



# CBT for Invasive Medical Interventions

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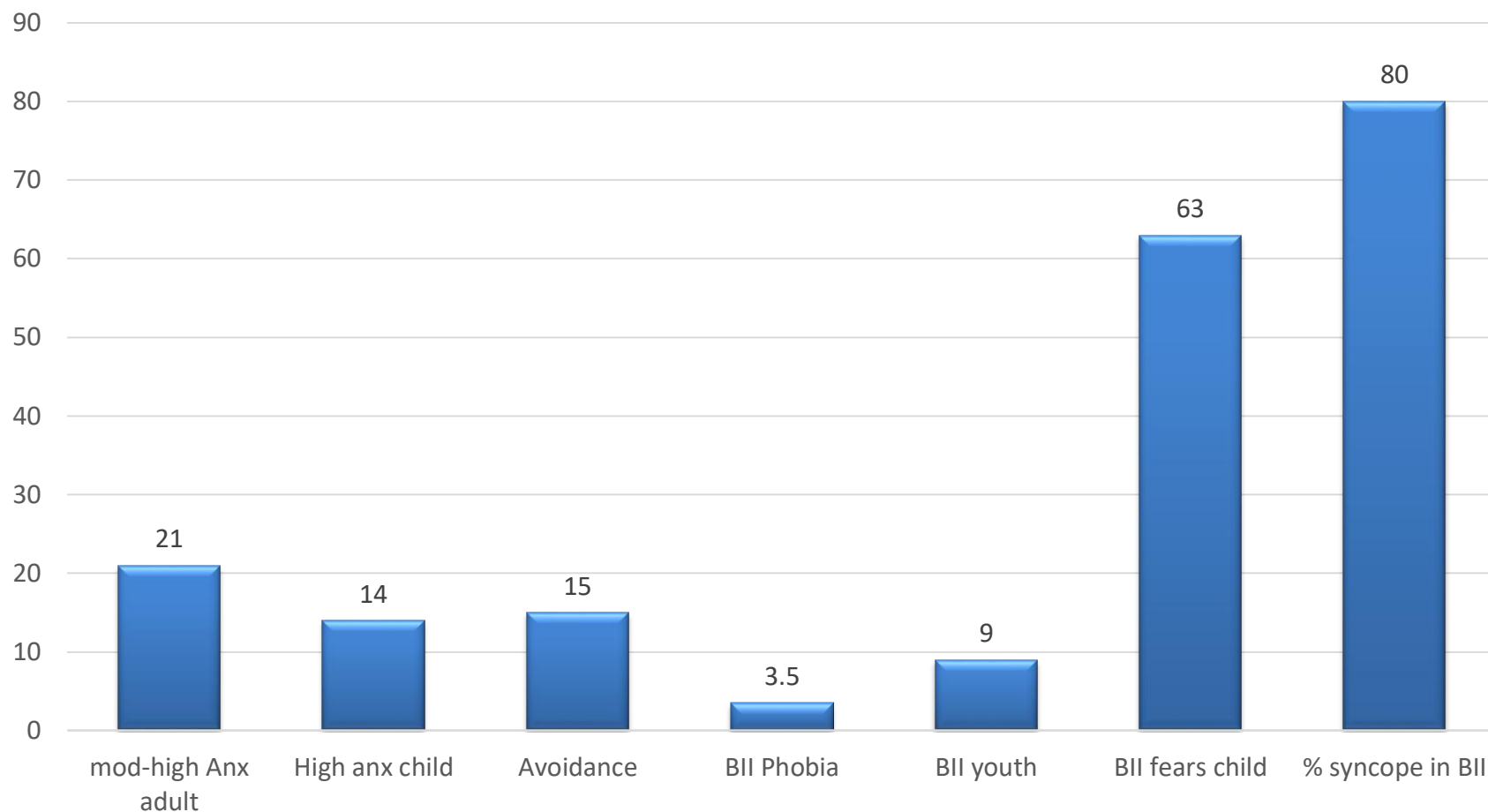
# Disclosures

My spouse/partner and I have the following relevant financial relationship with a commercial interest to disclose:

I receive royalties from Oxford University Press for co-authoring a book.

