

# **Psychological Debriefing and First Responders: A Meta-Analysis**

by

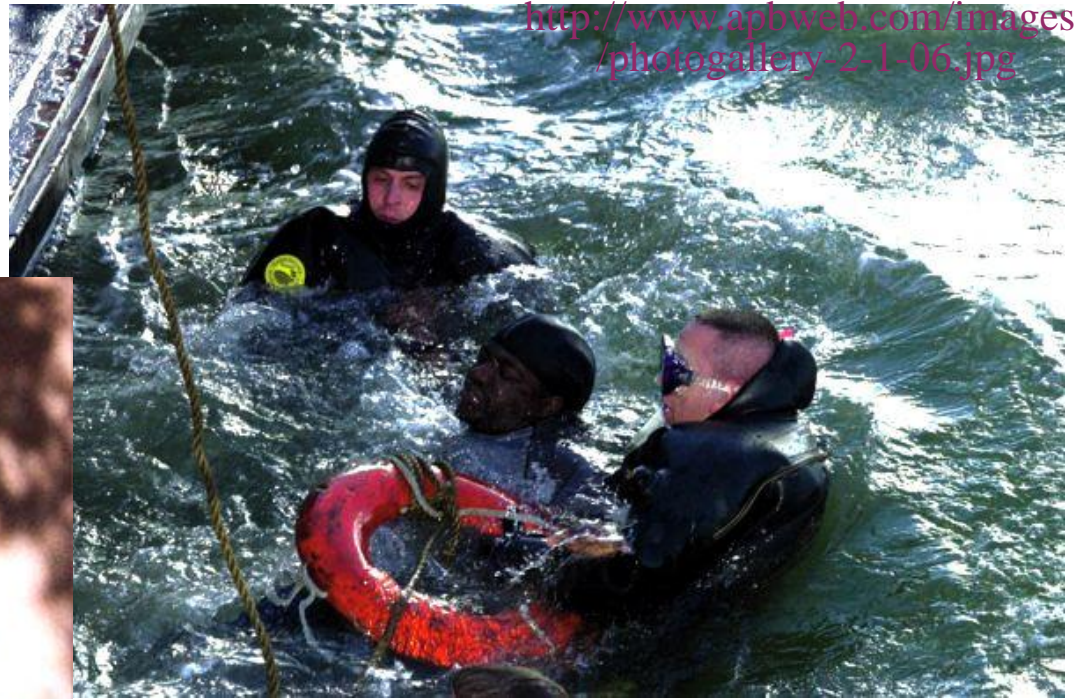
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<http://www.worldsfamousphotos.com/oklahoma-city-bombing-1995.html>

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# First Responders at Risk for Three Types of Trauma

## ▶ Primary

- I might get hurt or die, I might hurt someone else.
- DSM description

## ▶ Multiple

- More likely to participate in events that may lead to trauma
- Can be protective or not, depends on the study

## ▶ Secondary

- I have seen children hurt and dying/dead, people my own age dying.
- Empathy, Compassion Fatigue

# Trauma Reactions

*\* Any of these symptoms may indicate the need for medical evaluation. When in doubt, contact a physician.*

## ***Physical***

chills  
thirst  
fatigue  
nausea  
fainting  
twitches  
vomiting  
dizziness  
weakness  
chest pain  
headaches  
elevated BP  
rapid heart rate  
muscle tremors  
shock symptoms  
grinding of teeth  
visual difficulties  
profuse sweating  
difficulty breathing

**etc...**

## ***Emotional***

fear  
guilt  
grief  
panic  
denial  
anxiety  
agitation  
irritability  
depression  
intense anger  
apprehension  
emotional shock  
emotional outbursts  
feeling overwhelmed  
loss of emotional control  
inappropriate emotional response

