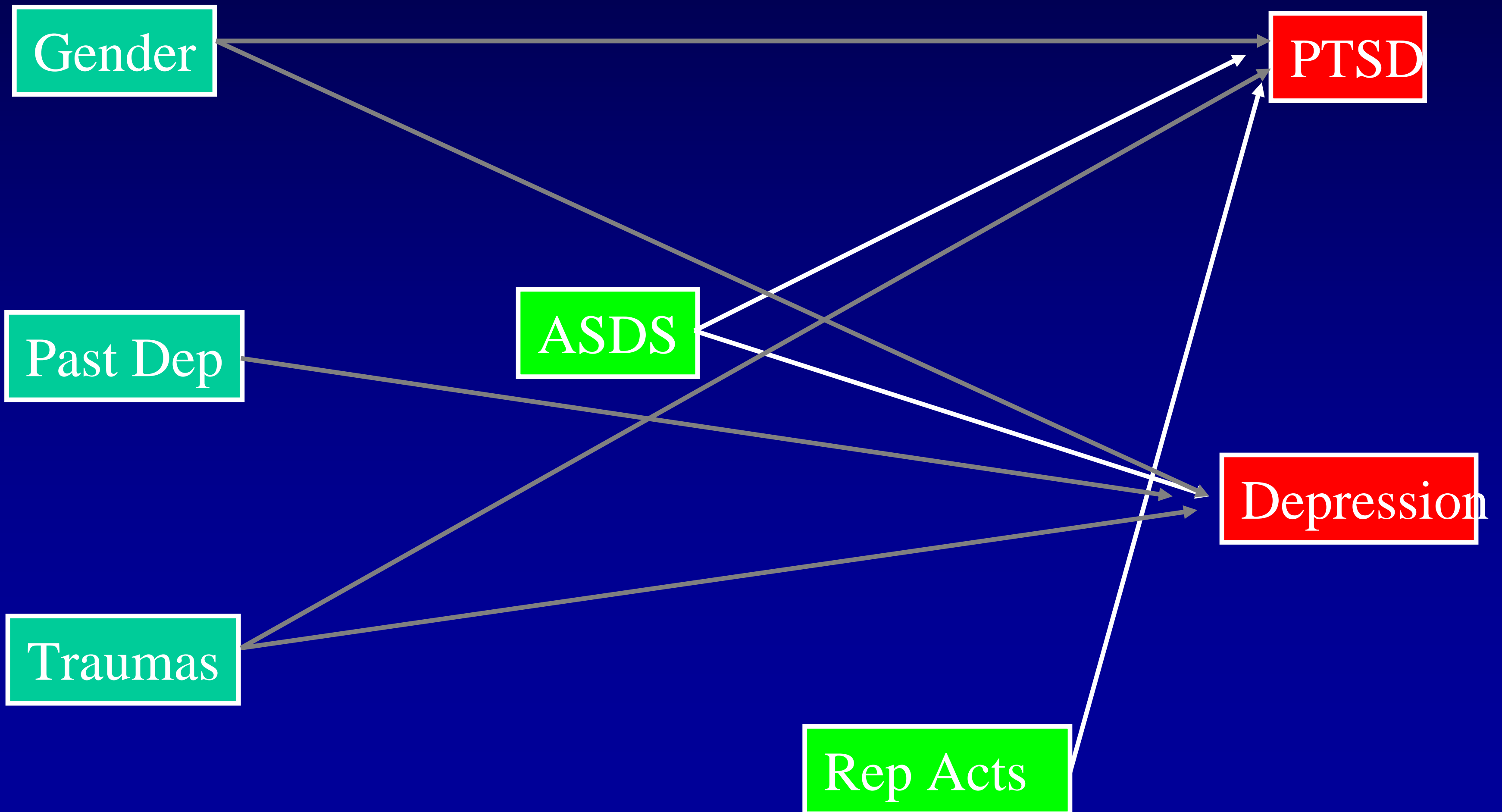


Blanchard et al., 2004

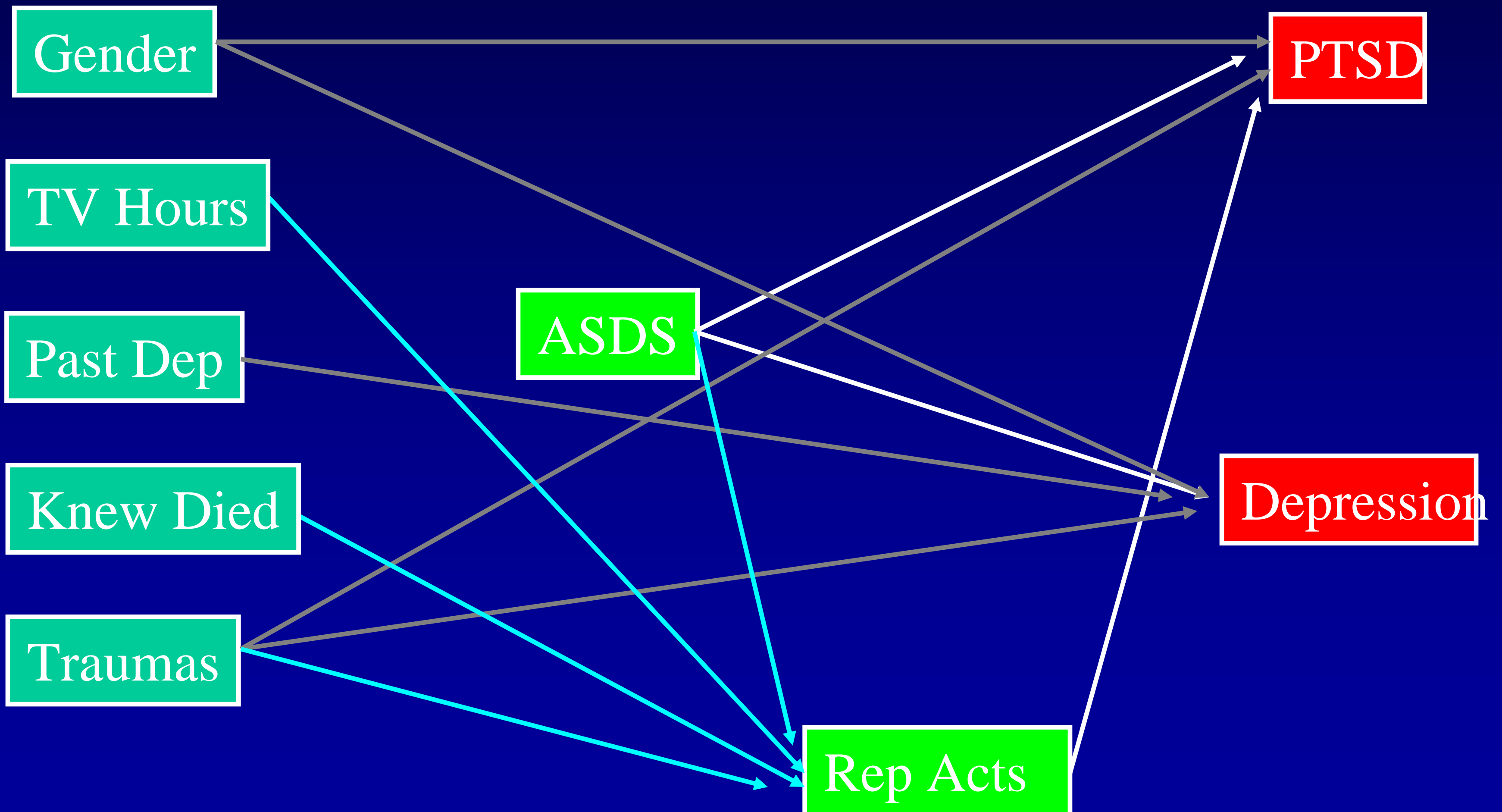
Breakdown of Model: Step 1



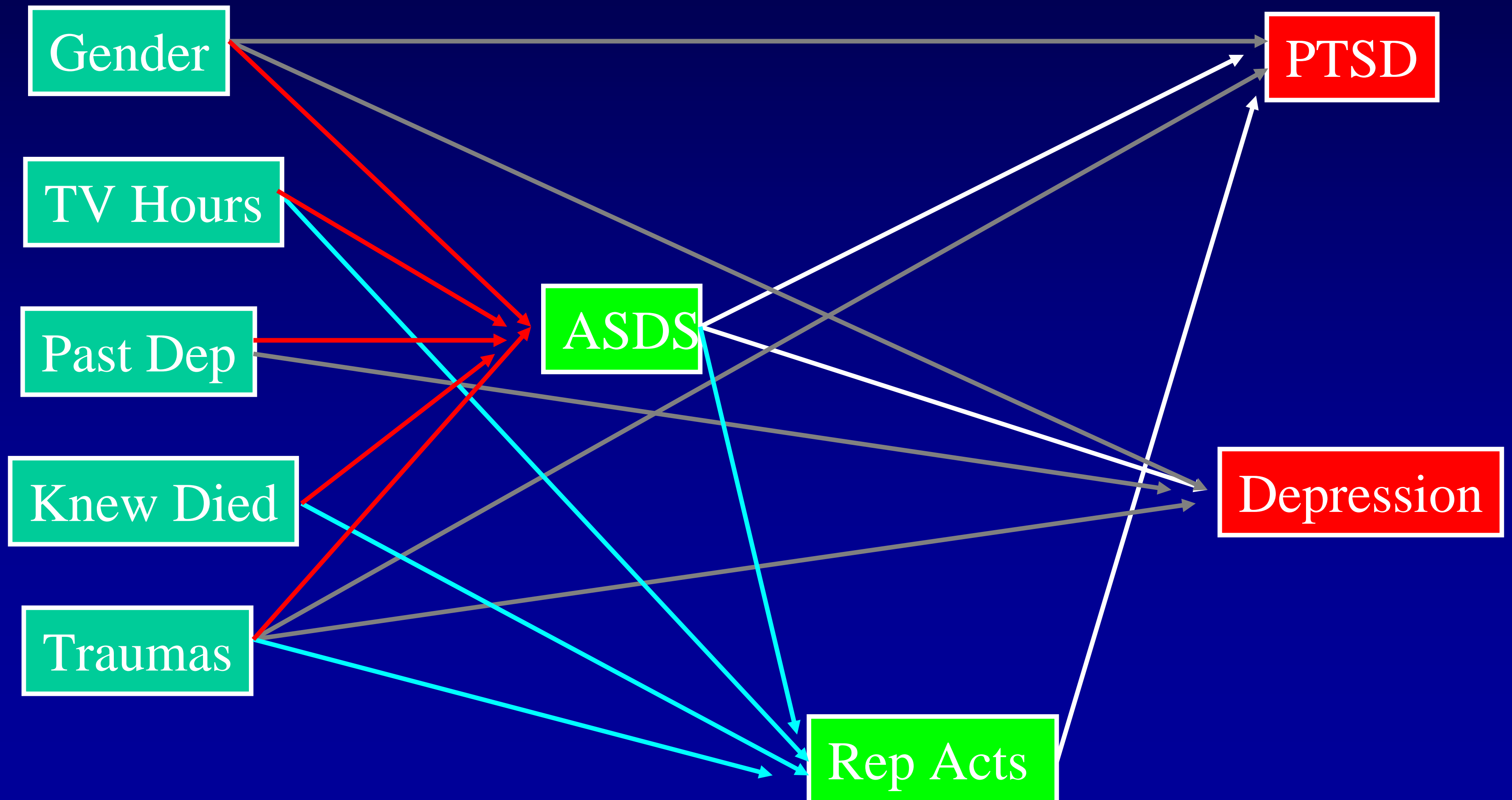
Breakdown of Model: Step 2



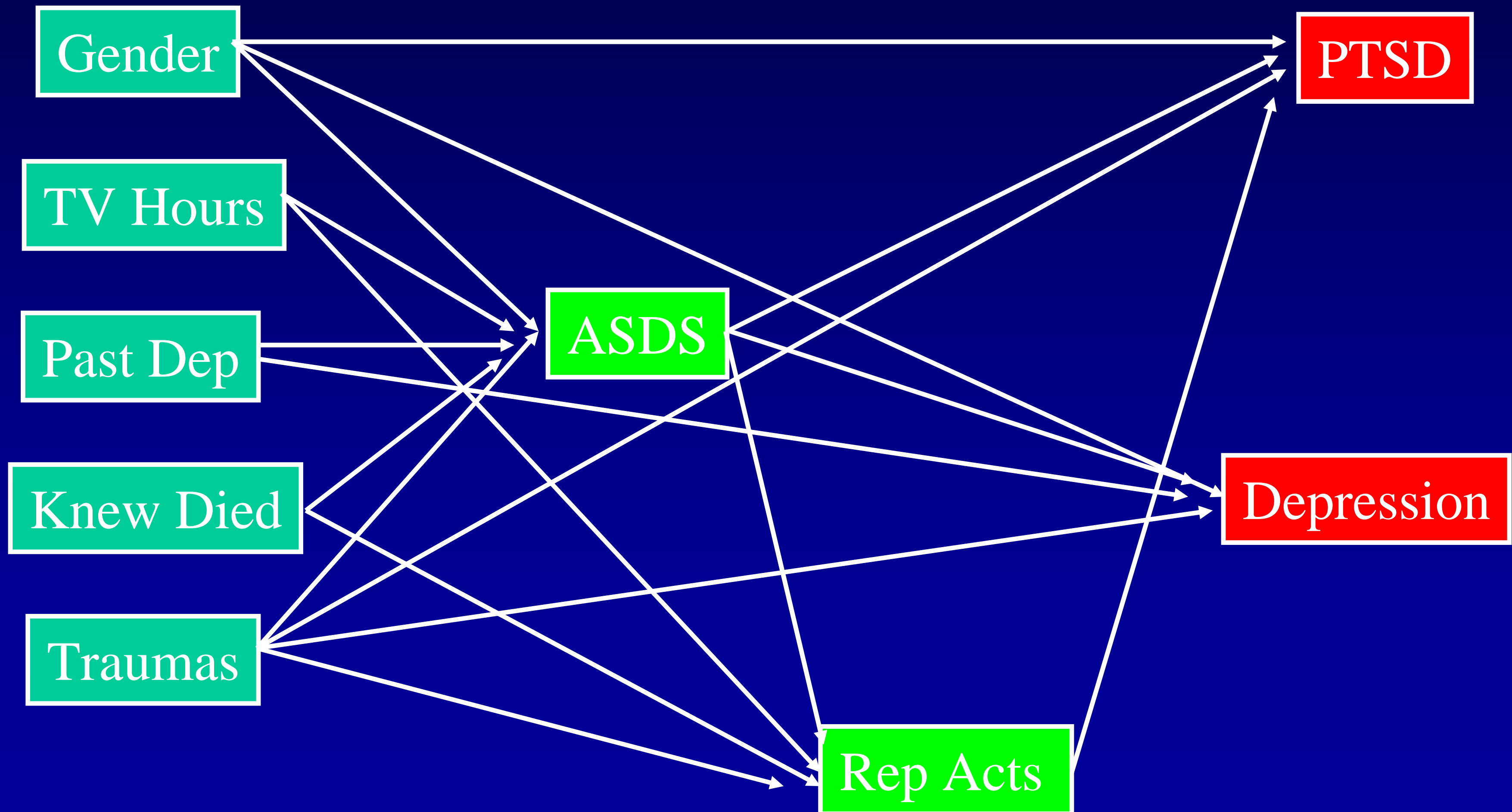
Breakdown of Model: Step 3



Breakdown of Model: Step 4



Full Model



Conclusion

- Reaction to mass trauma (e.g., 9/11) similar to reactions to other types of traumas (e.g., rape, physical assault, motor vehicle accidents, etc.)
