



**EVMS**  
Eastern Virginia Medical School

# IMPROVED OUTCOME OF PTSD TREATMENT WITH ADJUNCTIVE ART THERAPY DURING COGNITIVE PROCESSING THERAPY

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# DISCLOSURES

- None of the authors have either financial or ethical conflict of interest.
- The opinions and conclusions herein are strictly those of the authors and do not represent those of the Department of Veterans Affairs nor the United States Government.

# Statement of the Problem

- Many veterans suffer from combat PTSD
- Evidence-based research
  - Based on general PTSD
  - Many veterans have incomplete responses to treatment

# COMBAT PTSD

- **DSM-V Criteria:**

- Exposure to actual or threatened death, serious injury or serious violence
- Presence of intrusion symptoms
- Persistent avoidance
- Negative alterations of mood and cognitions
- Marked alterations in arousal
- Duration of the symptoms is greater than one month
- Symptoms cause distress or impairment in social, occupational or other functioning
- Symptoms not due to another medical condition or substance use

- **Additional aspects:**

- Often traumatized by their own actions (moral injury)
- Combat environment is traumatic in itself

# MEMORY STORAGE

- Declarative memory is stored and consolidated in the hippocampus
- Amygdala modulates emotionally-connected memories
  - Cui, 2008
- Memory for aversive conditioned response is stored in the amygdala
  - Moscarello, 2015
  - Sui, 2014
- Pre-frontal cortical regions are involved in generalizing and conceptualizing fear
  - Rozeske, 2015

# PRIOR RESEARCH: PTSD & MEMORY

- Current PTSD studies hypothesize that traumatic memories are stored **nonverbally**
  - Gantt & Tinnin, 2009
  - Langer, 2011
  - Talwar, 2007
- Some investigators suggest that **dissociated** memories are best retrieved through the sensory, affective, visual, olfactory, auditory, and kinesthetic elements
  - Langer, 2011
- Dissociation of memory may be more severe in combat PTSD than in civilian PTSD
  - Johnsen & Asbjørnsen, 2008

# TREATMENTS FOR PTSD

- **Cognitive Processing Therapy (CPT)**
- Prolonged Exposure Therapy (PE)
- Cognitive Behavioral Therapy (CBT)
- Eye Movement Desensitization/Reprocessing (EMDR)
- Mindfulness
- Yoga
- **Art**, music and other complementary treatments

# ART THERAPY AND TRAUMA PROCESSING

- Art therapy **engages the senses** (visual, sensory, kinesthetic)
- Assists with externalization and emotional distance
  - Spiegel et al., 2006
- Can help patients process traumatic memories by **creating links between verbal and nonverbal memories**
  - Gantt, 2009
- Helps organize dissociated memories
  - Gantt, 2009

# ART THERAPY & PTSD

- Art therapy has been a successful tool in the symptom reduction and recovery of PTSD in civilian populations (childhood, rape, etc.)
  - Harber, 2011, Henderson, Rosen & Mascaro, 2007, Lyshak-Stelzer, Singer, St. John & Chemtob, 2007, Pifalo, 2007, Pifalo, 2009, Tripp, 2007
- Combat PTSD: virtually no studies and no randomized, controlled trials

# STUDY HYPOTHESES

- Veterans who received art therapy in addition to Cognitive Processing Therapy (CPT) would show a greater reduction in PTSD symptoms than those who received CPT alone
- Veterans who received art therapy in addition to CPT would show a greater reduction in depression symptoms than those who received CPT alone
- Veterans who received art therapy might process trauma differently or better than those with CPT alone
- Veterans might perceive art therapy as preferred to (or more beneficial than) CPT alone

# INCLUSION CRITERIA

- Randomized, controlled (not blind)
- Veterans with combat PTSD (not MST)
- PCL-M > 50
- Either no TBI or mild TBI
- No active substance use disorder
  - (remission ok)
- No active psychosis
- Both genders (only able to recruit 1 female)
- Veterans were all in residential treatment
- Subjects: 16 experimental, 15 control

# Measures

- PCL-M
- Beck Depression Inventory-II
- Semi-structured interviews
- Likert scale
- AT-PIA (art assessment)

