

Psychological Debriefing and First Responders: A Meta-Analysis

by

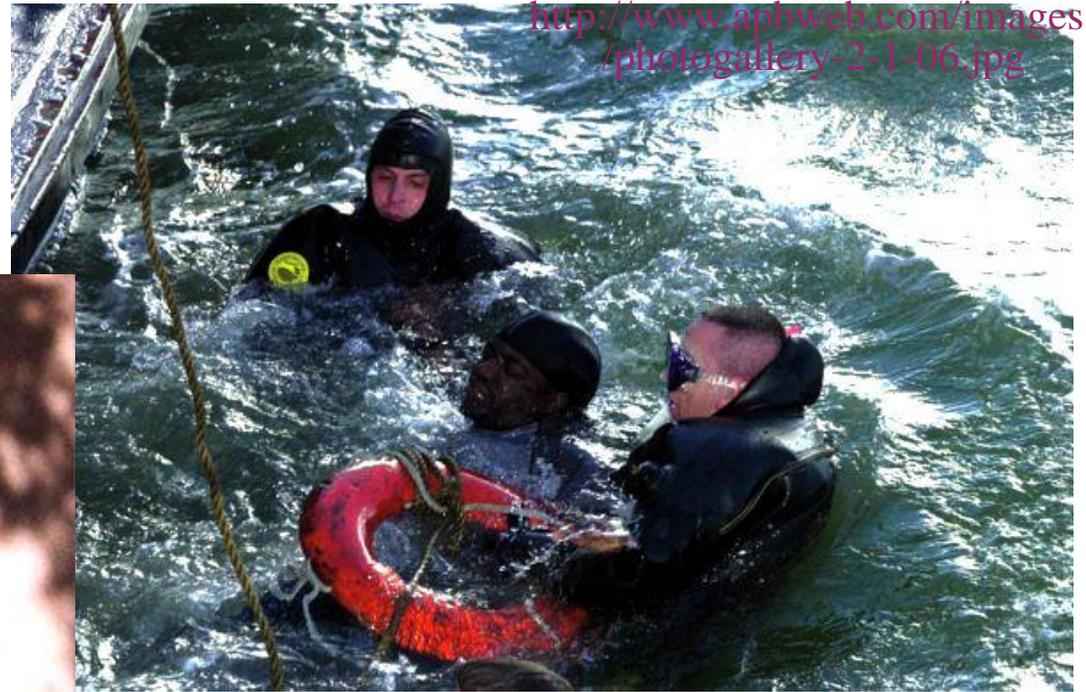
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<http://www.worldsfamousphotos.com/oklahoma-city-bombing-1995.html>