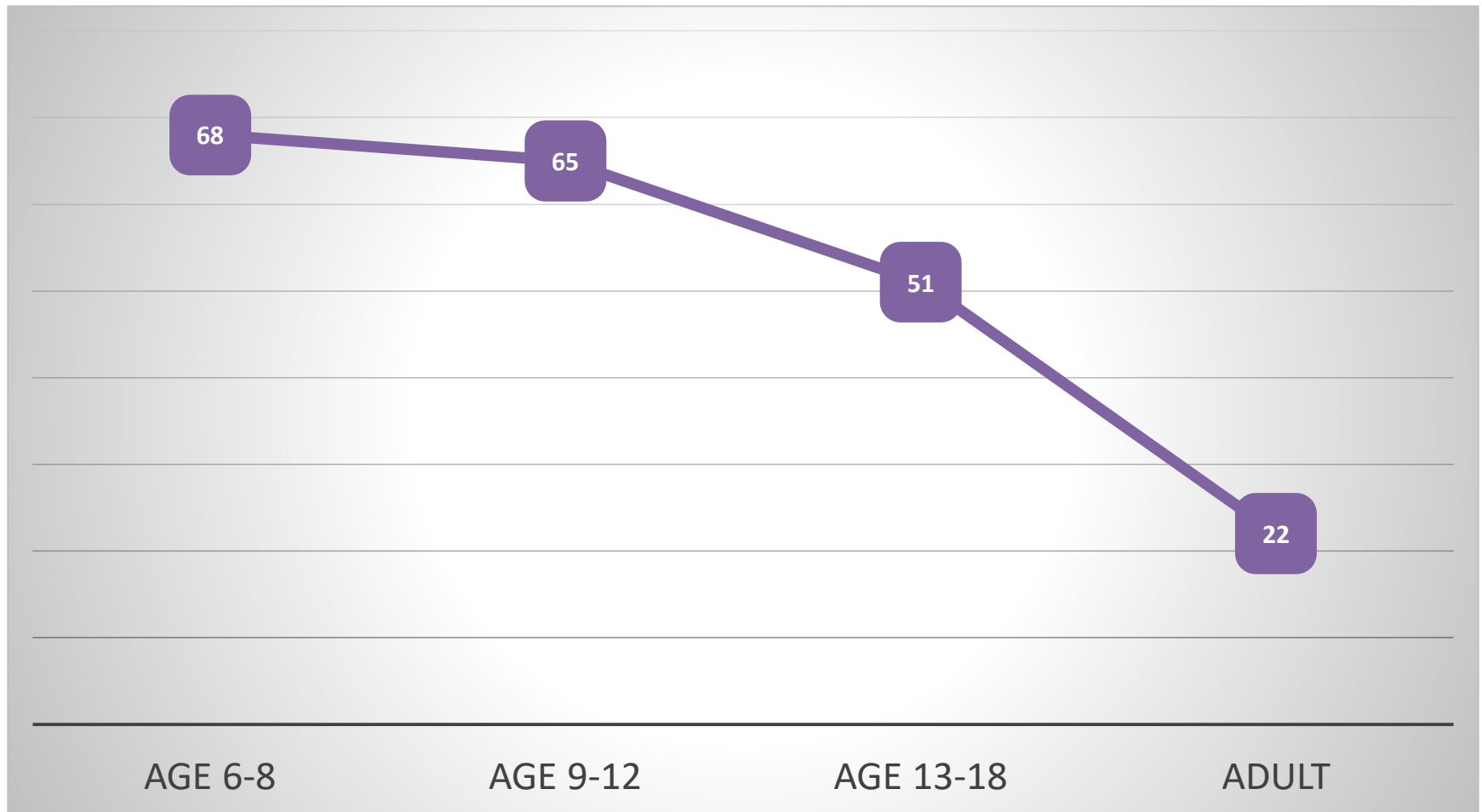
- Acute procedural anxiety:
  - Excessive fear of medical, dental, or surgical procedures
- Results in significant distress or interference with completing necessary procedures
- Anxiety in anticipation of and/or during procedures
- Avoidance of the procedure
  - 1/3 of adults report avoiding doctor visits they deemed necessary (Kannan & Veazie, 2014)
- May be rational or irrational