**etc...**

## ***Cognitive***

confusion  
nightmares  
uncertainty  
hypervigilance  
suspiciousness  
intrusive images  
blaming someone  
poor problem solving  
poor abstract thinking  
poor attention/ decisions  
poor concentration/memory  
disorientation of time, place or person  
difficulty identifying objects or people  
heightened or lowered alertness  
increased or decreased awareness of surroundings

**etc...**

## ***Behavioral***

withdrawal  
antisocial acts  
inability to rest  
intensified pacing  
erratic movements  
change in social activity  
change in speech patterns  
loss or increase of appetite  
hyperalert to environment  
increased alcohol consumption  
change in usual communications

**etc...**

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# Prevalence of Acute Stress Disorder and Posttraumatic Stress Disorder

## ► First Responders

- **PTSD prevalence — 5 - 32%**
- Plane crash — 25% reported ASD

## ► General Population

- **PTSD prevalence — 5 - 10%**
- ASD post severe trauma < 33%
  - PTSD after 9/11—7.5% in the southern portion of Manhattan 5-9 weeks later

# Psychological Debriefing...in brief

- ▶ Usually a group intervention lasting about an hour
  - ▶ Performed after an event believed to be traumatic
  - ▶ Led by peer leaders, sometimes joined by mental health professionals
  - ▶ To ameliorate trauma symptoms in order to
  - ▶ Facilitate a return to “normal” life and work.
- 
- ▶ Whether or not the purpose is to prevent diagnosable levels of trauma is the subject of constant debate.

# Critical Incident Stress Debriefing

1. Introduction: describe process, rules (i.e., confidentiality), and expectations;
2. Fact Phase: introduce themselves and explain role in the event;
3. **Thought Phase**: asked to share first thoughts after the event;
4. **Reaction Phase**: explores personal reactions surrounding the event;
5. Symptom Phase: critical incident stress signs and symptoms discussed and normalized;
6. Teaching Phase: taught ways to deal with critical incident stress in their lives;
7. Reentry Phase: encouraged to discuss any other issues and ask questions.

(Malcolm et al., 2005)

# Psychological Debriefing Effectiveness What Do We Know?

**NOT MUCH**

- ▶ Van Emmerik, et al., 2002
  - Conclusion: **No significant effect for CISD**
  - There was some improvement for non-CISD types
- ▶ Everly, Jr. and Boyle, 1999
  - Conclusion: **Positive effect for CISD** and non-CISD types



# Effectiveness (cont.)

- ▶ Positive Results (Everly, Jr.) 10 studies
  - Five studies with First Responders\*
  - One study with soldiers
  - Four studies with victims—hurricane, bus accident, ship sinking, earthquake
- ▶ Negative Results (van Emmerick) 7 studies
  - One study with First Responders\*\*
  - One study with soldiers
  - Five studies with victims—burns, traffic accidents, miscarriage

# **This Meta-Analysis**

- ▶ **Looks at Psychological Debriefing (PD)**
- ▶ **Effects on Trauma Symptoms in**
- ▶ **First Responders after a**
- ▶ **“Critical” Event**
  - **(any event where a PD was deemed necessary)**

# Study Eligibility Criteria

- ▶ **Psychological Debriefing (PD)**—  
all eligible unless specifically stated that expressing feelings is discouraged
- ▶ **Subjects**—  
First Responders and other professional helpers who responded on site to an event where there was risk of death or injury to self or others
- ▶ **Events**— eligible if followed by a PD
- ▶ **Design**— 2 group comparison, PD vs. no PD
- ▶ **Outcomes**— symptoms of trauma

# Effect Sizes

- ▶ Standardized mean difference (Cohen's  $d$ ) used when possible

$$ES_{sm} = \frac{\overline{X}_{Debriefed} - \overline{X}_{Not\ debriefed}}{SD_{Pooled}}$$

- ▶ Overall Mean Effect size is weighted by inverse variance
- ▶ Hedges' (1981) small sample bias correction
- ▶ Positive ES indicates participants in PD had fewer symptoms