# METHODS: COGNITIVE PROCESSING THERAPY

- Manualized, evidence-based therapy-12 sessions
- Utilizes cognitive restructuring through use of Socratic questions regarding pathologic thoughts
- Explores themes of trust, grief/loss, intimacy, guilt
- Verbal, with written “practice assignments”
- Written trauma narrative is repeated twice
- Limitation: Many patients discontinue treatment early

# METHODS: ART THERAPY PROTOCOL

**Session 1:** Pretest, AT-PIA, interview, PCL –M score

**Session 2:** Psychoeducation, goal setting, safety

**Session 3:** Address and identify symptoms and triggers

**Session 4:** Create a visual trauma narrative, PCL-M score

**Session 5:** Integration of self before the trauma and self in the present

**Session 6:** Identify grief and loss caused by combat trauma

**Session 7:** Reconstruct worldview and self-concept

**Session 8:** Posttest interview, review of trauma narrative and all other artwork, goal setting, PCL-M score

# VISUAL ART TRAUMA NARRATIVE

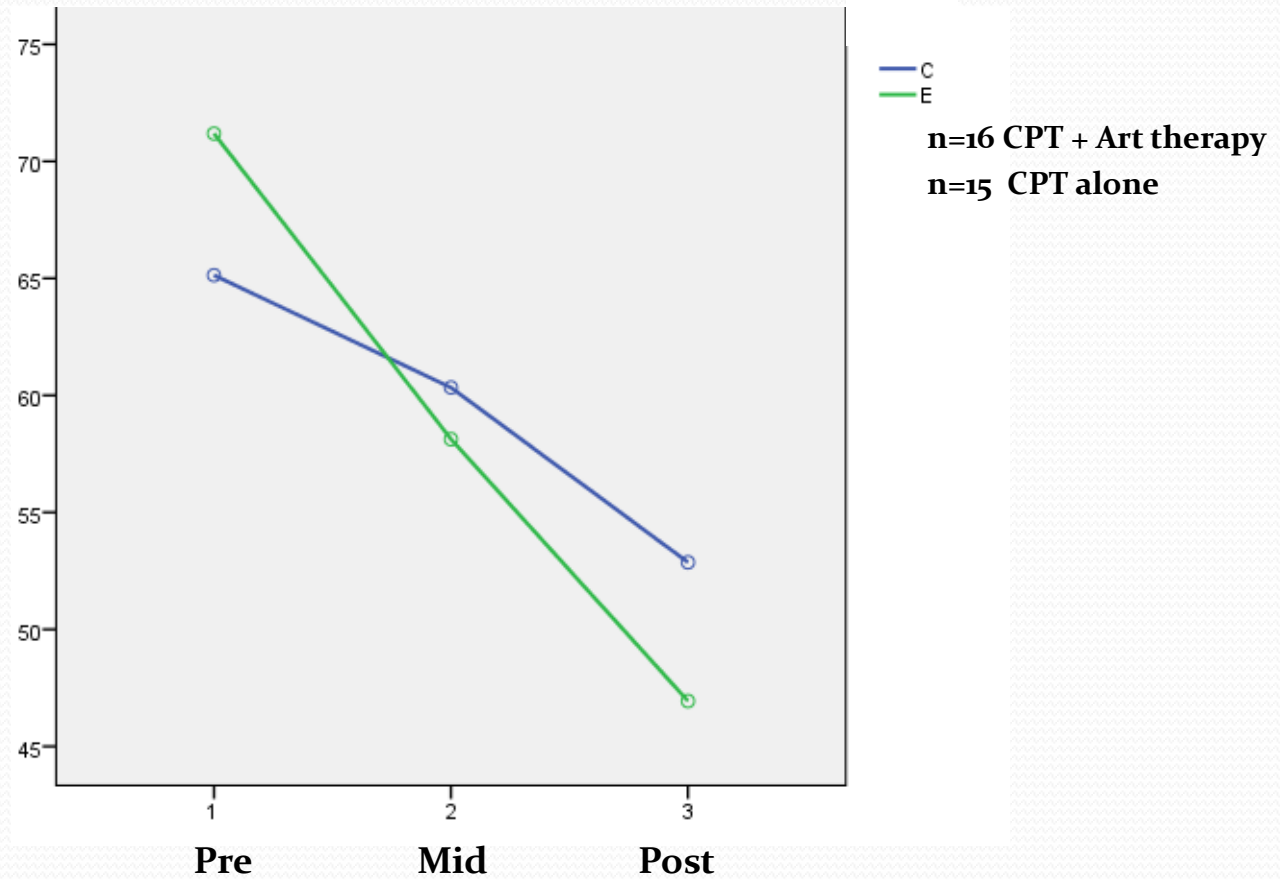
1. Create an image of a time **before the trauma** that you felt **peaceful and safe**; a positive memory.
2. Create an image of the **last moment you remember directly before** the trauma
3. Create an image of what happened **during the trauma**
4. Create an image of a moment **right after the trauma**
5. Create an image of a time when you were **safe from the threats of war**
6. Create an image of a **time when you tried to self-soothe**