# Prevalence of Medical Fears, Phobias, and Avoidance

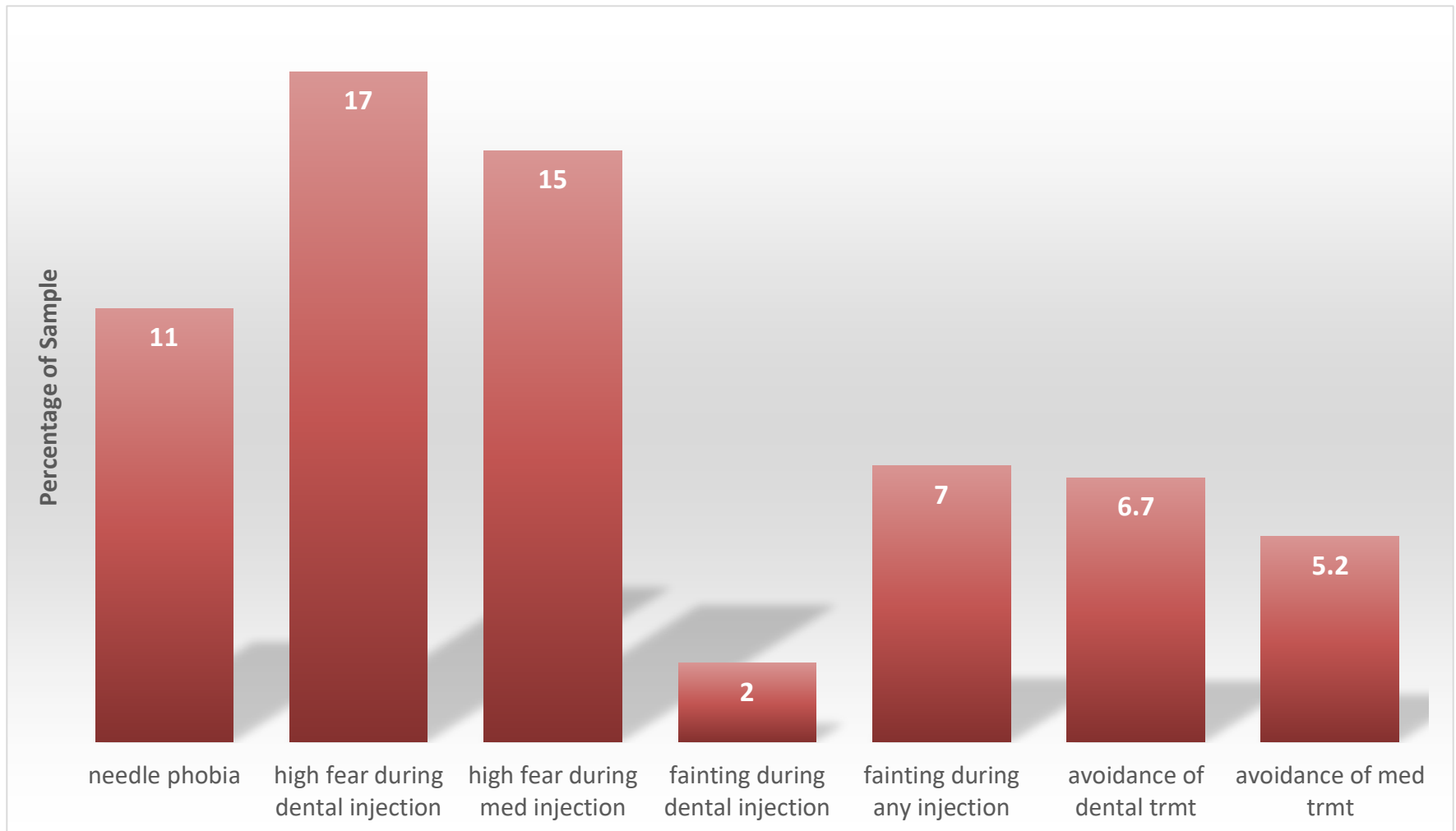


# Percentage Reporting Significant Fear of Needles

(Orenius et al., 2018; Taddio et al., 2012; Wright et al., 2009)



# Fear-related symptoms among 18 year-olds with dental anxiety (Vika et al., 2006)



# Subtypes

- Blood
- Injection
- Medical Procedures (e.g., MRI)
- Dental Procedures
- Surgery
- Medical Facilities/Personnel

# Acute Procedural Anxiety

- Under DSM-V, is a subset of specific phobia
- Specific to the procedure and its immediate effects (e.g., blood-injection phobia, dental phobia)
  - would not be diagnosed if anxiety is about implications or outcomes of the procedure



- The level of symptoms sufferers experience varies from distressing anxiety to intense panic and terror.
- Individual often feels as if they are about to die, lose control, or do something embarrassing.
- Most of all, they feel an overpowering urge to escape the situation.