# Study Descriptors

Proportion of  
Sample  
 $K = 16$   $N = 2,807$

## Study Focus is PD

Yes	13	0.85
No	3	0.15

## Event Year

1983-1987	4	0.18
1989-1993	7	0.22
1995-2006	5	0.60

Number of Studies ( $K$ )  
and Subjects ( $N$ )

## Event Location

Australia/New Zealand	5	0.43
Europe	3	0.12
United States	8	0.45

## Event Scope

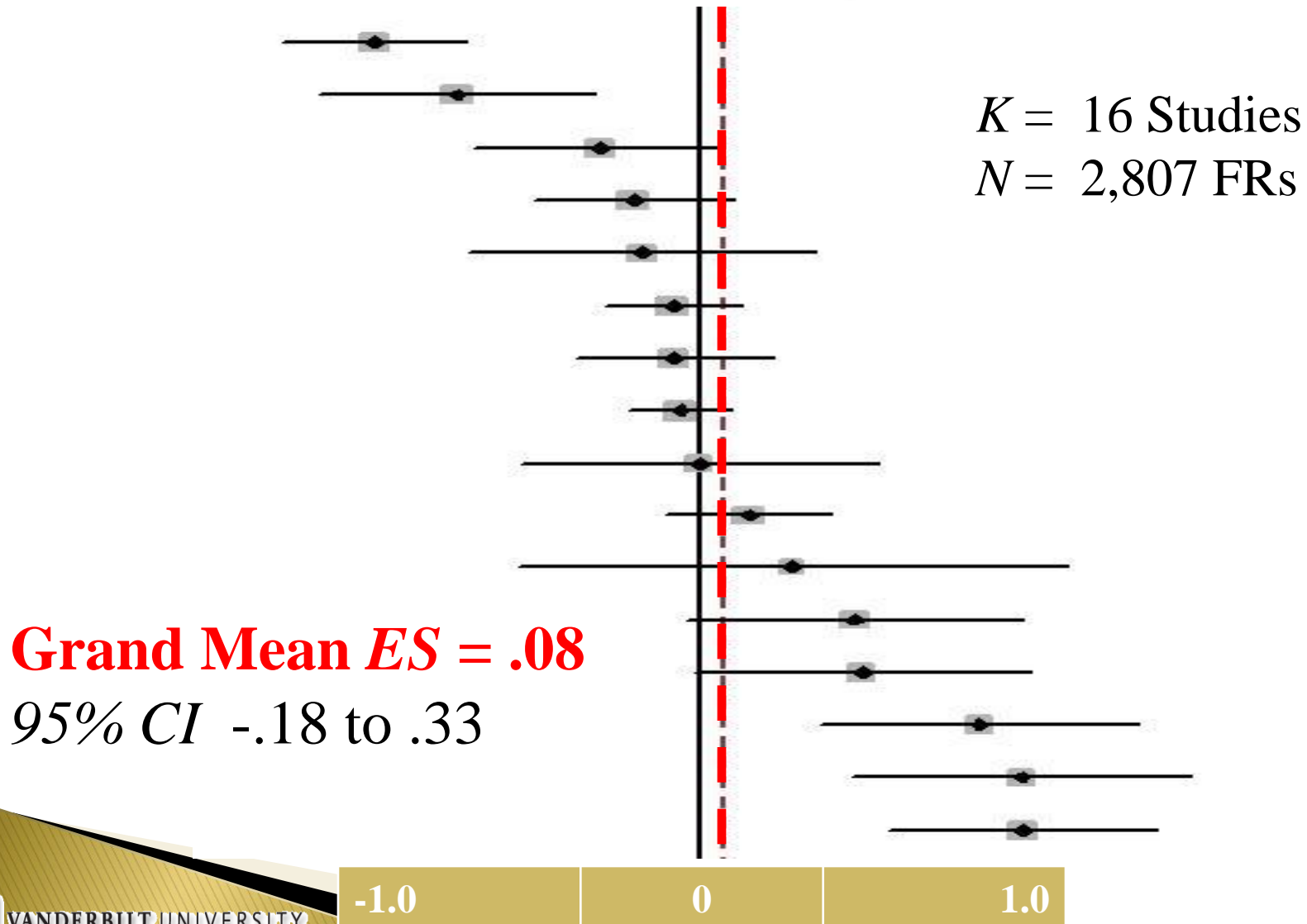
Large	7	0.29
Limited	9	0.71

# Subject Demographics

	Studies ( $K=16$ ) $k$	Sample ( $N=2,807$ ) $n$	Proportion of Sample
<b>First Responder Type</b>			
Firefighters	6	1,280	0.46
Police	5	911	0.32
EMTs	3	307	0.11
Mixed	2	309	0.11
<b>Age</b>			
Mean Age < 35	5	441	0.16
Mean Age $\geq 35$	7	1,386	0.49
<i>Not reported</i>	4	980	0.35
<b>Gender</b>			
All male	4	254	0.09
Mostly male	9	2,015	0.72
<i>Not Reported</i>	3	507	0.18
<b>Protocol Type</b>			
CISD	8	1,355	0.48
CISD-Like	4	377	0.13
Other	4	1,075	0.38