- Effect of media exposure and reparative acts

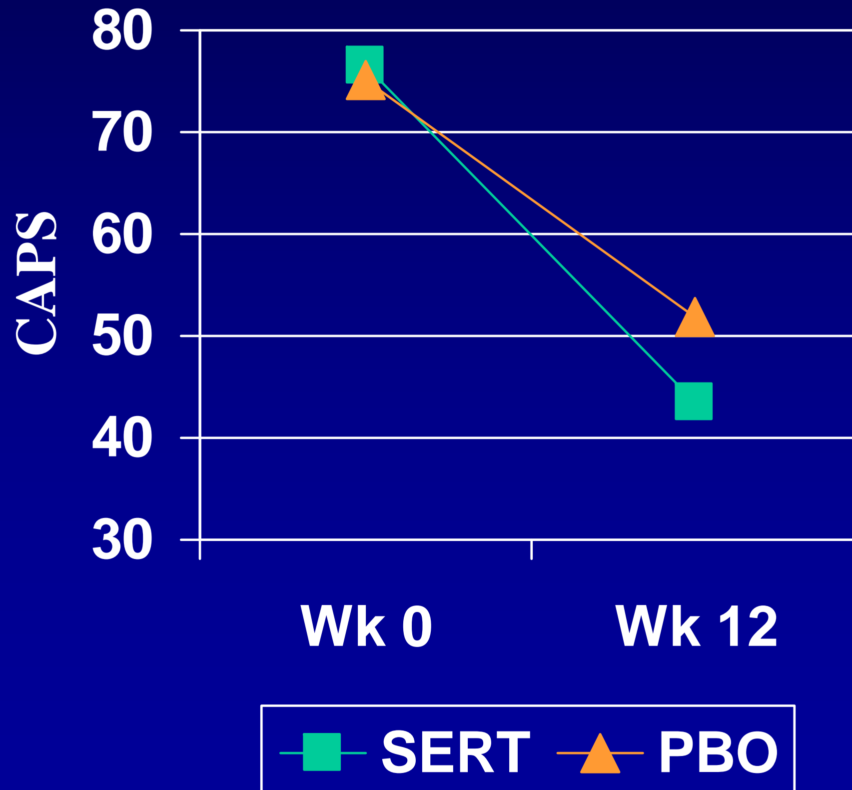
Treatment of PTSD

Empirically Supported Treatments for PTSD

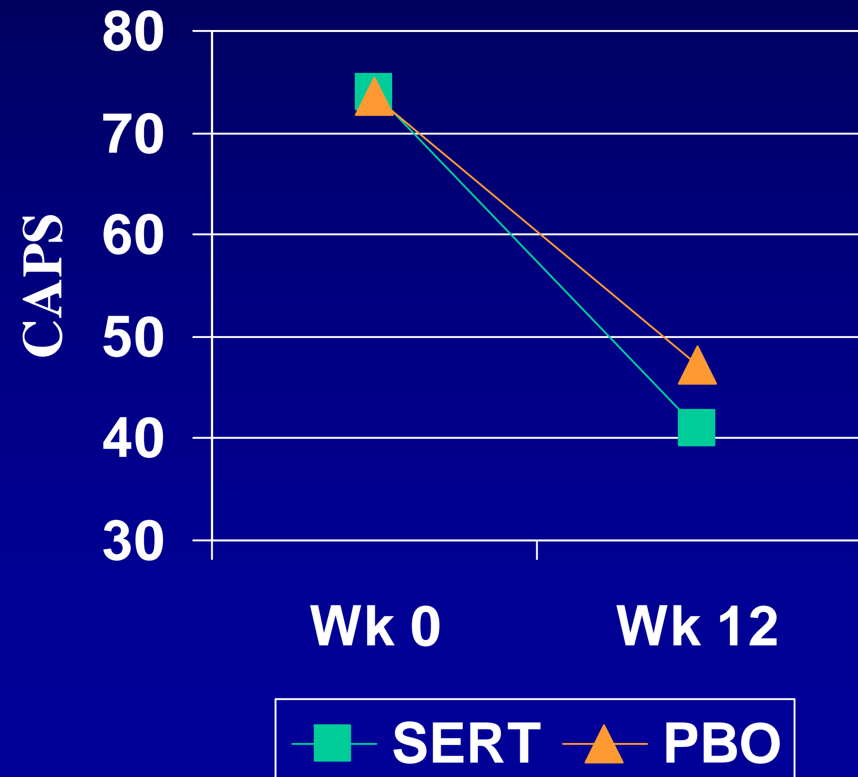
- Medications with FDA indication for PTSD
  - Sertraline (Zoloft)
  - Paroxetine (Paxil)
- Cognitive Behavior Therapy
  - Exposure therapy
  - Stress inoculation training (SIT)
  - Cognitive therapy (CT, CR, CPT)
  - Combinations of exposure therapy with SIT and/or CR
  - EMDR