Photographer: Charles Porter



<http://www.apbweb.com/images/photogallery-2-1-06.jpg>



<http://www.pbase.com/yeemegan/image/44618225>

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

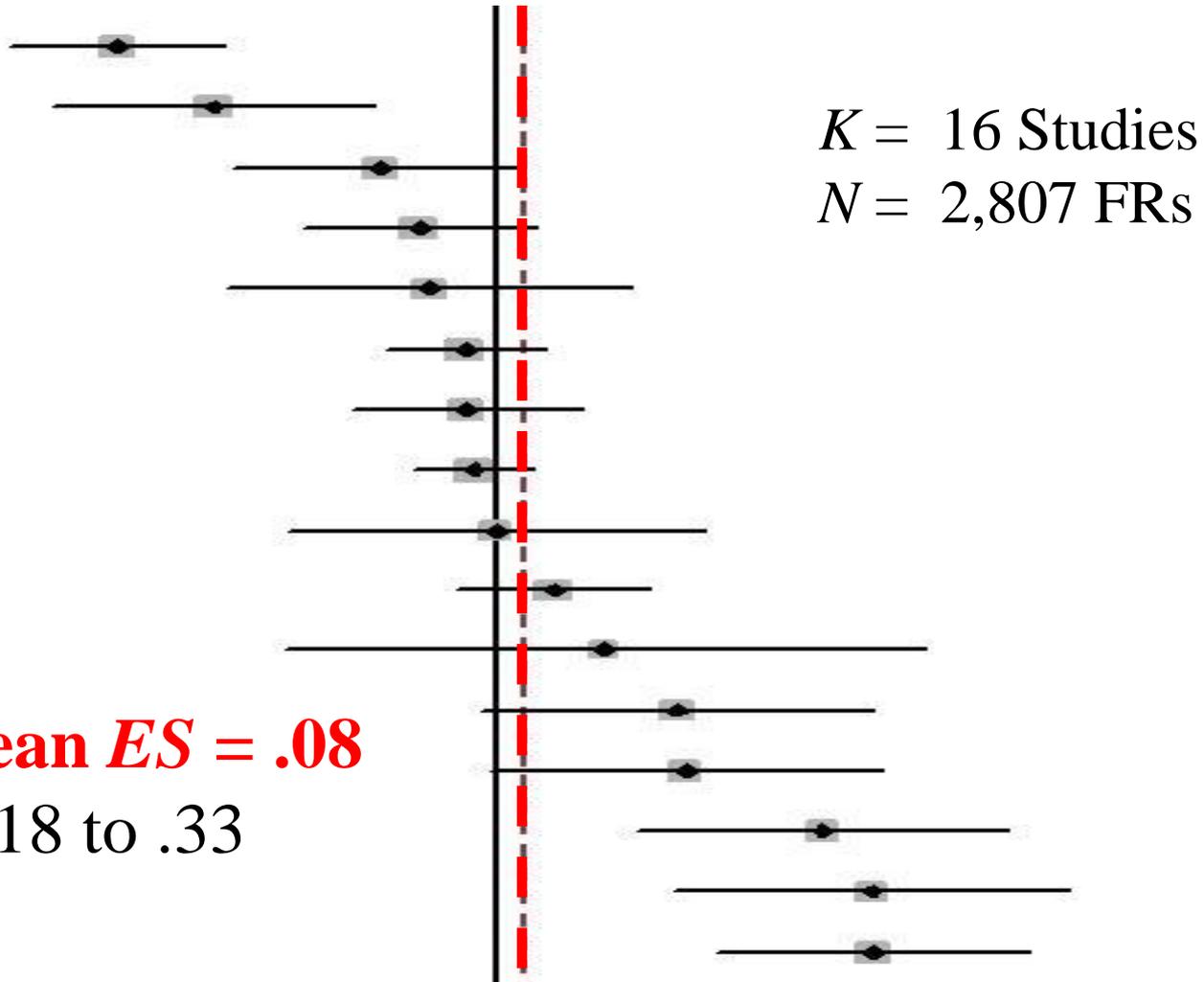