# PCL-M SYMPTOMS

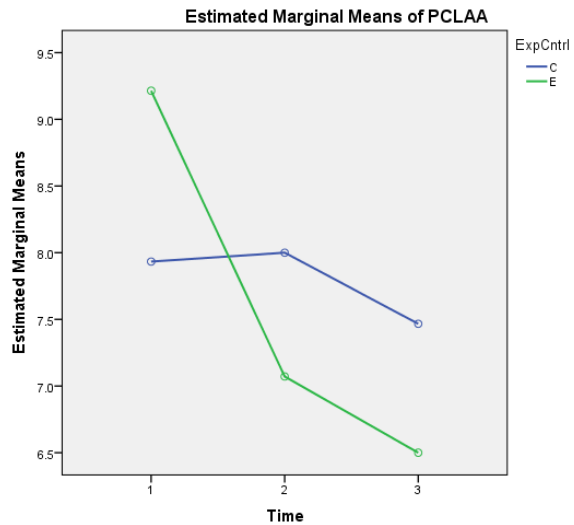
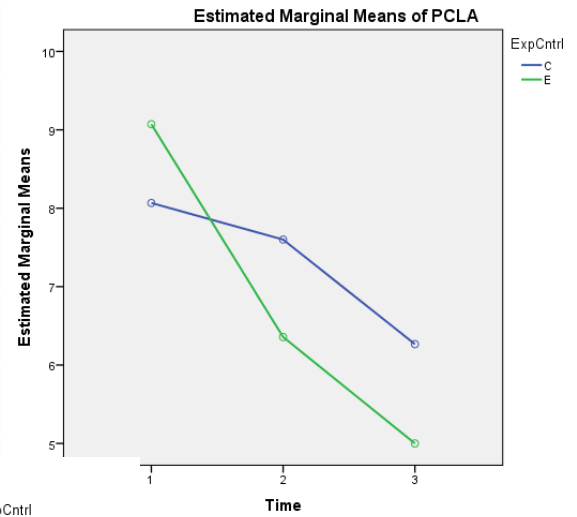
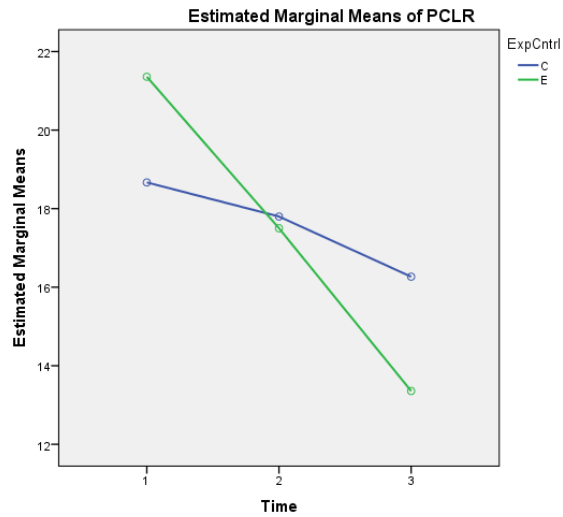
- Separate factors have been proposed-3 vs. 4 vs. **5-factor** model (currently best fit)
  - Re-experiencing, Numbing, Avoidance, Dysphoric Arousal, Anxious Arousal,
    - Pietrzak, 2012
- Cut-off of 50 represents moderate to severe symptoms (recent DOD & VA studies proposes 31 and 39 cut-offs)
  - Gore, 2013, Pietrzak, 2012
- High-risk behaviors including alcohol use and aggression are associated with scores over 30
  - Brown, 2012
- Changes of 5-10 points are clinically significant