Efficacy of Sertraline

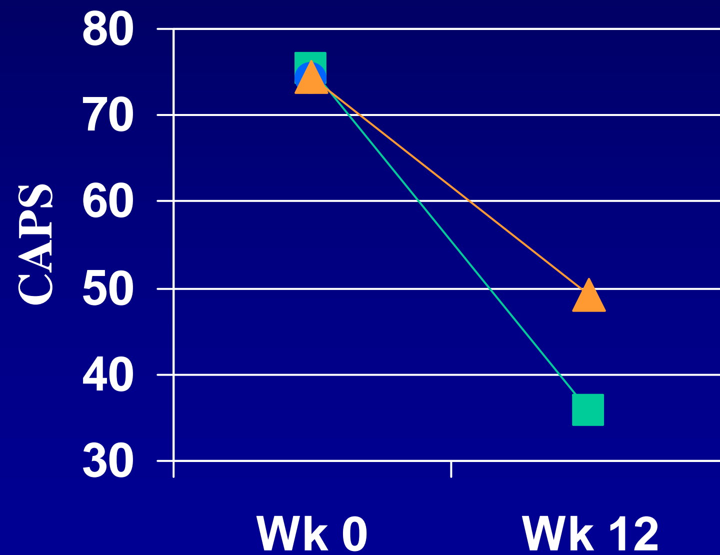
Brady et al., 2000

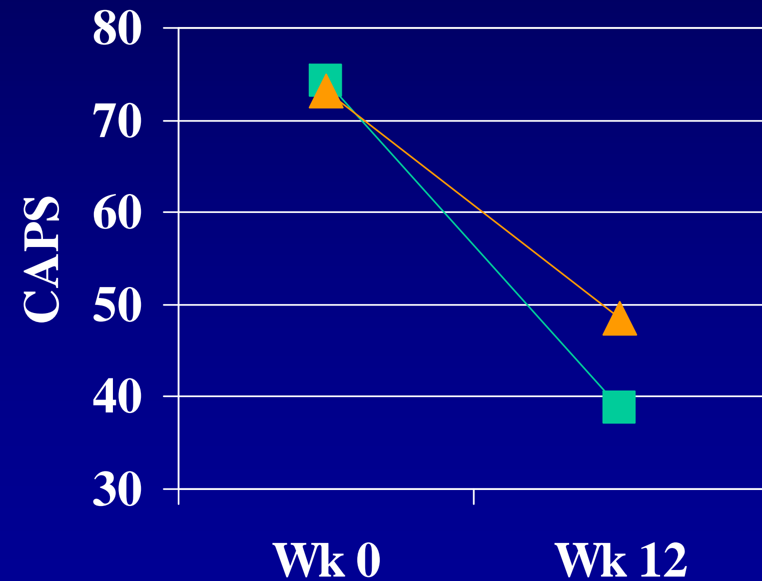


Davidson et al., 2001



Efficacy of Medication: Paroxetine:





Summary of Medication

- Substantial placebo effect
- Significant medication effect
- Residual symptoms
  - Many non-responders
  - Many responders still experience significant symptoms

Cognitive-Behavioral Treatment

- Anxiety management or stress inoculation training (SIT)
- Cognitive therapy (CT)
- Exposure therapy
  - As primary intervention
  - Combined with SIT or CT
- EMDR

Anxiety Management

A set of techniques that helps patients manage their anxiety

- Relaxation training
- Controlled breathing
- Positive self-talk and guided imagery
- Social skills training
- Distraction techniques (e.g., thought stopping)

Cognitive Therapy

- A set of techniques that help patients change their negative, unrealistic cognitions by:
  - Identifying dysfunctional, unrealistic, or unhelpful cognitions (thoughts and beliefs)
  - Challenging these cognitions
  - Replacing these cognitions with more functional, realistic, or helpful cognitions

Exposure Therapy

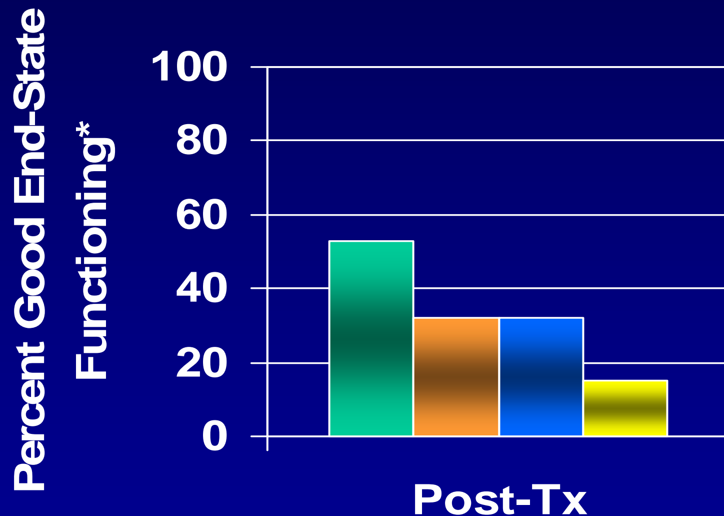
A set of techniques designed to help patients confront their feared objects, situations, memories, and images (e.g., systematic desensitization, prolonged exposure [PE], flooding).

EMDR Components

- Access trauma images and memories
- Evaluate their aversive qualities
- Generate alternative cognitive appraisal
- Focus on the alternative
- Sets of lateral eye movements while focusing on response

Efficacy of CBT for PTSD

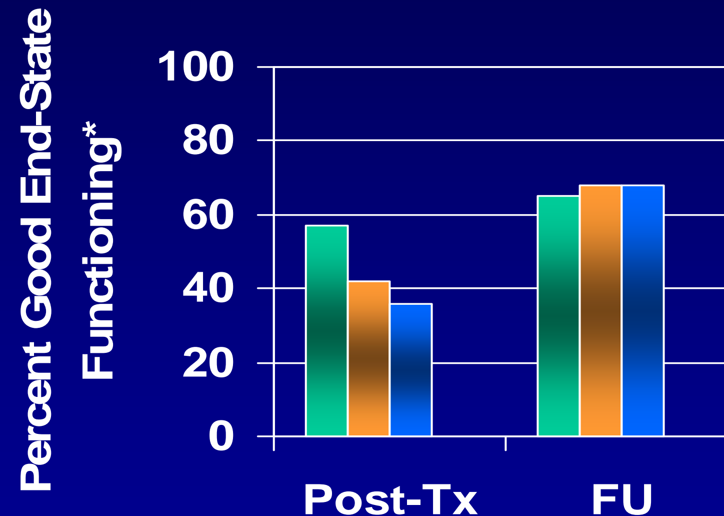
Marks et al., 1998



PE CR PE/CR RLX

* ≥ 50% decrease on PSS, BDI ≤ 7, STAI-S ≤ 35.

Foa et al., 1999

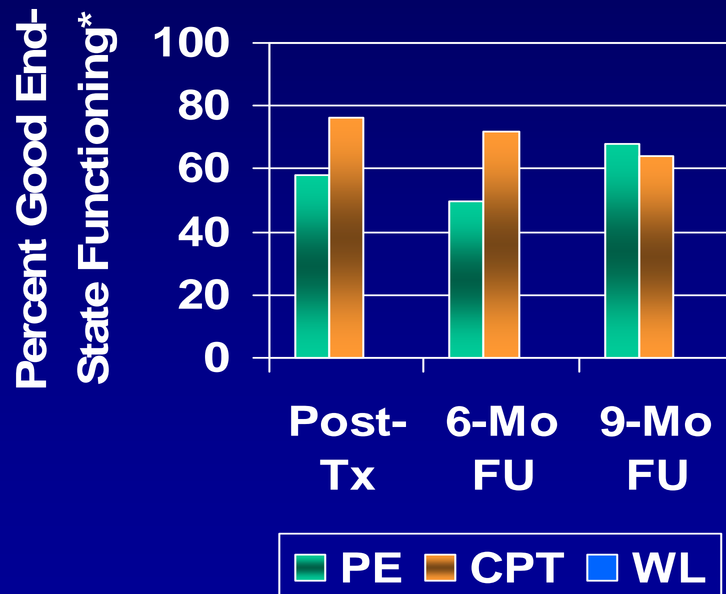


PE SIT PE/SIT WL

* PSS-I ≤ 20, BDI ≤ 10, STAI-S ≤ 40.

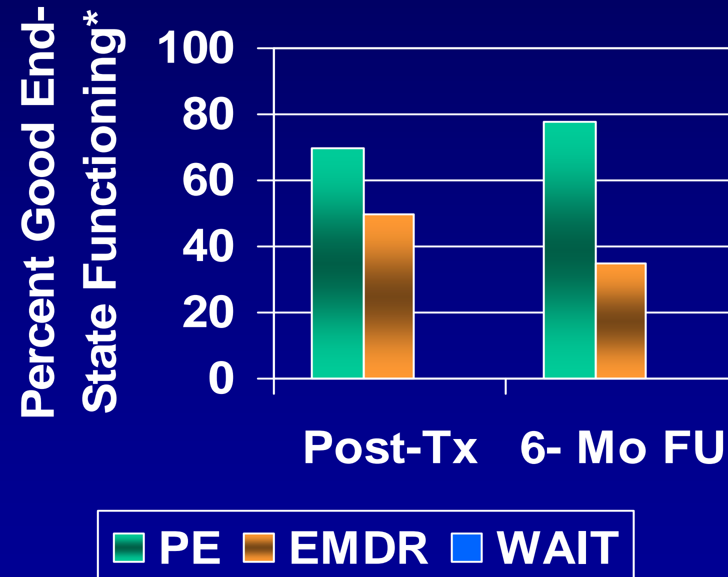
Efficacy of CBT for PTSD (cont'd)

Resick et al., 2002



* PSS < 20, BDI < 10.

Rothbaum et al., 2005



* > 50% decrease on CAPS, BDI < 10, STAI-S < 40.