Large	7	0.29
Limited	9	0.71

Subject Demographics

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



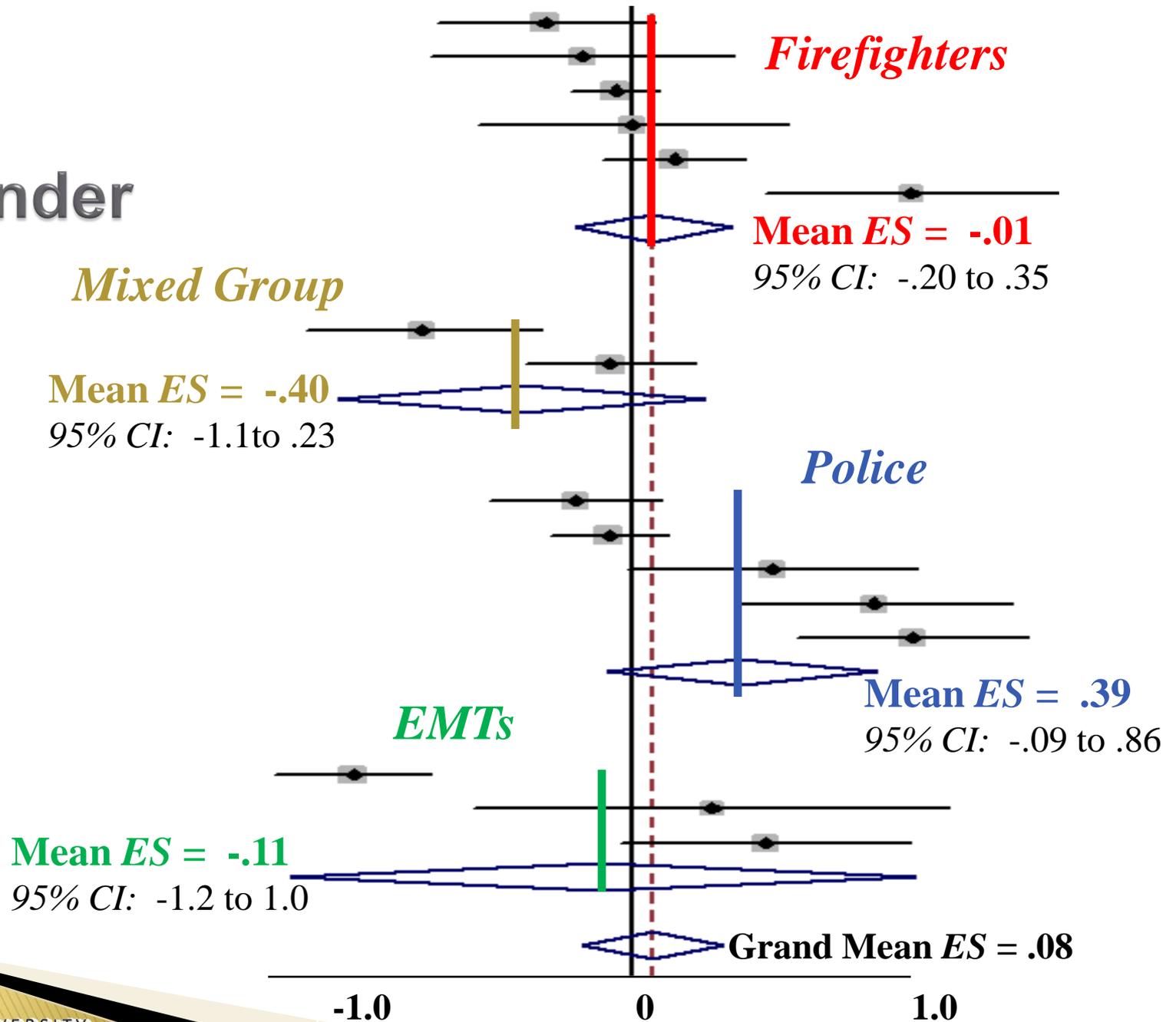
Grand Mean $ES = .08$

95% CI $-.18$ to $.33$

Moderators of PD Effectiveness