# PD Descriptor

# Cannot conclude that PD ameliorates trauma symptoms

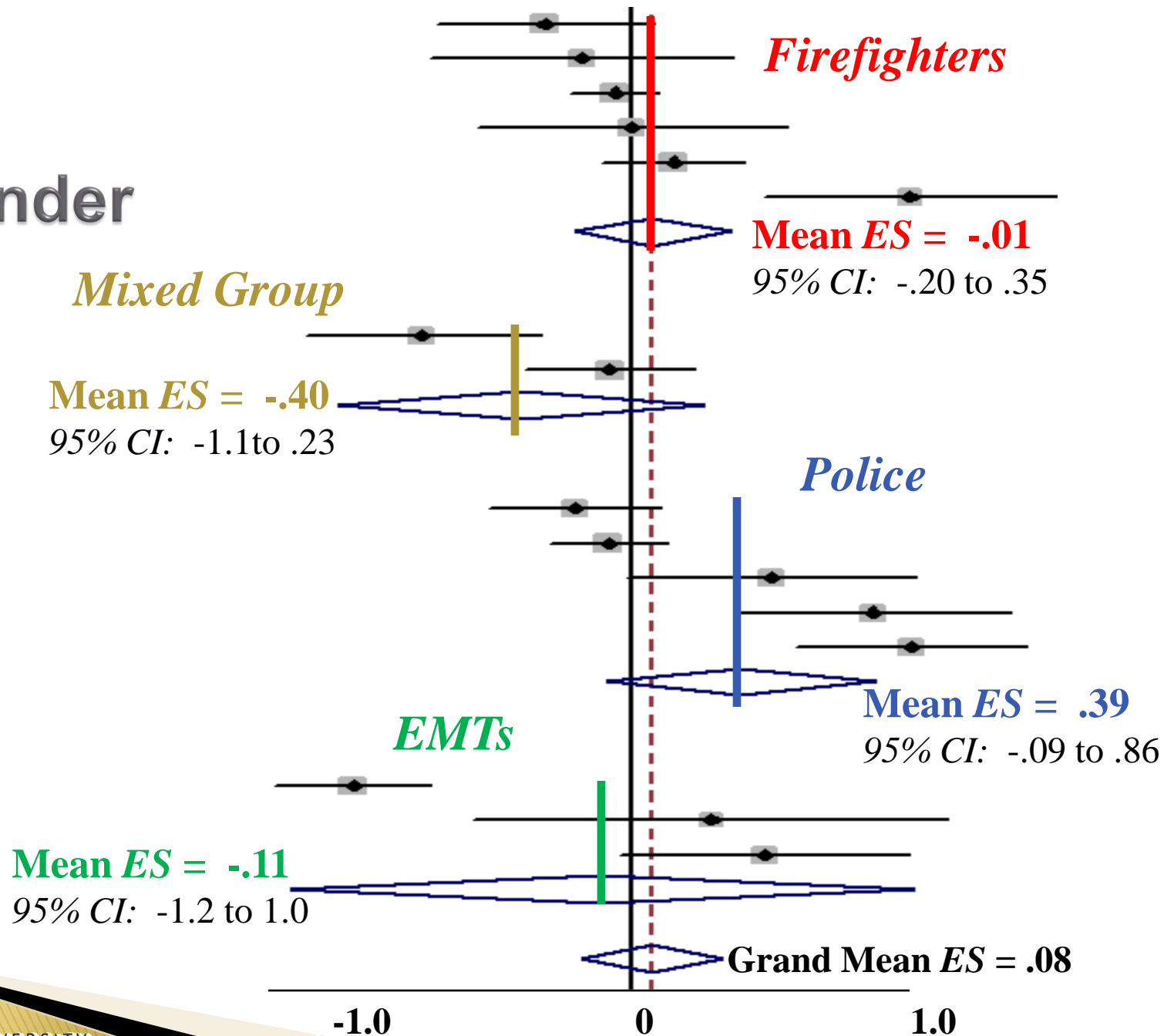


# Moderators of PD Effectiveness

- ▶ First Responder Type
- ▶ PD Protocols
- ▶ PD Attendance (Mandatory vs. Voluntary)
- ▶ Who Determines Need for PD
- ▶ Timing of PD