Efficacy of Treatment for PTSD: Change in PTSD Status

Condition	$N_{Conditions}$	$Mean_{Completers}$	95% CI
All active Tx	29	67.4%	61.3 – 73.2
CBT	4	56.2%	33.8 – 78.7
EMDR	7	64.9%	46.9 – 82.8
EX	8	68.0%	57.3 – 78.7
EX+CBT	7	70.0%	59.0 – 81.0
SC	7	39.3%	21.2 – 57.3
WL	8	16.4%	-0.39 – 33.1

Bradley et al., 2005

Paroxetine vs. PE/SIT

Frommberger et al., 2004

Efficacy of CBT: Summary

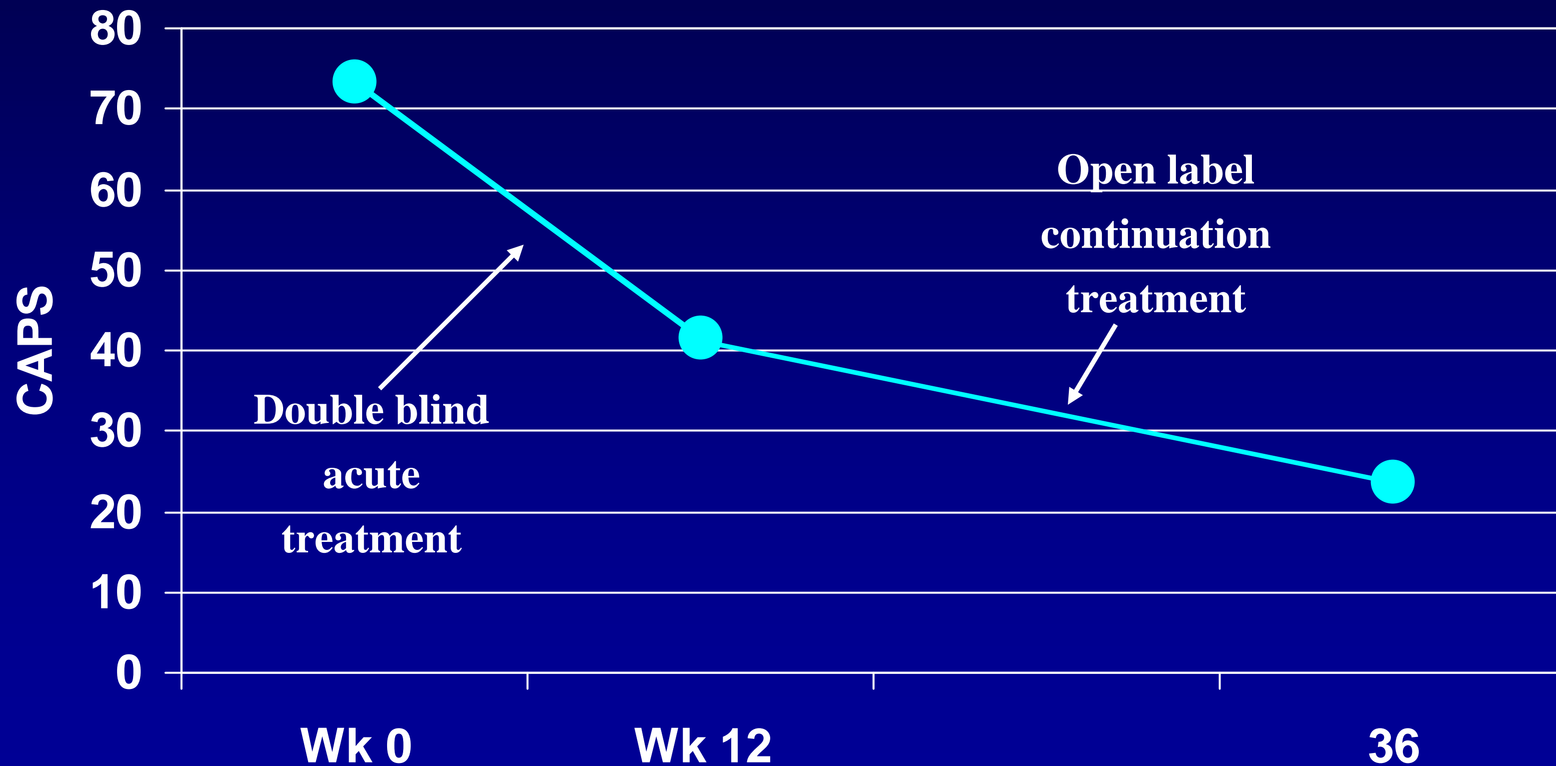
- Several forms of CBT are efficacious
- Treatment gains generally maintained at follow-up (up to 1 year)
- Some patients show only a partial or no response (residual symptoms)
- Combined treatments (PE/SIT, PE/CR) not significantly more efficacious than individual treatments (PE, SIT, CR)
- CBT and SSRI of comparable efficacy

Improving Treatment Outcome

Strategies for Improving Treatment Outcome

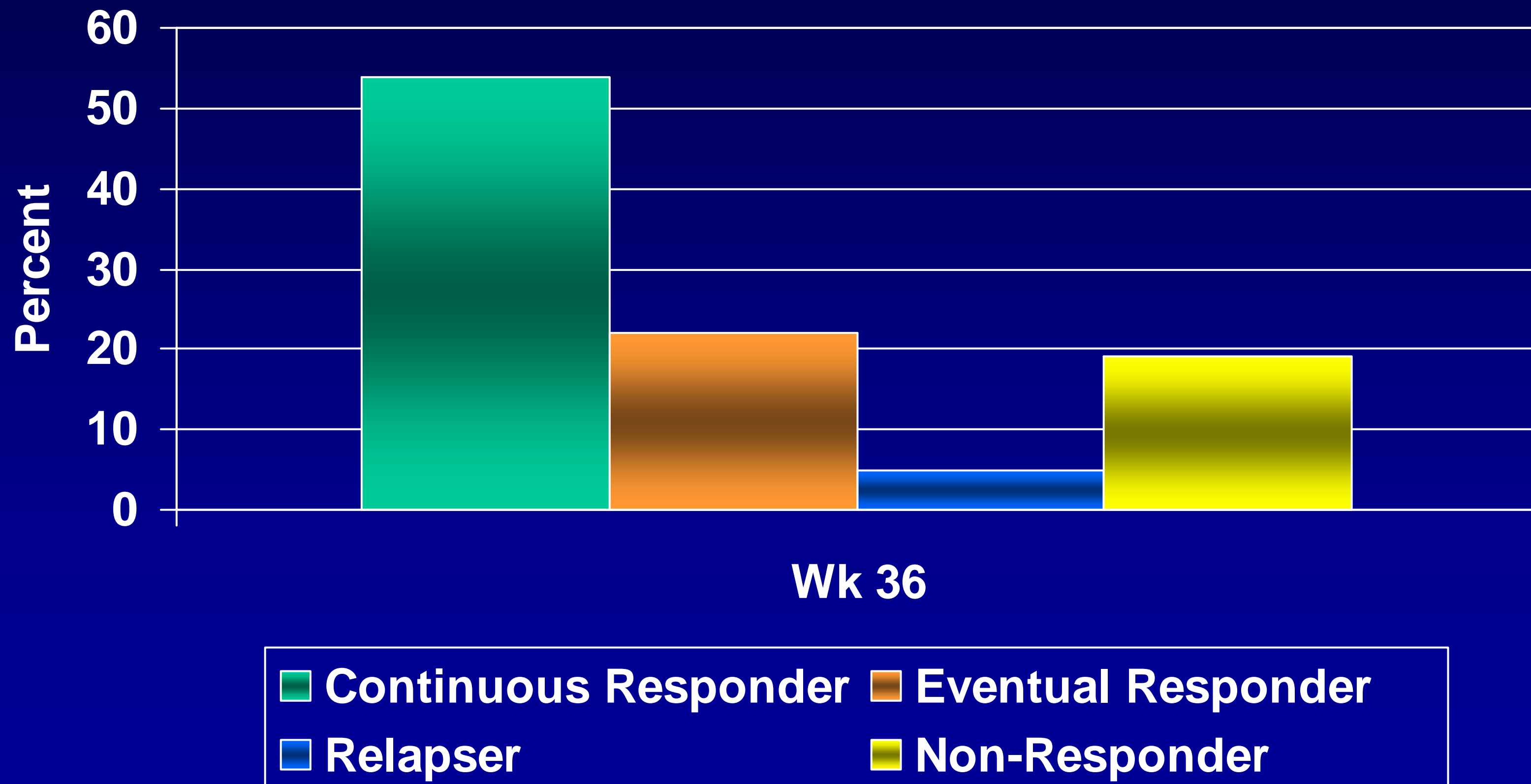
- Combining treatments within the same treatment modality (i.e., psychotherapy or medication)
  - Adding SIT or CR to PE (hasn't worked very well)
  - What about combining medications?
- Extending duration of treatment
- Combining treatments across treatment modalities
  - SSRI+CBT (e.g., adding CBT to medication)