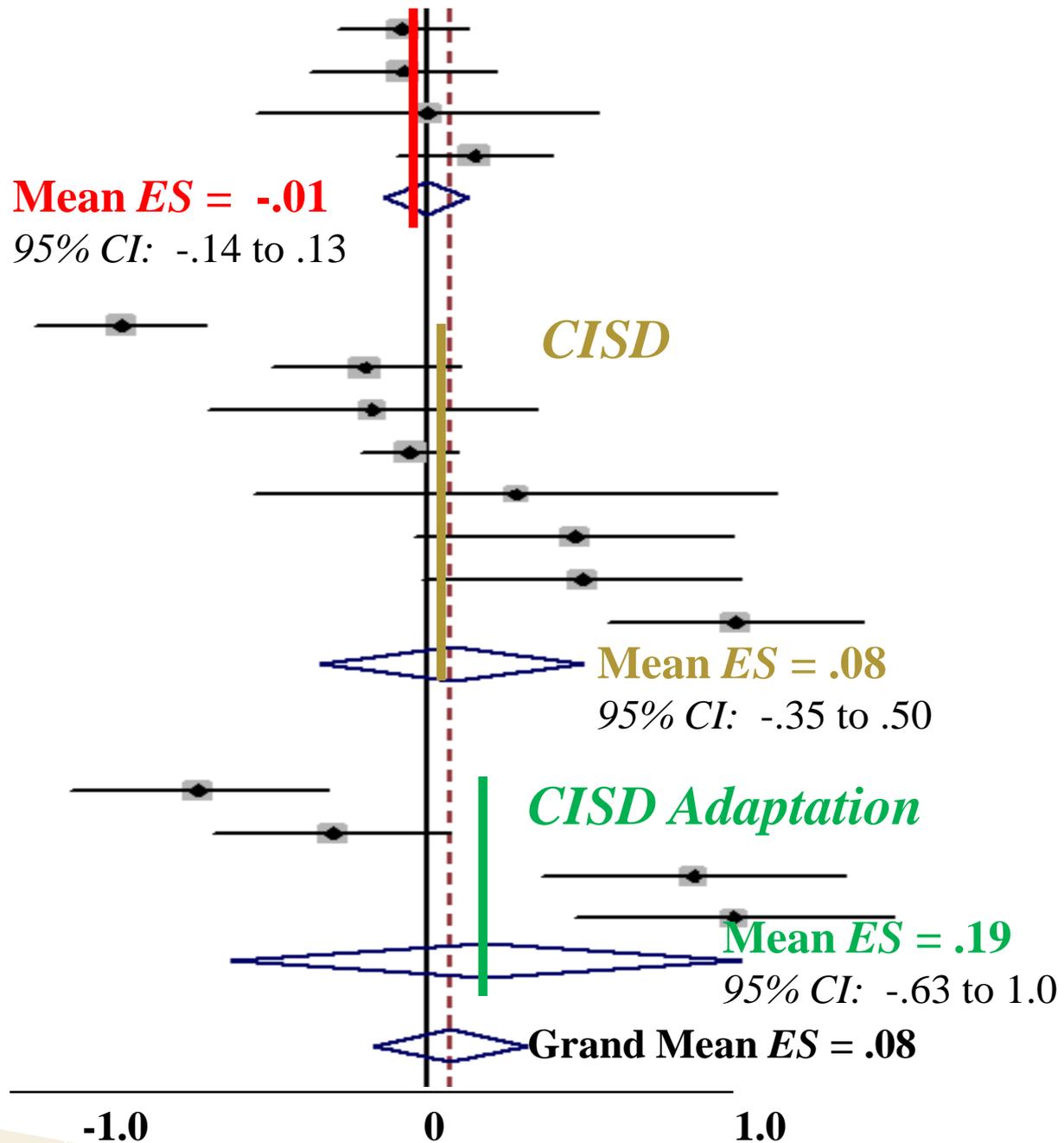
- ▶ First Responder Type
- ▶ PD Protocols
- ▶ PD Attendance (Mandatory vs. Voluntary)
- ▶ Who Determines Need for PD
- ▶ Timing of PD

First Responder Type



No Info.

Psychological Debriefing Protocols



No Info.