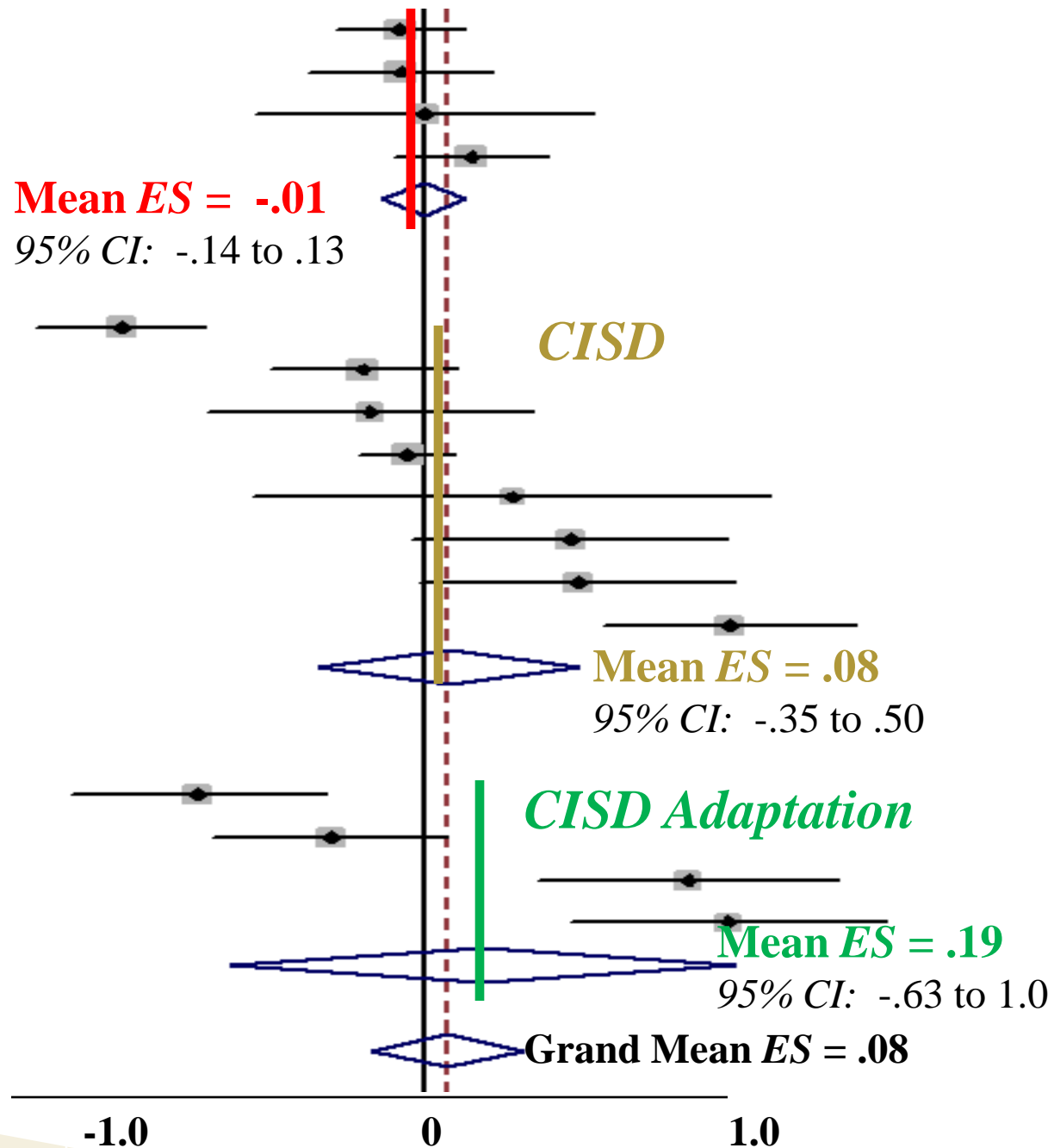


# First Responder Type



*No Info.*

# Psychological Debriefing Protocols



*No Info.*

**Mean  $ES = -.04$**

95%  $CI: -.15$  to  $.07$

*Voluntary*

**Mean  $ES = -.05$**

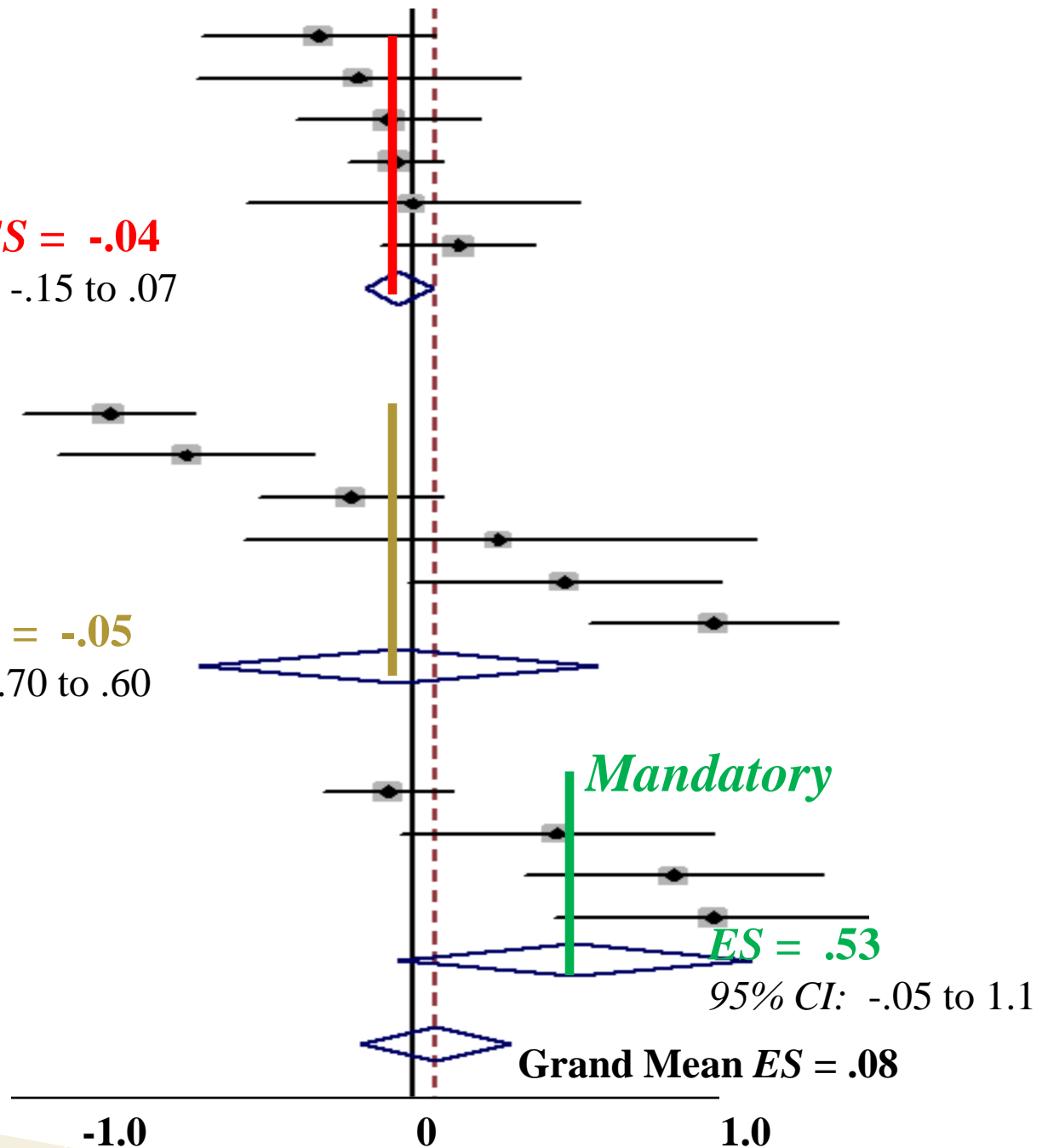
95%  $CI: -.70$  to  $.60$

*Mandatory*

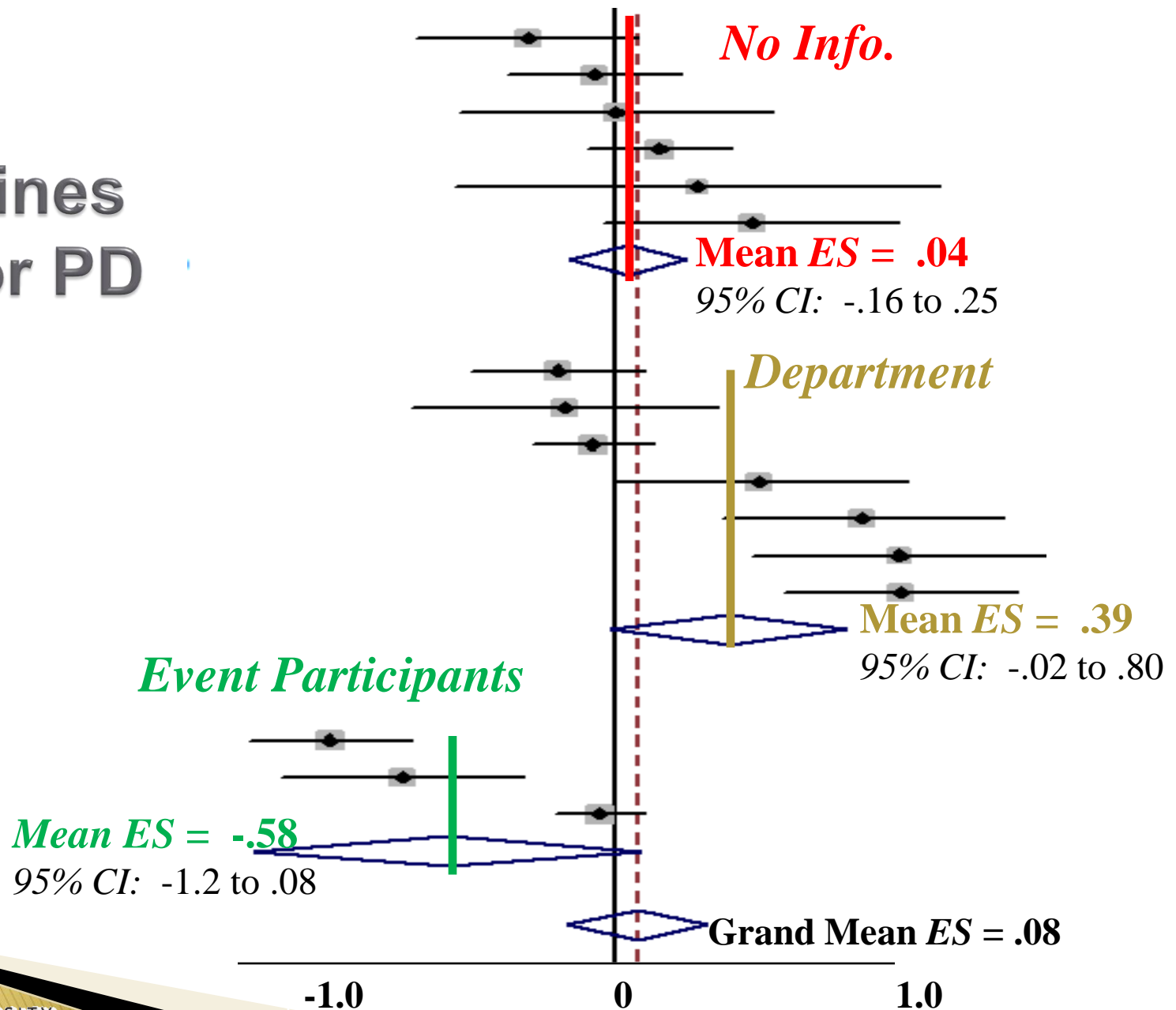
**$ES = .53$**

95%  $CI: -.05$  to  $1.1$

**Grand Mean  $ES = .08$**



# Who Determines Need for PD





# Time from Event to PD and Assessment

ID#