Sertraline Continuation

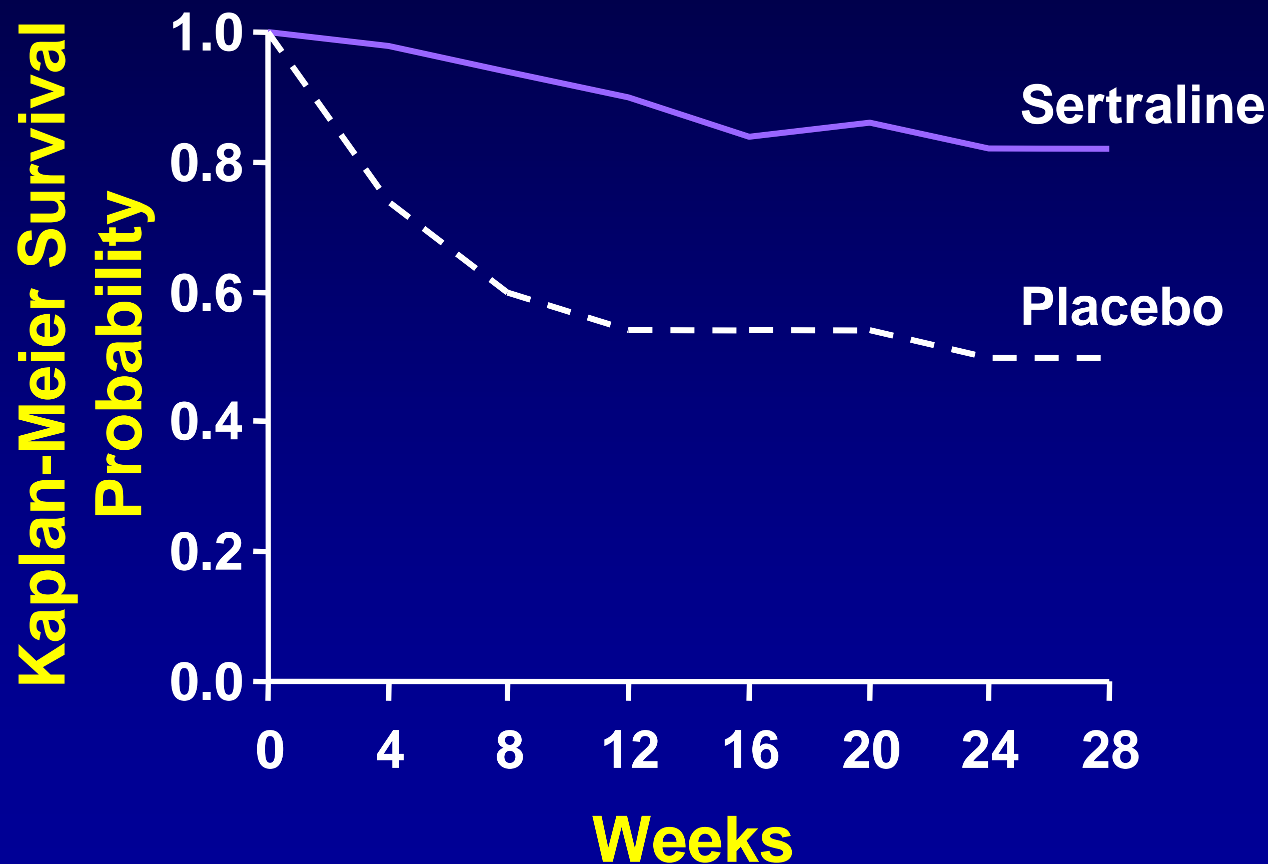


Londborg et al., 2001

Response Status after 36 Weeks of Sertraline



Time to Discontinuation Due to Relapse or Clinical Deterioration



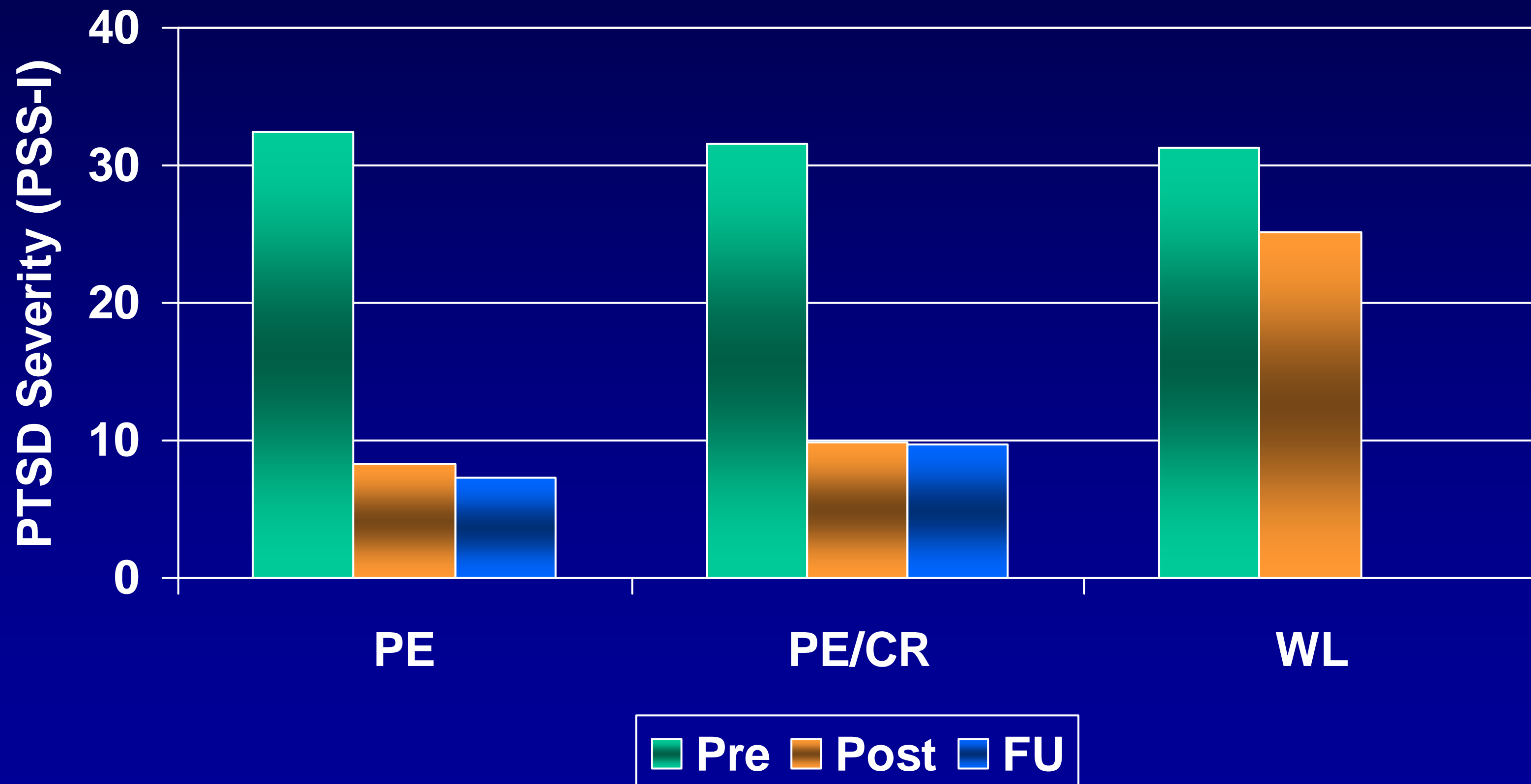
Davidson, Pearlstein et al., 2001.

Flexible Dosing of Psychotherapy

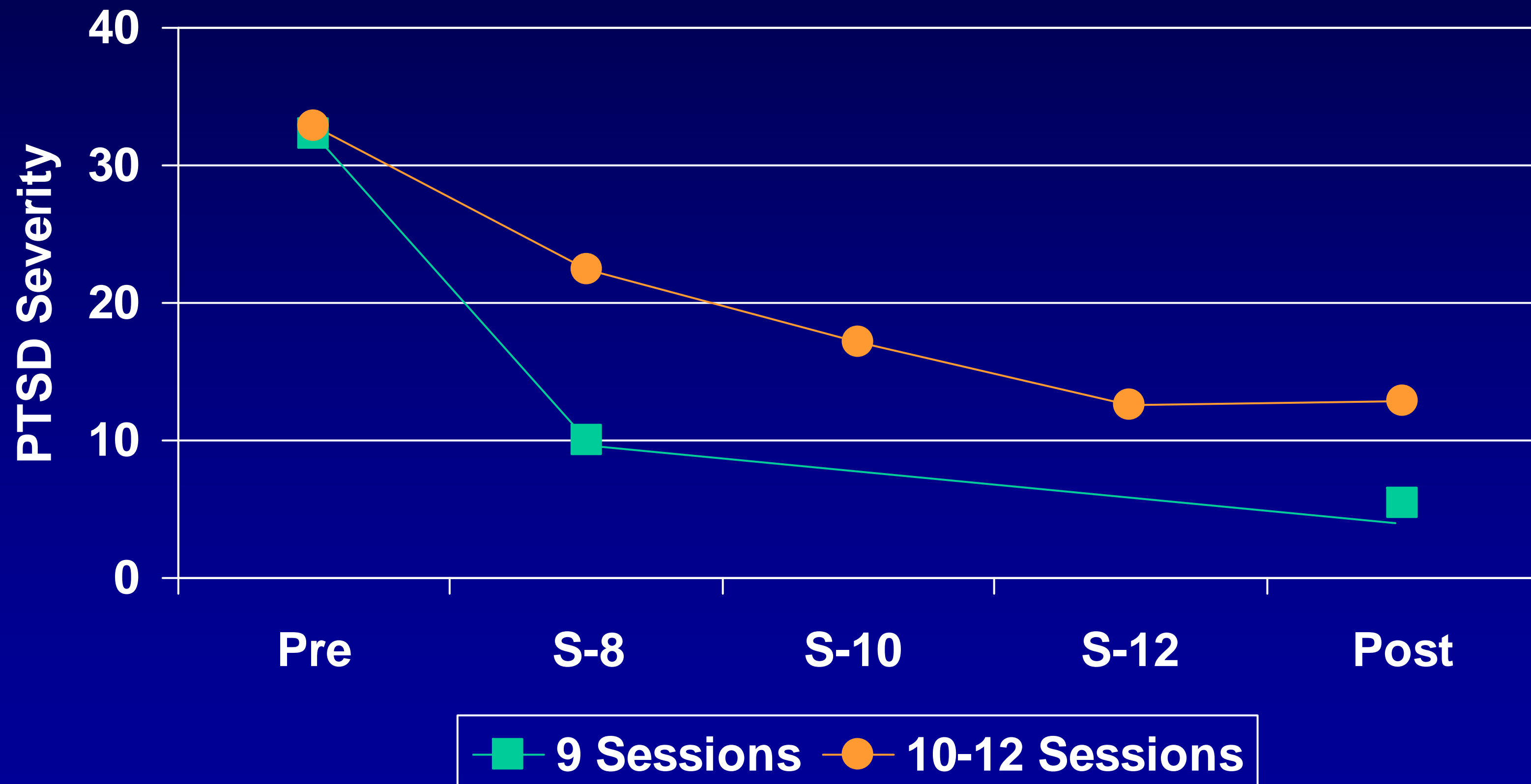
- Patients were randomly assigned to PE, PE/CR, or WL
- Patients who achieved a minimum 70% reduction on self-reported PTSD severity by session 8 terminated at session 9
- Others were offered additional sessions, to a total of 12