Mean ES = -.04
95% CI: -.15 to .07

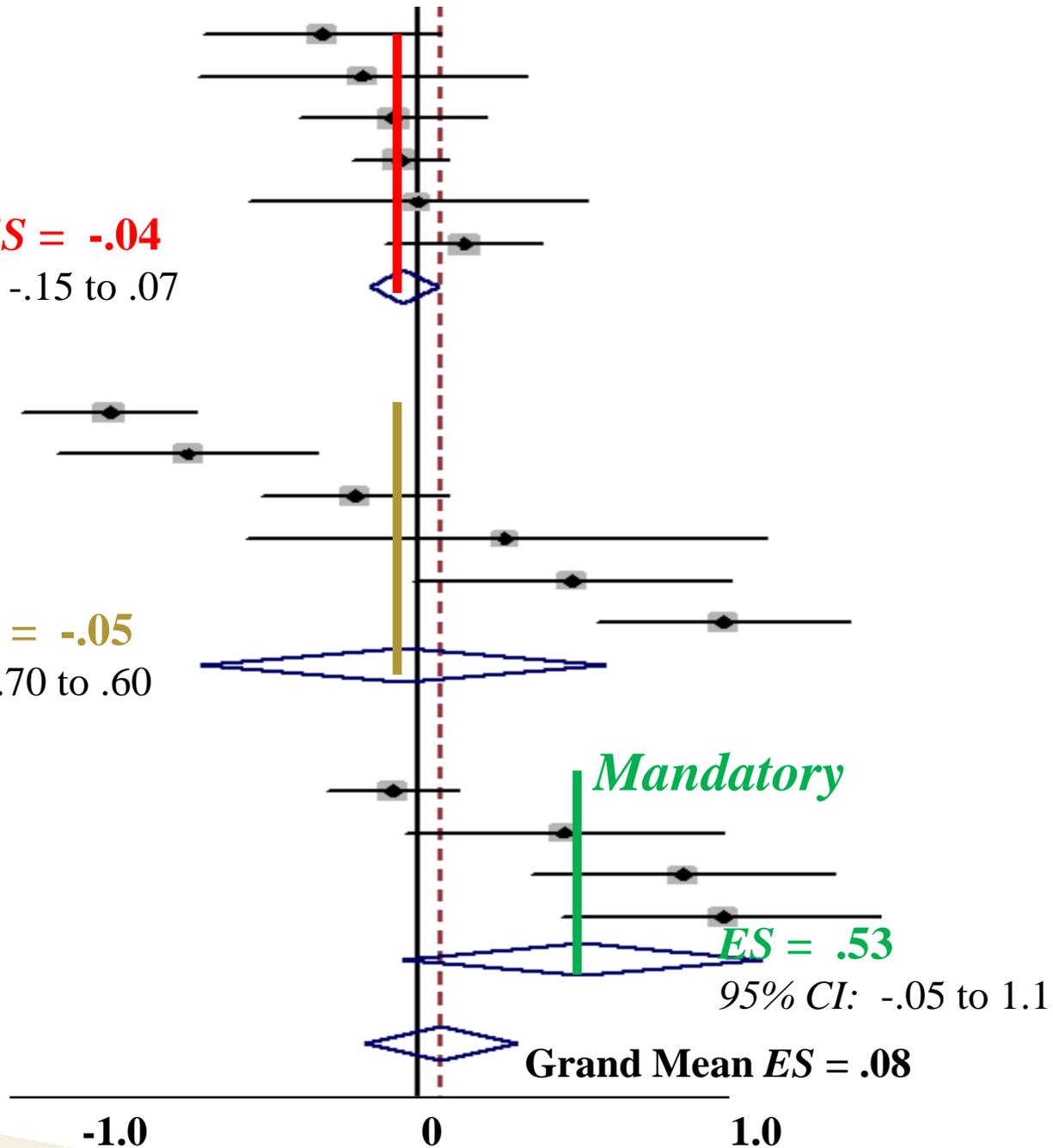
Voluntary

Mean ES = -.05
95% CI: -.70 to .60

Mandatory