1		X	O					
2		X				O		
3		X				O		
4		X O						
5		X O						
6		X					O	
7		X						(O?)
8		X			O			
9			X		O	O		
10			X		O	O		
11					X		O	(O?)
12					O		O	(X?)
13					O			(X?)
14				O				(X?)
15								(X?, O?)
16								(X?, O?)

**Event**

**Days**

**Days**

**Week**

**Weeks**

**Months**

**Years**

**Missing**

1 to 3

4 to 7

2

2 to 8

3 to 8

2.5



*No Info.*

**Mean *ES* = *-.25***

95% CI: *-.71 to .21*

*Within 1 Week*

**Mean *ES* = *.28***

95% CI: *-.09 to .64*

*3 Months*

***ES* = *-.06***

95% CI: *-.21 to .10*

**Grand Mean *ES* = *.08***

-1.0

0

1.0

# Missing Information Impedes

- ▶ Understanding PD effects on
  - Different types of FRs
  - Mixed gender groups
  - FRs after large vs. limited scope events
- ▶ Distinguishing the effect of different PD protocols as a whole as well as individual components
- ▶ Determining group equivalence

# Conclusion

- ▶ The evidence for the effectiveness of Psychological Debriefing to ameliorate trauma symptoms experienced by First Responders after an event is insufficient to conclude it is beneficial
- ▶ Therefore, we owe it to these men and women to make an evidence-based decision about whether continuing to use PD is the best use of our resources to support these public servants



Thank you.