# Consequences of Medical/Dental Phobias

- Dental Phobias
  - Oral Hygiene
  - Periodontal Disease
  - Increased Health Hazards
  - Social/Relationship Problems
- Medical Phobias
  - Health Risks
  - Increased Pain & Suffering
  - Avoidance of pregnancy, etc.
- Increased Long-Term Healthcare Costs
- Emotional Distress

# Assessment and Evaluation

- Structured Diagnostic Interviews
  - Anxiety Disorders Interview Schedule (ADIS)
  - Structured Clinical Interview for DSM Disorders (SCID)
- Questionnaires
  - Blood Injection Symptom Scale (BISS; Page et al., 1997)
  - Claustrophobia Questionnaire (CLQ; Radomsky et al., 2001)
  - Dental Anxiety Inventory (DAI; Stouthard et al., 1993)
  - Dental Fear Survey (DFS; Kleinknecht et al., 1978)
  - Corah Dental Anxiety Scale (CDAS; Corah, 1969)
  - Medical Fear Survey (MFS; Kleinknecht et al., 1996)
  - Medical Avoidance Survey (MAS; Kleinknecht et al., 1996)
  - Fear of Pain Questionnaire III (FPQ-III; McNeil & Rainwater, 1998)
  - Pain Anxiety Symptoms Scale (PASS; McCracken et al., 1992)
- Physiologic measures
  - Heart rate; blood pressure; skin conductance

# Example: Dental Fear Survey (Kleinknecht et al., 1978)

- 20-items rated on 1-5 scales to assess:
- Avoidance
  - e.g., Has fear of dental work ever caused you to put off making an appointment?
- Physiologic anxiety
  - e.g., When having dental work done, my muscles become tense...
- Ratings of anxiety/fear in specific dental situations:
  - e.g., Making an appointment for dentistry
  - Seeing the anesthetic needle
  - Having teeth cleaned

# Psychoeducation

- Provide clarifying information about the procedure
- Identify any mistaken beliefs and expectations
- Be aware of individual differences in need for information versus use of distraction (monitoring vs. blunting)
  - May be unhelpful for younger children
  - Unhelpful to warn of high levels of pain
- Clarify role of fear-avoidance-reinforcement cycle
- Reduces misattribution of psycho-physiological symptoms

# Decreasing Physiologic Arousal

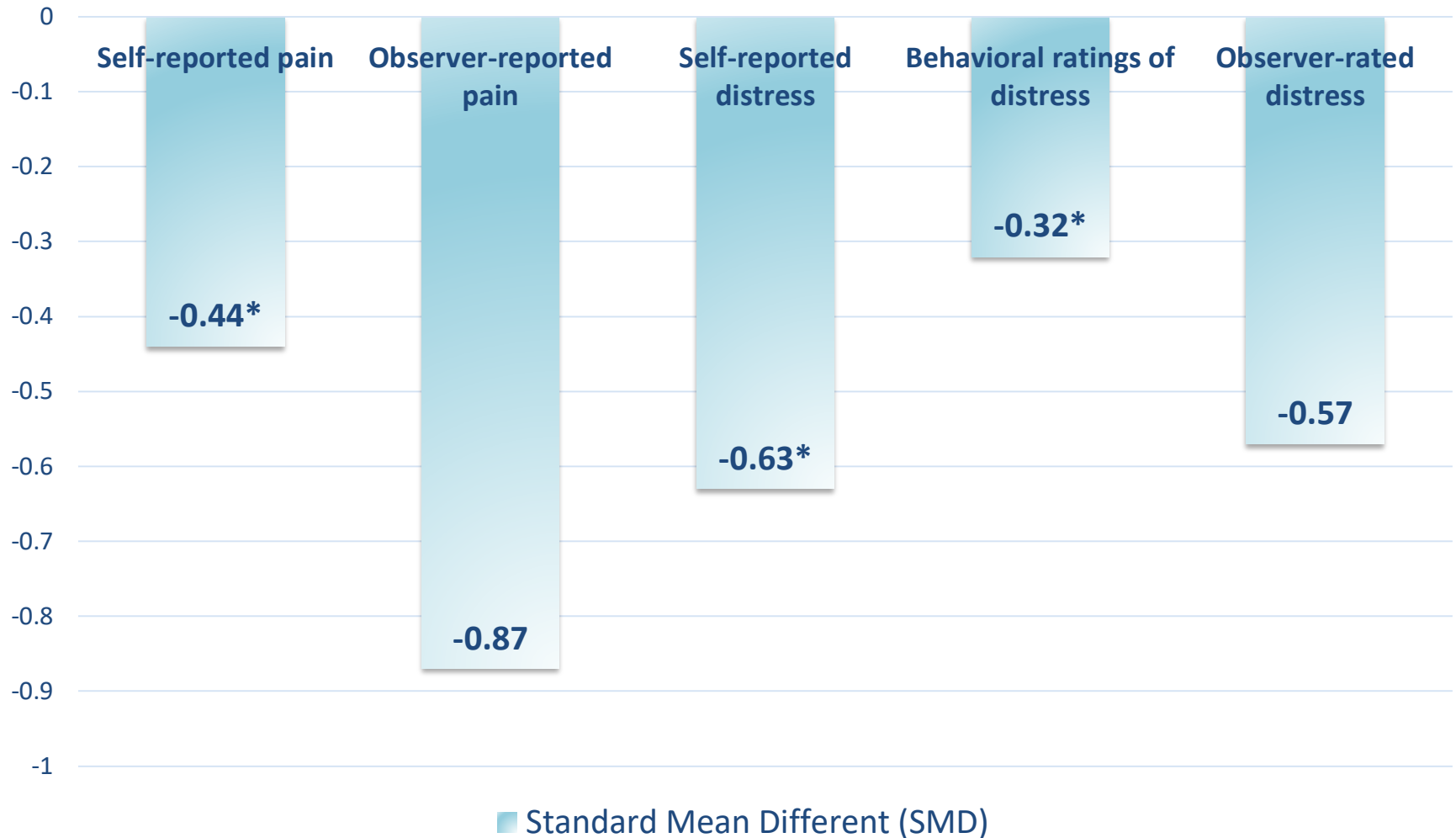
- Relaxation Training – Reduces physiological symptoms of anxiety
  - Deep diaphragmatic breathing (breathing out is key; 4-4-4 breathing)
  - Progressive muscle relaxation
  - Biofeedback
- Mindfulness Training
  - Reduces experience of emotional distress
  - Increases awareness of physiological sensations to enhance process of habituation to exposures