Foa, Hembree, Cahill et al., 2005

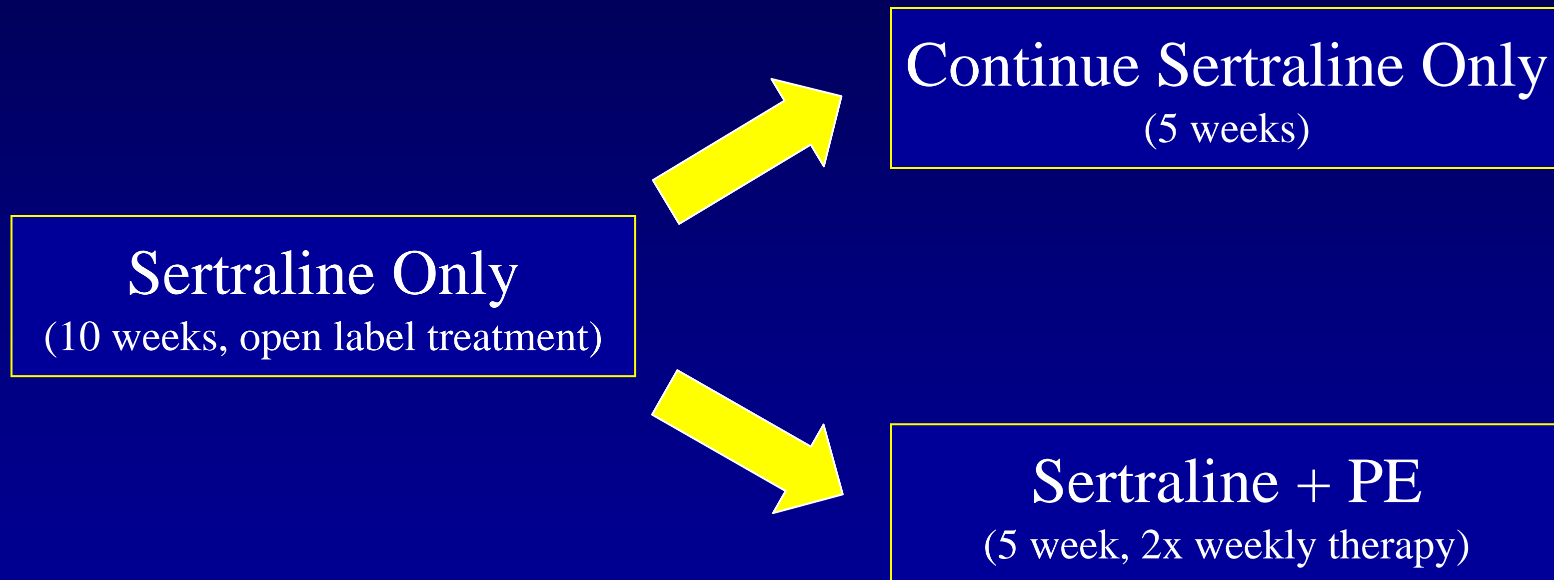
Effects of PE and PE/CR in Female Assault Victims



Continuation Treatment for Partial Responders



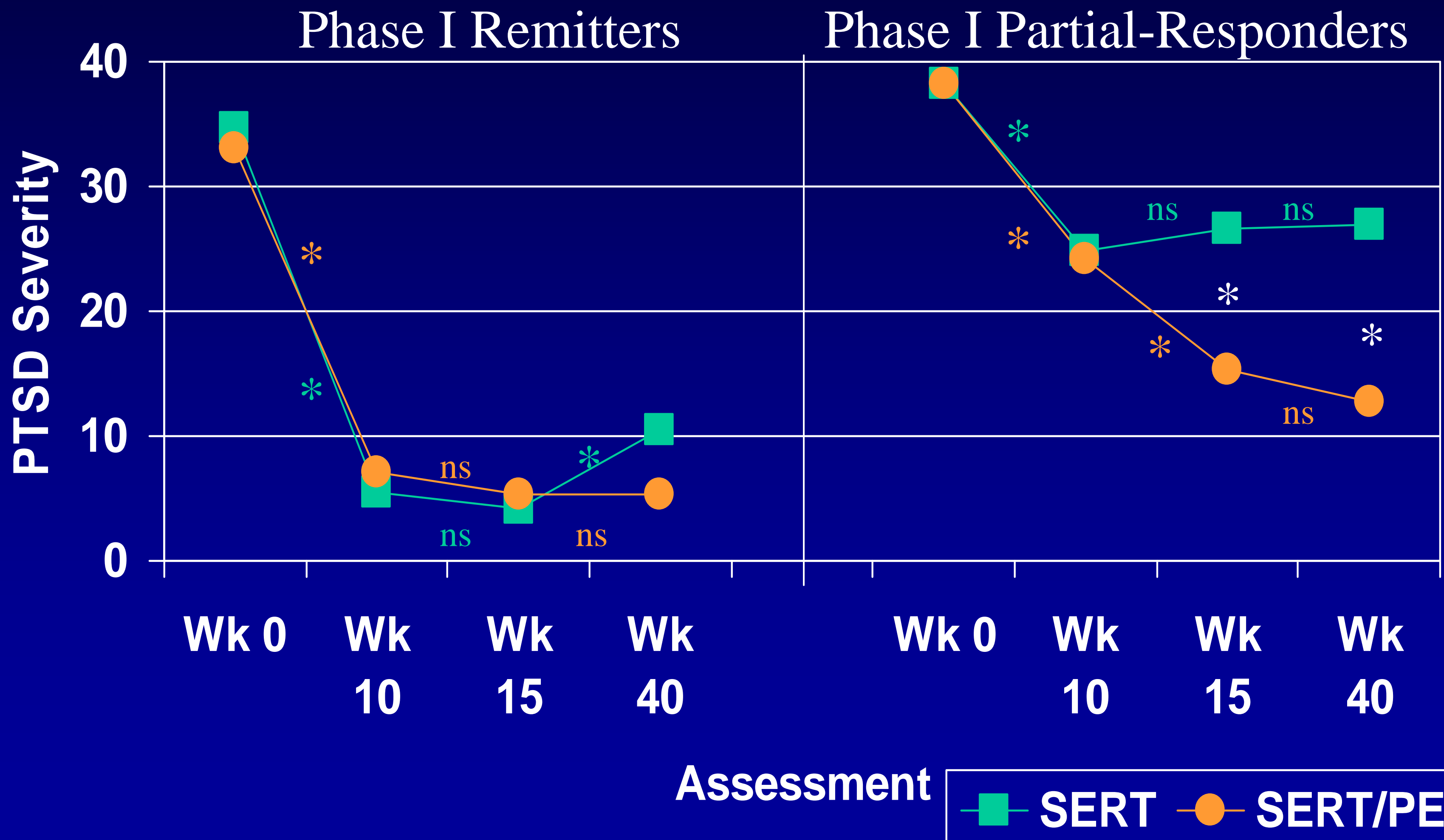
Augmenting SSRI with CBT: Study Design



Rothbaum, Cahill, Foa, Davidson et al. (2006)

Overall Effects of SSRI Augmentation by CBT

CBT Augmentation for Medication Partial-Responders



Improving Outcome: Summary

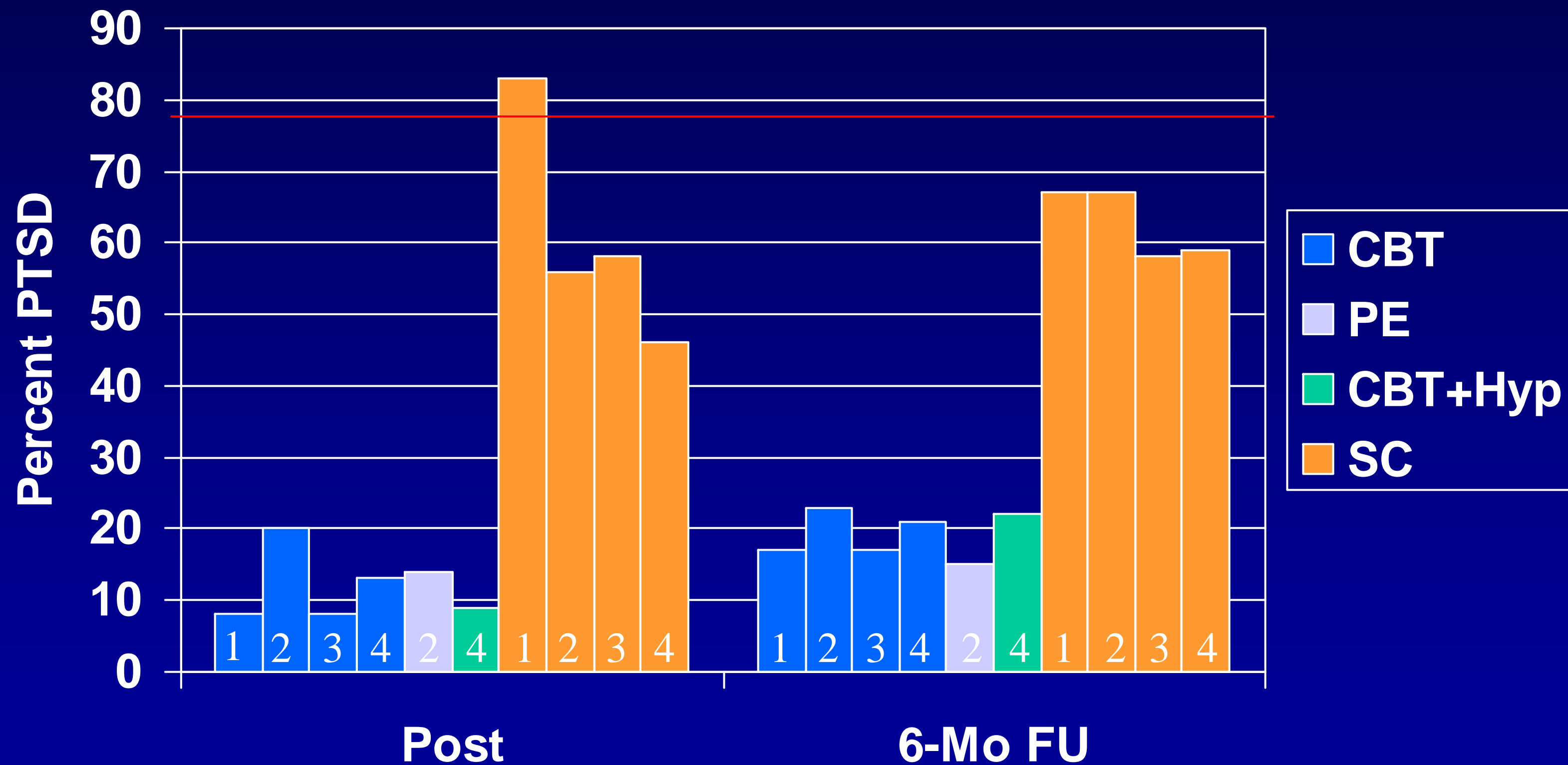
- Strategies that haven’t worked:
  - Combining separately effective CBT programs
- Strategies that have worked:
  - Extending treatment (SSRI and CBT)
  - Augmenting SSRI with CBT for SSRI partial responders
- Strategies to be investigated:
  - Augmenting CBT with medication
  - Augmenting SSRI with other medications

Treatment of ASD/ Prevention of Chronic PTSD

Treatment of ASD/Prevention of Chronic PTSD

- Little research on treatment of ASD, compared to amount of research on PTSD
- Extant research on CBT for ASD yields similar results/conclusions as research on CBT for PTSD

CBT for Treatment of ASD/ Prevention of PTSD
(Bryant et al., 1998, 1999, 2003a, 2005)



1 – MVA, IA
3 – MBI: MVA, NSA
— MVA: Natural recovery (6 mos post-trauma)
2 – MVA, NSA
4 – Civilian trauma