# RESULTS: PCL-M SYMPTOMS

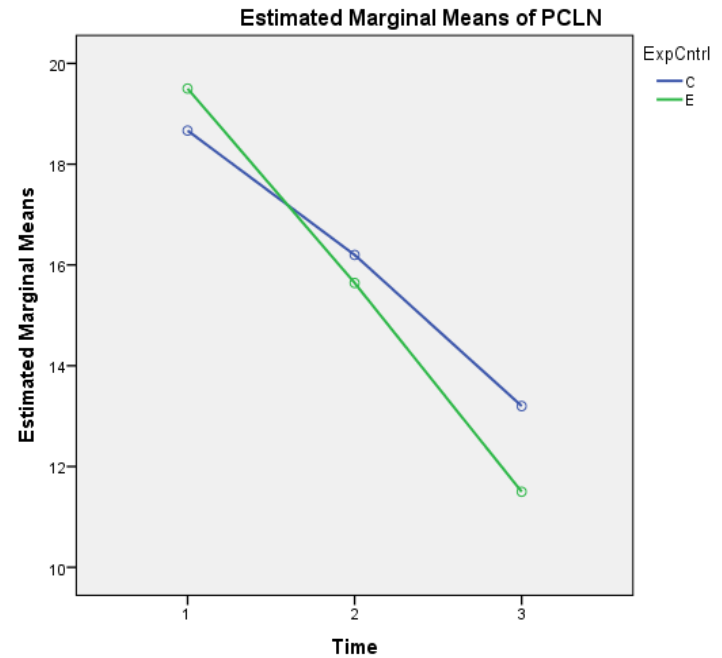
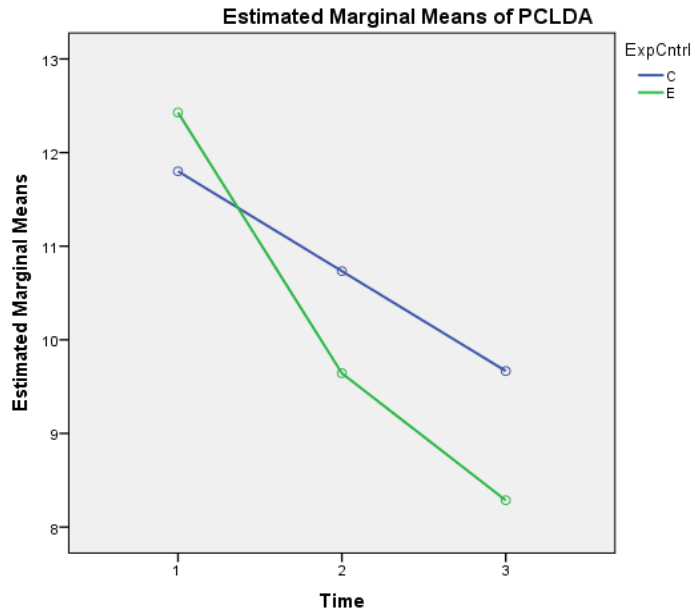
PCL-M  
Total  
Score