# Use of Distraction

- Appears to be useful to manage pain and milder fears of procedures, especially among kids ages 6-11.
- Age adapted:
  - Bubbles for younger children
  - Stories or movies for older children
- Differences between subtypes of distraction?
  - Unclear
  - May be slight advantage for interactive vs. passive

# Meta-analysis of distraction for needle-related pain and distress, N=2473

(Birnie et al., 2014)





# Cognitive Restructuring

- Challenge unhelpful, catastrophic cognitions about procedure
- Enhance self-perceived ability to tolerate the procedure and associated discomfort
  - Cognitive strategies to decrease experience of pain
- Problem-solving skills

# Imaginal and In Vivo Exposure

- Imaginal – Loop tapes; scripts
- Visual – Photos, Videos
- Progressive In vivo – Actual setting/situation
- Collaboration with Medical/Dental Professionals
  - Key to comprehensive and effective treatment

# Example of Fear Hierarchy for Dental Phobia

- Script about going into dentist for a checkup (3/10)
- View images of dentists (3/10)
- View images of dental tools (4-5/10)
- View video of mild dental procedure (x-rays, cleaning; 5-6/10)
- Lean back in office chair with mouth open (5/10)
- Walk into waiting room of dental office (6/10)
- Sit in dental chair and lean back (no procedure; 8/10)
- Sit in dental chair for brief exam (9/10)
- Experience dental cleaning (9-10/10)