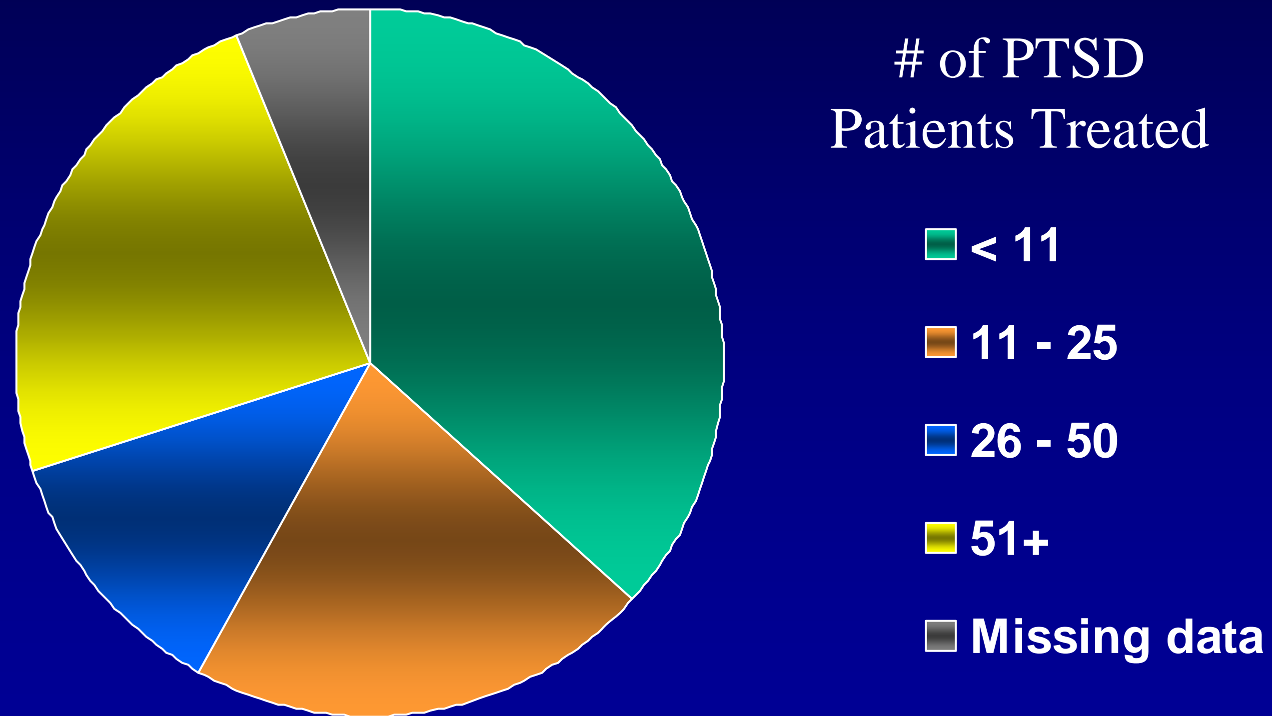
Use of Evidence-Based Treatments

Survey of Psychologists' Attitudes and Utilization of Exposure Therapy for PTSD

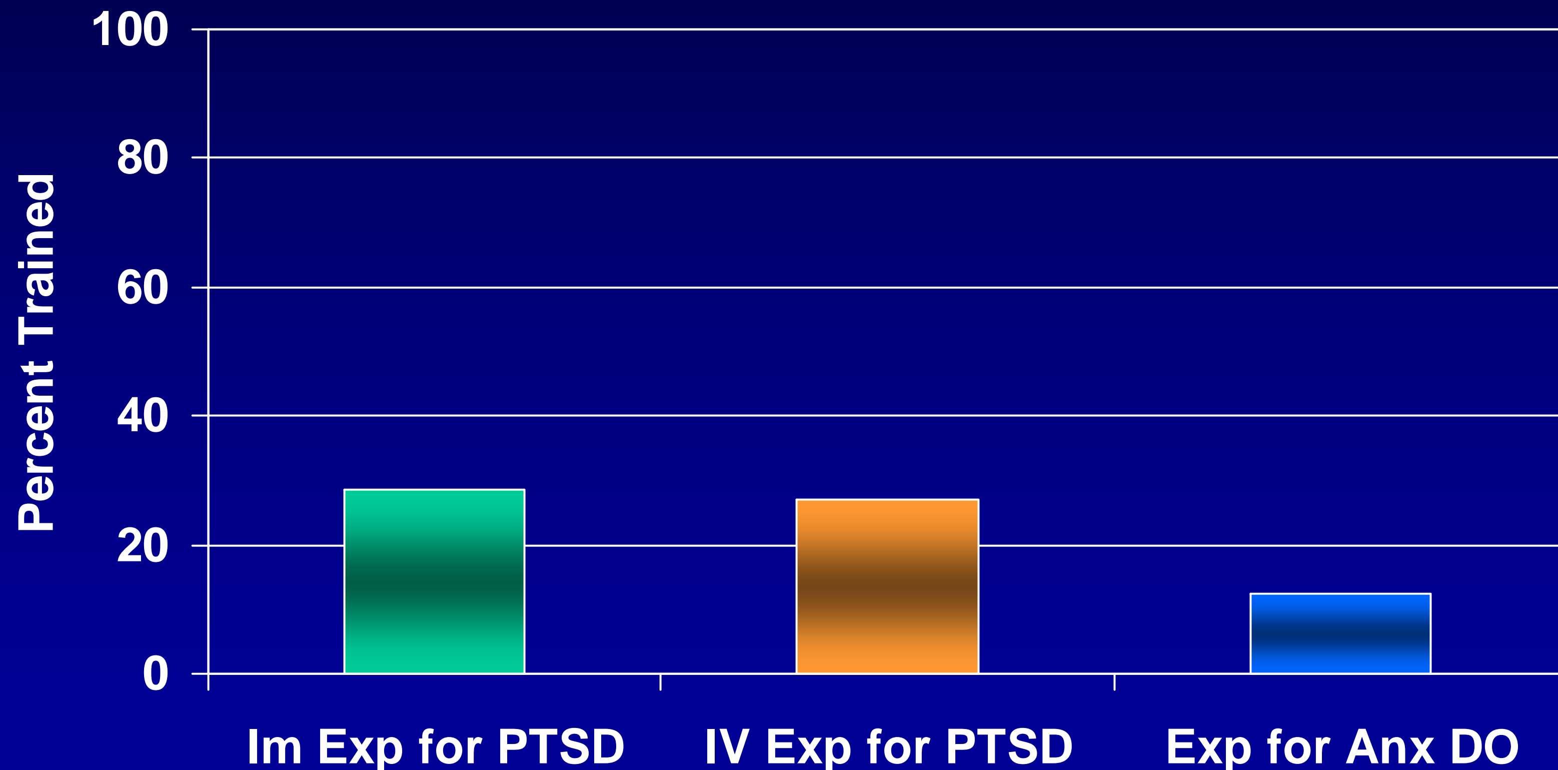
- Survey of 852 psychologists from New Hampshire, Vermont, and Texas (San Antonio & Austin)
- 58 surveys were undeliverable
- 217 of 794 surveys were returned (27.3%), of which 10 provided no relevant data
  - Final n = 207

Becker, Zayfert, & Anderson (2004)

Do Therapists Treat PTSD?



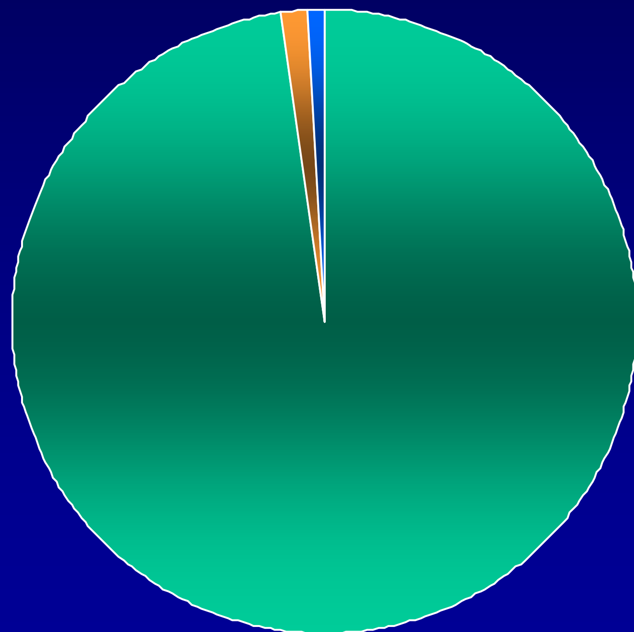
Are Therapists Trained in the Use of Exposure Therapy?



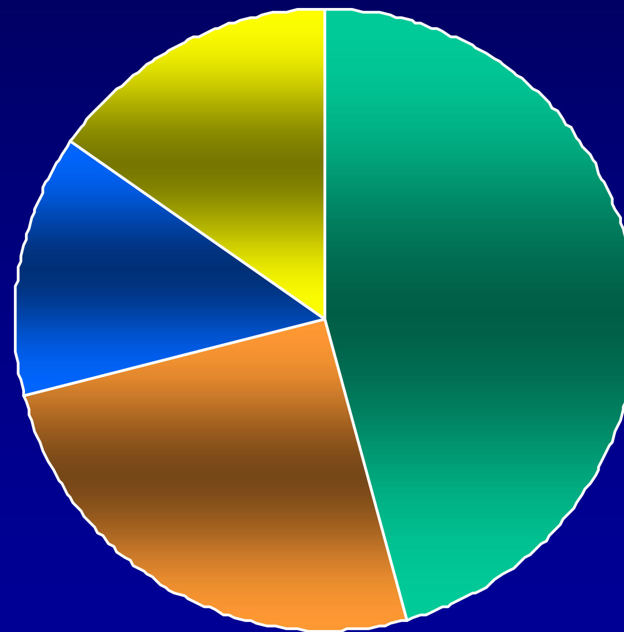
Do Therapists Use Exposure Therapy? The Effect of Training

Main Sample (n = 207)

No Training (n = 148)