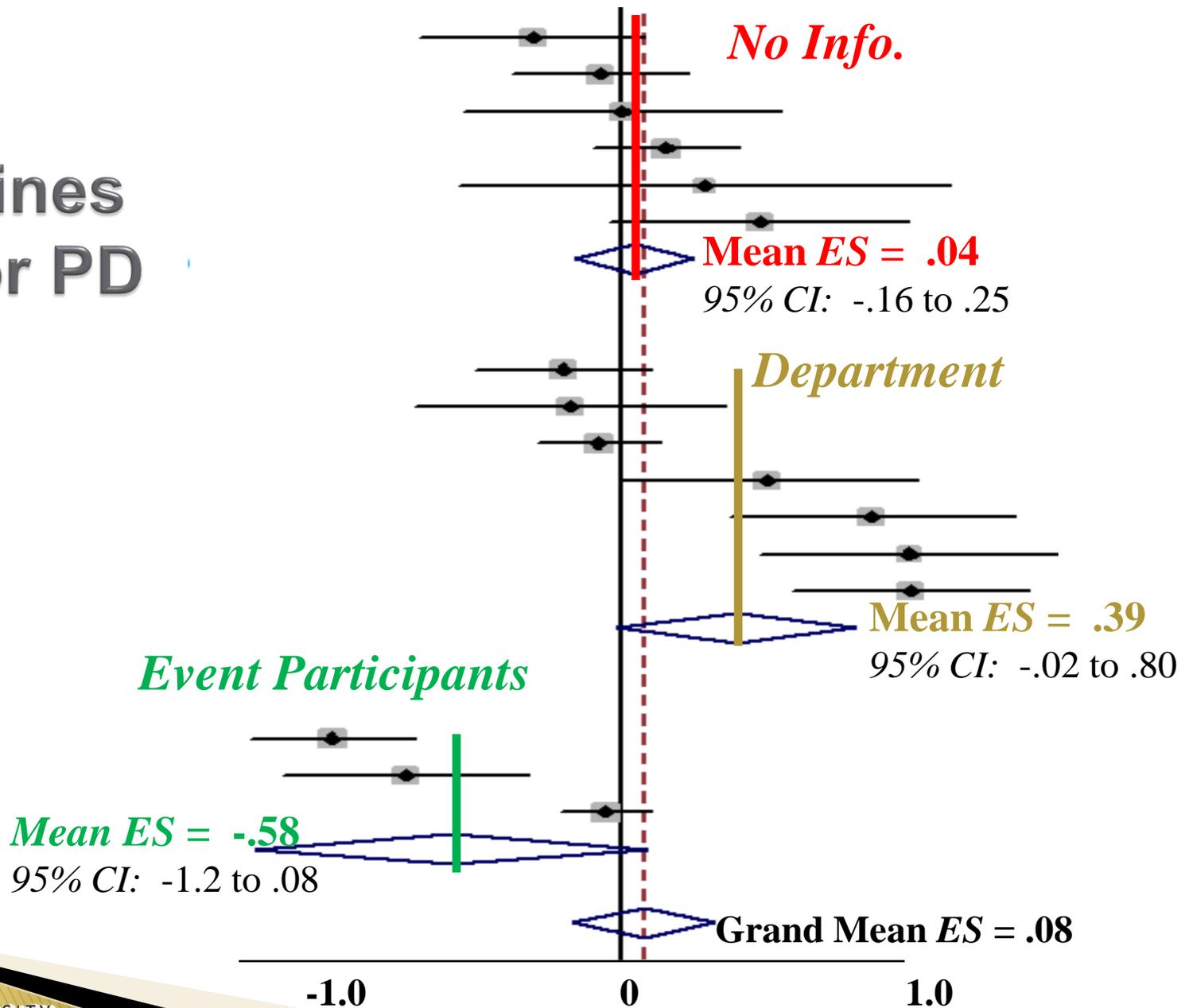
ES = .53
95% CI: -.05 to 1.1

Grand Mean ES = .08



PD Attendance

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.