# You-Tube therapy



## Safe and Effective Blood Draw

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3 ways to manage a fear of

# Mock Scanner at MGH



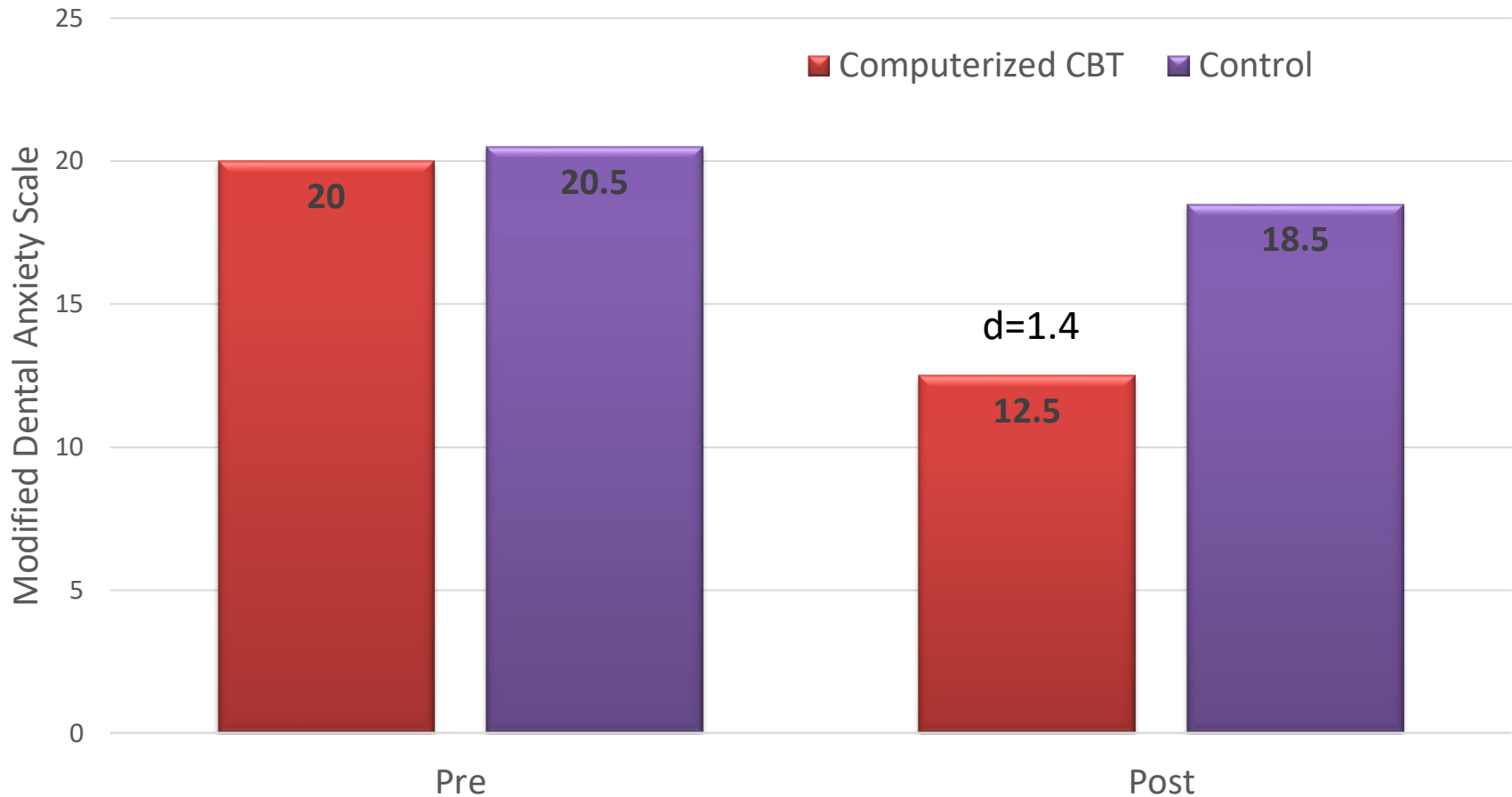
# Role of Applied Tension Practice

- Addresses drop in blood pressure (vasovagal reflex) that can accompany blood/injection phobias
- Sit in a chair and tense large muscle groups (arms, legs, trunk) for 10-15 secs
- Relax body for 20-30 secs (to return to baseline, not state of relaxation)
- Repeat 5 times
- Implement during exposure exercises

# Parental Involvement in Treatment

- Parental reactions impact child fears
- Bi-directional influences during adult-child interactions around medical procedures
- Parental presence during painful procedures may be helpful
- Coach parents around how to respond to child pain and distress
- Coach parents to implement their own anxiety management strategies

# Efficacy of Computerized Dental Injection Fear Treatment (N=84)



Heaton et al. J Dental Res 2013; 92(7): S37-S42



# Resources

- Bourne, EJ. (2015). The Anxiety and Phobia Workbook, 6<sup>th</sup> ed
- Chansky, T. (2014). Freeing Your Child from Anxiety
- Rapee, R. (2008). Helping your Anxious Child
- Ost & Skaret (2013) Cognitive Behavioral Therapy for Dental Phobia and Anxiety
- Davis, Ollendick & Ost. (2012) Intensive One-Session Treatment of Specific Phobias