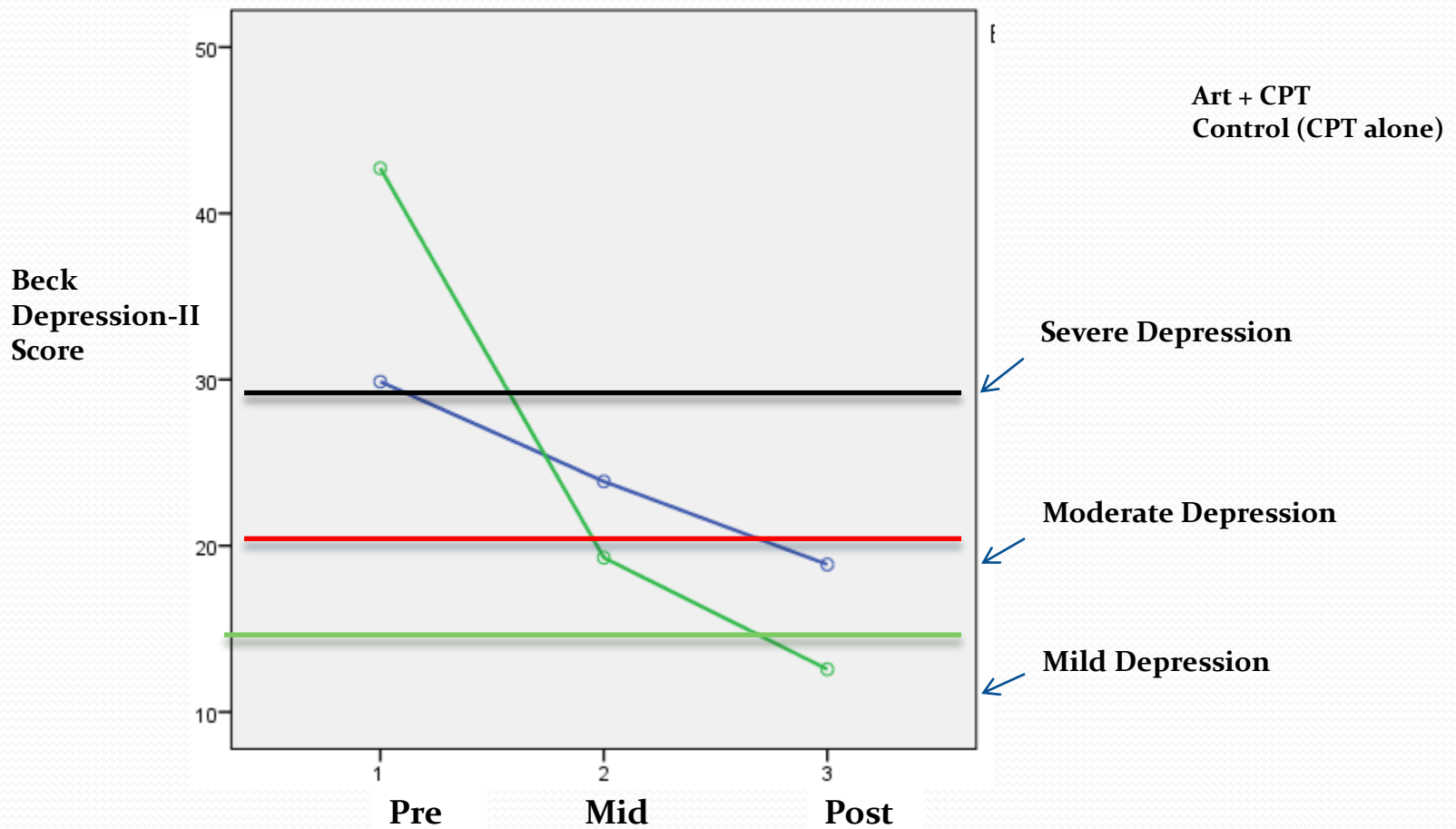
# PCL-SUBSCALE CHANGE: Statistically Significant