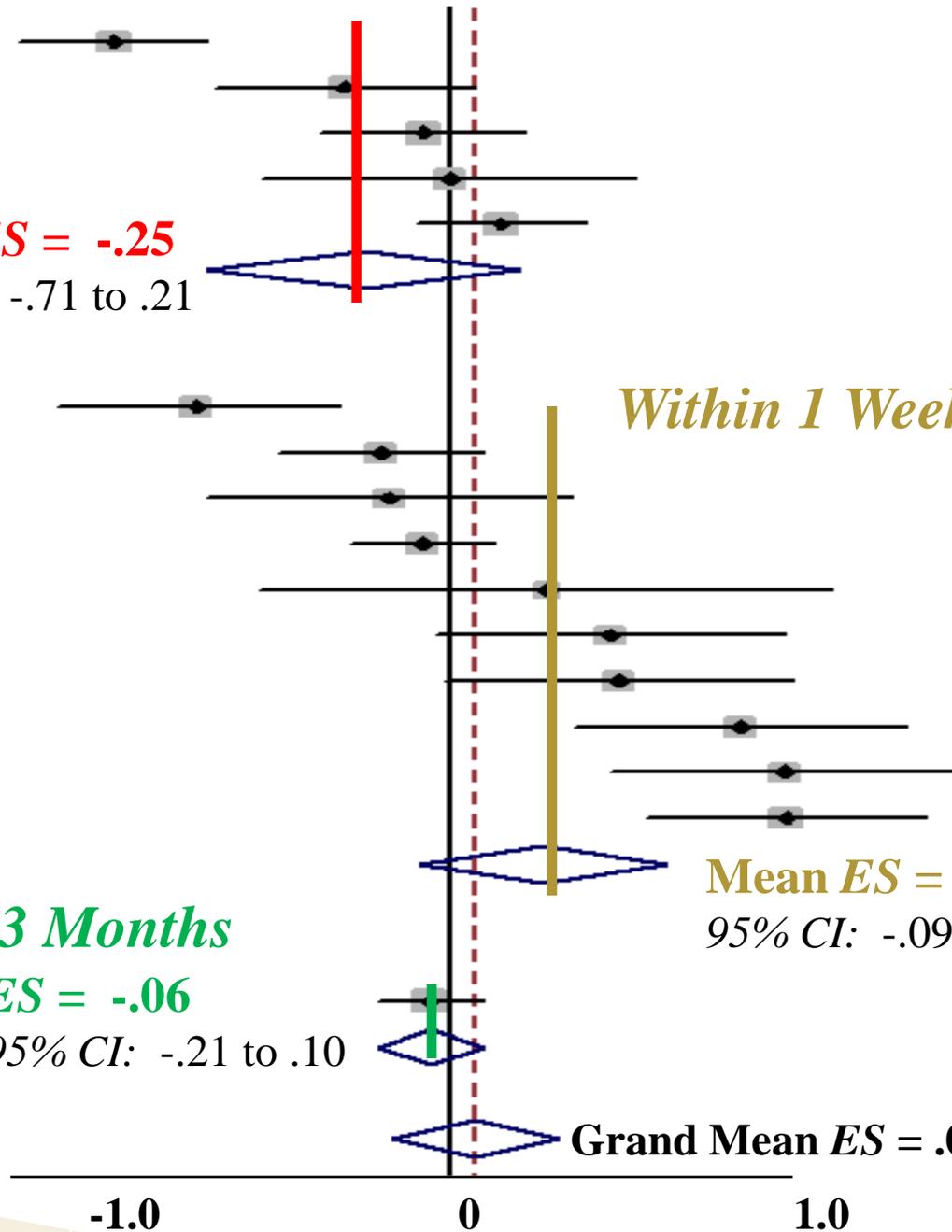
Mean ES = -.25
95% CI: -.71 to .21

Within 1 Week

Mean ES = .28
95% CI: -.09 to .64

3 Months
ES = -.06
95% CI: -.21 to .10

Grand Mean ES = .08



**Time from
Event to PD**

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.