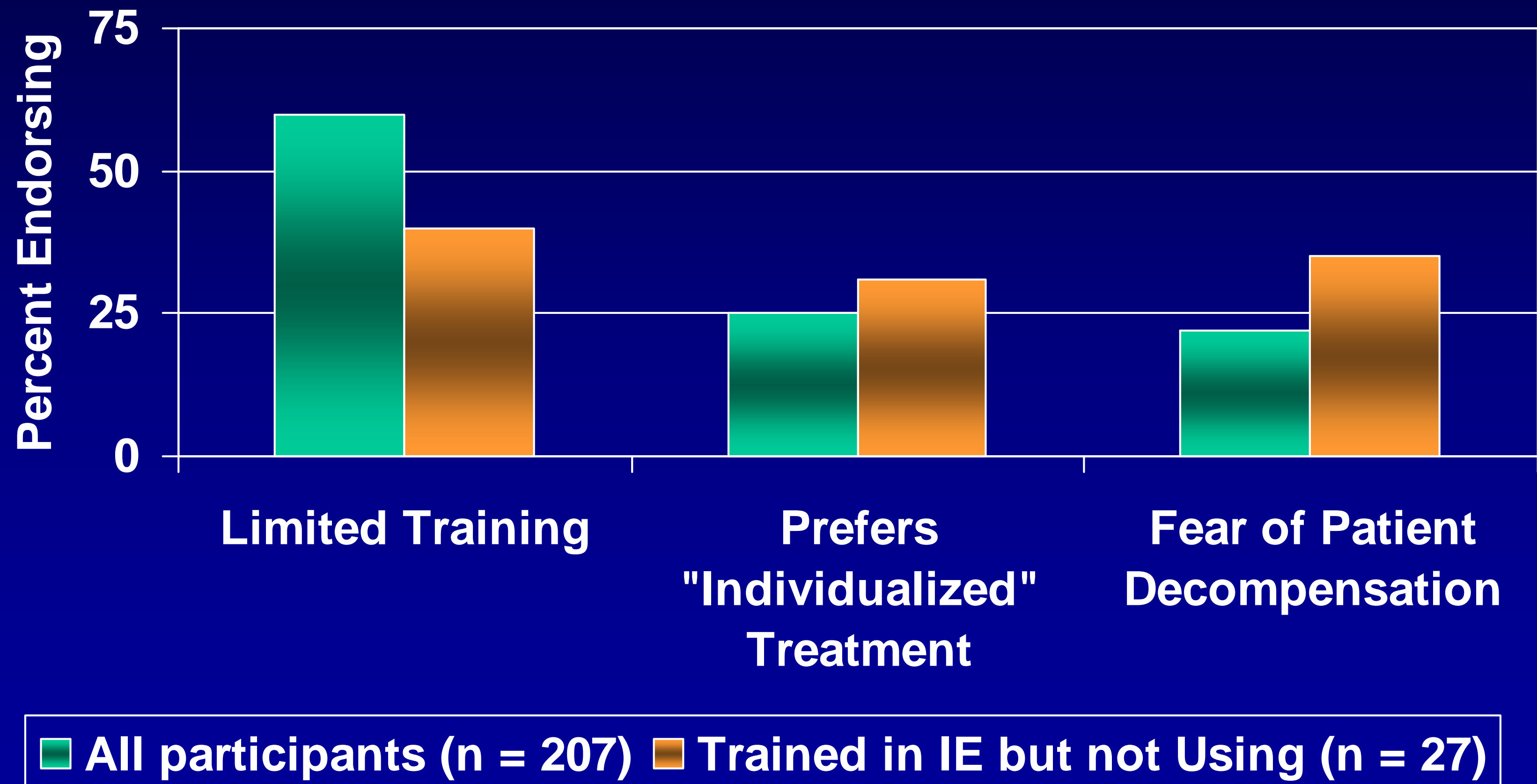
Trained (n = 59)



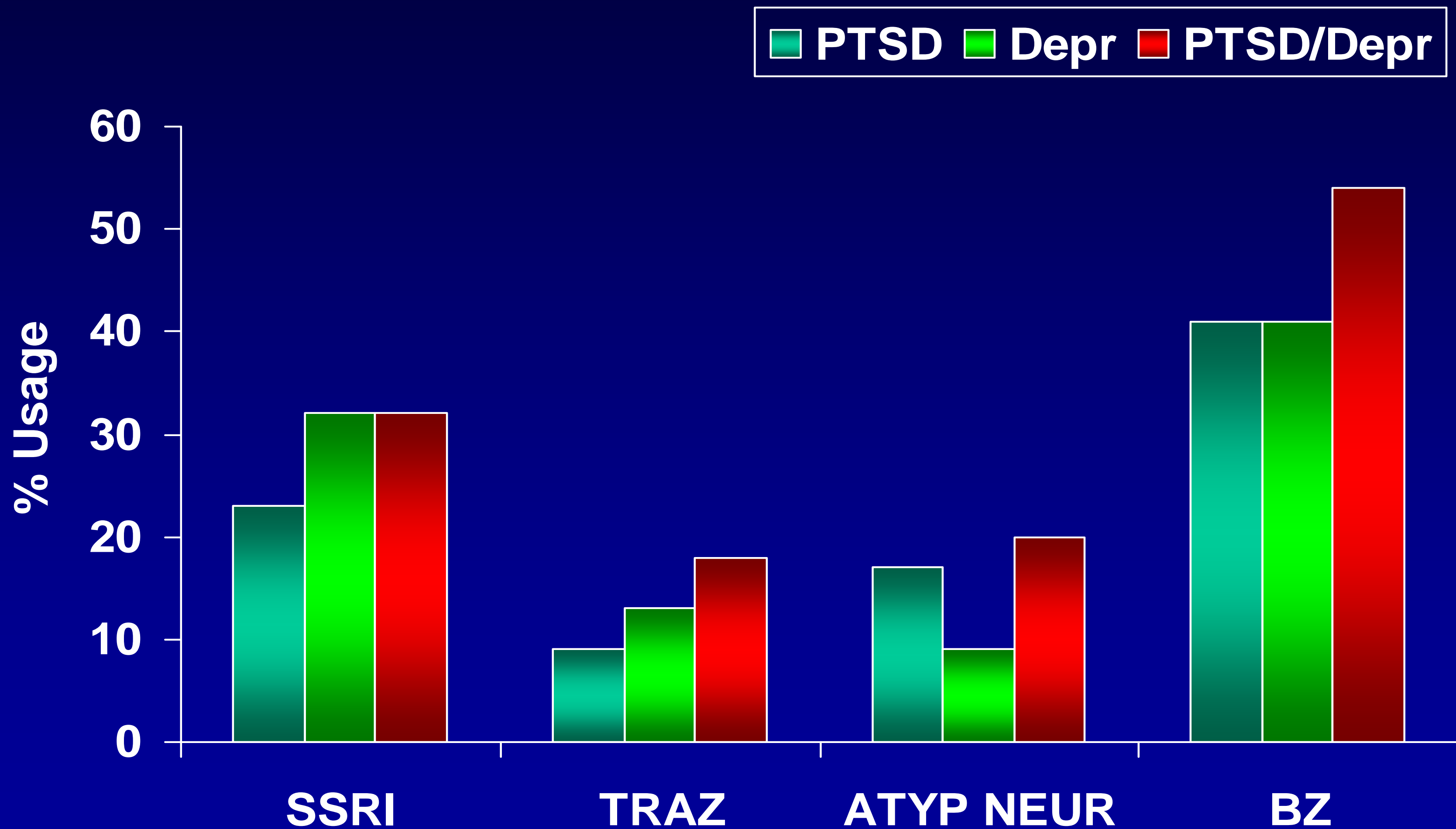
Patients Treated with Imaginal Exposure

- None
- < 50%
- 50% - 80%
- > 80%

Reasons for not Using Imaginal Exposure to Treat PTSD

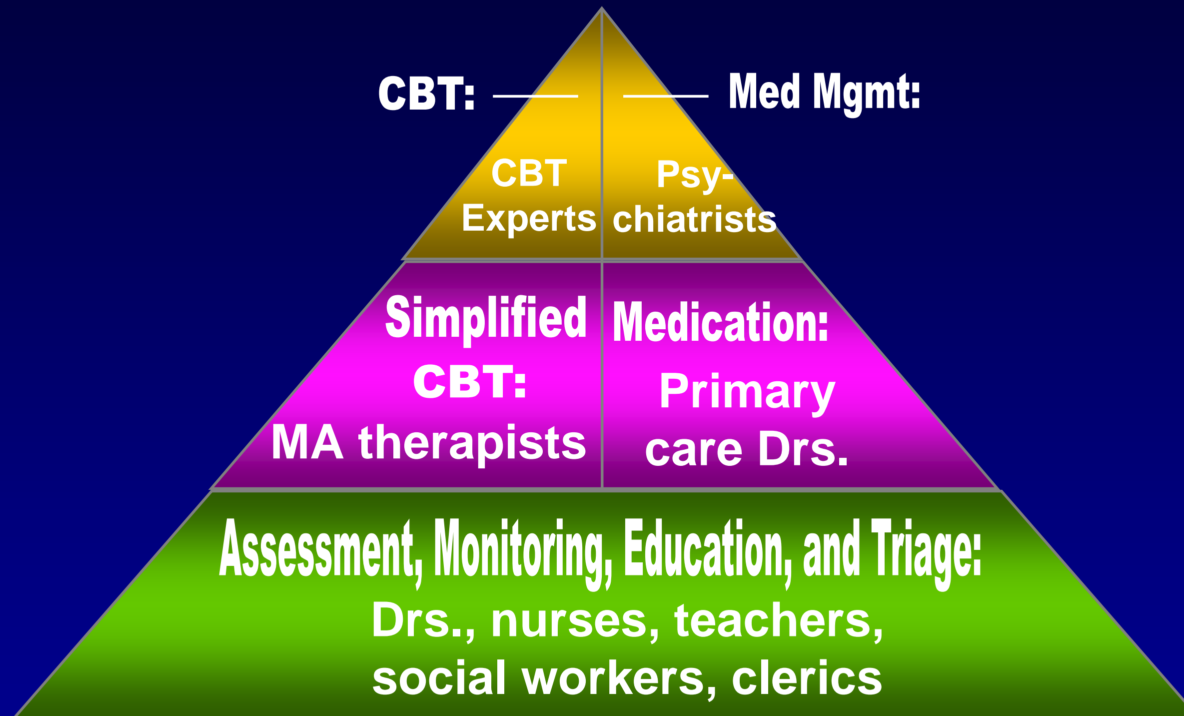


Psychotropic Treatment of PTSD: Use Patterns



Mellman et al, 2003

Stepped Care Model of Intervention for Trauma Survivors



TRAUMA

PRE-TRAUMA EDUCATION OF THE PUBLIC