# PCL-SUBSCALE CHANGE: Non-Significant

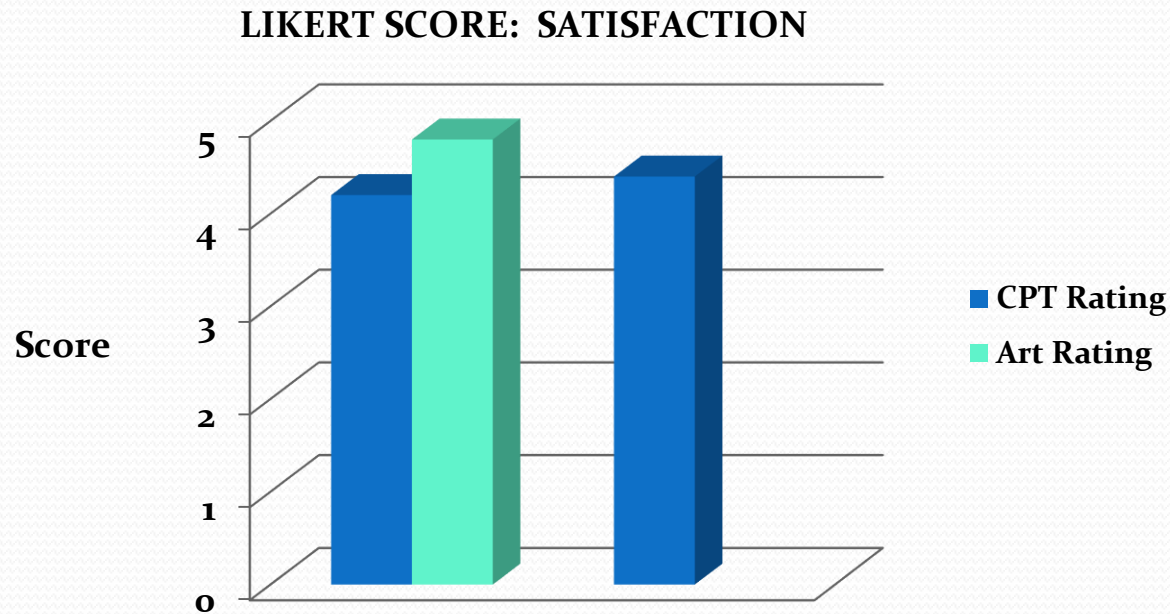


# RESULTS: DEPRESSION SYMPTOMS



# SATISFACTION

- When asked how beneficial treatment was...  
(5=highest)



# POST-TEST INTERVIEW COMMENTS

- Art therapy...“breaks through the ice and get to heavier matters”
- “It is easier for me to draw than write. It’s hard for me to put what I’m thinking into words.”
- “Feel I learned a lot and was able to do a lot of soul searching”
- “I think the most difficult is often the most helpful. So, actually drawing out the traumatic event...” (was the most helpful thing)
- Didn’t like the collage...”like picking pretty pictures”
- Review of all one subject’s artwork helped him see differences in his self-perception between pre- and post-treatment.
- “It helped me visualize trauma and emotions and connect it at the same time.”

# Unique Contributions of Art Therapy Protocol

- Trauma processing
  - Distance
  - Access to new memories
  - Auditory processing
- Greater improvement in depression scores

# SAMPLE TRAUMA NARRATIVE



1. Before the trauma when peaceful and safe

2. Last moment before the trauma

3. During the trauma

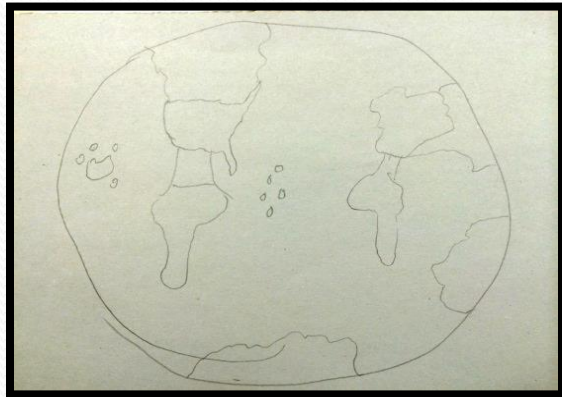
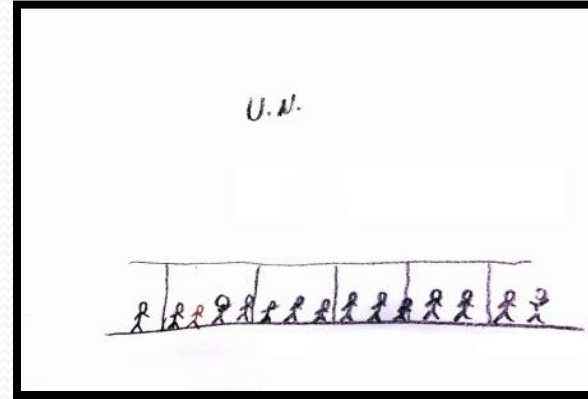
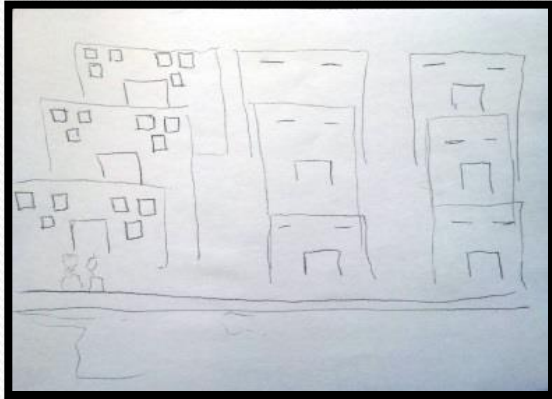
4. Right after the trauma

5. Safe from the threats of war

6. Self-soothing



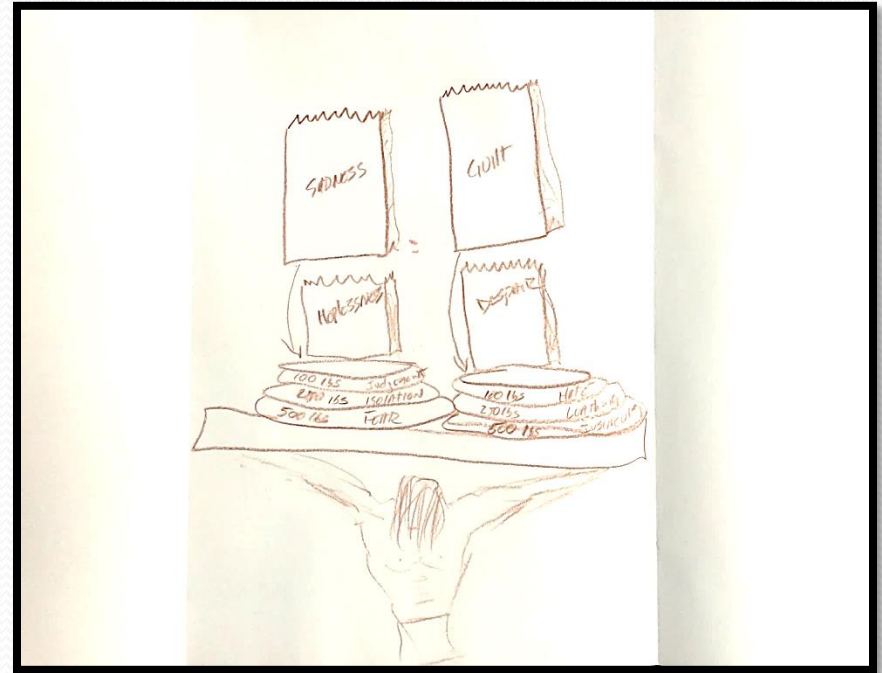
# COMMON THREAD: CONTAINMENT



# Pre and Post-Treatment Artwork



**Pre-Treatment:** symptoms of inner chaos, boundary issues



**Post-Treatment:** increased organization, containment

# CONCLUSIONS

- Subjects reported improved recall and integration of memories
- Only one subject reported more distress or withdrew from art therapy whereas 40% of control subjects terminated CPT and left program early
- Subjects who received art therapy were more satisfied with it than with CPT
- Statistically significant improvement in both PCL-M and Beck with treatment in both groups ( $<0.001$ )
- Statistically significantly greater reduction in PTSD and depression symptoms was noted
- Numbing and anxiety dropped markedly AFTER Session IV of CPT (trauma account) for both groups; however art & CPT group had a much steeper reduction in symptoms prior to Session IV
- Most subjects reported they would like to continue art therapy

# LIMITATIONS

- Small sample size (pilot project)
- Only one female included
- This is a subpopulation of veterans with severe symptoms
- Most subjects had prior substance use disorders\*
- No long-term follow-up to determine if gains persist
- No assessment of intangible gains of art therapy

# IMPLICATIONS FOR FUTURE RESEARCH

- Increase sample size
- Group vs. individual art therapy?
- Which of the interventions helped?
  - Subjective statements vs. objective
- What is the mechanism of improvement?
  - Role of therapeutic alliance vs. therapy itself
- How do we assess improved cognition?
- Randomize to CPT alone vs. art therapy alone?

# ACKNOWLEDGMENTS



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- Ms. Campbell designed and conducted the art therapy intervention in partial fulfillment of her Master's degree in Art Therapy at Eastern Virginia Medical School (EVMS).
- Dr. Sarah Deaver is the Principal Investigator at EVMS.
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