

Effects of Equine-Assisted Learning on Firefighters' Psychological Stress: A Pilot Study



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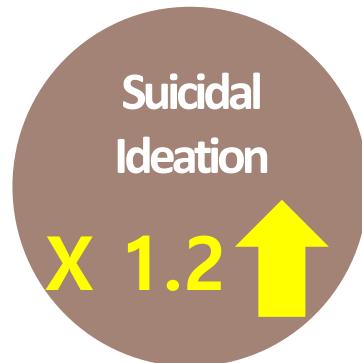
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Psychological Stress in Firefighters

- Firefighters are frequently exposed to traumatic events on the job.

The prevalence of psychological disorders is higher in Korean firefighters than in the general population.



Interventions & Limitations

Conventional Interventions for Firefighters

Cognitive Behavioral Therapy

Eye Movement Desensitization
and Reprocessing

Medications

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Low participation

8 in 10 firefighters

did not apply for compensation for injuries.

Due to Worries about

- ✓ **Stigmatization**
- ✓ **Negative performance evaluation**

Equine-Assisted Learning and Psychological Benefits

Equine-Assisted Learning(EAL)

- Experiential learning approach
- Provides equine assisted activities
- Promotes the development of life skills for educational, professional, and personal goals

Psychological Benefits of EAL

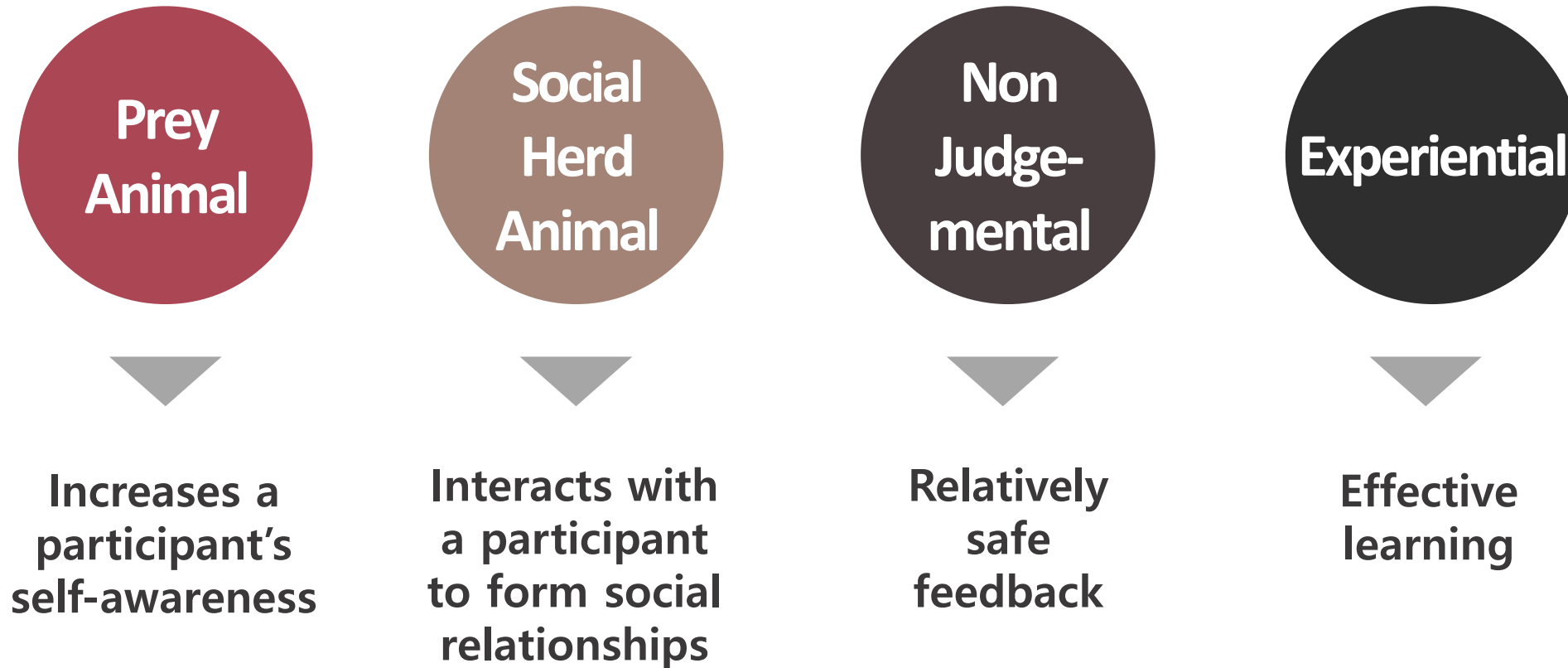
from the previous studies with Veterans

✓ Improves

- Self-mediation coping skills
 - Temper control
 - Concentration

✓ Relieves PTSD symptoms

Why is it Beneficial to Utilize a Horse ?



Research Aims

Effects of Equine-Assisted Learning on Firefighters' Psychological Stress: A Pilot Study

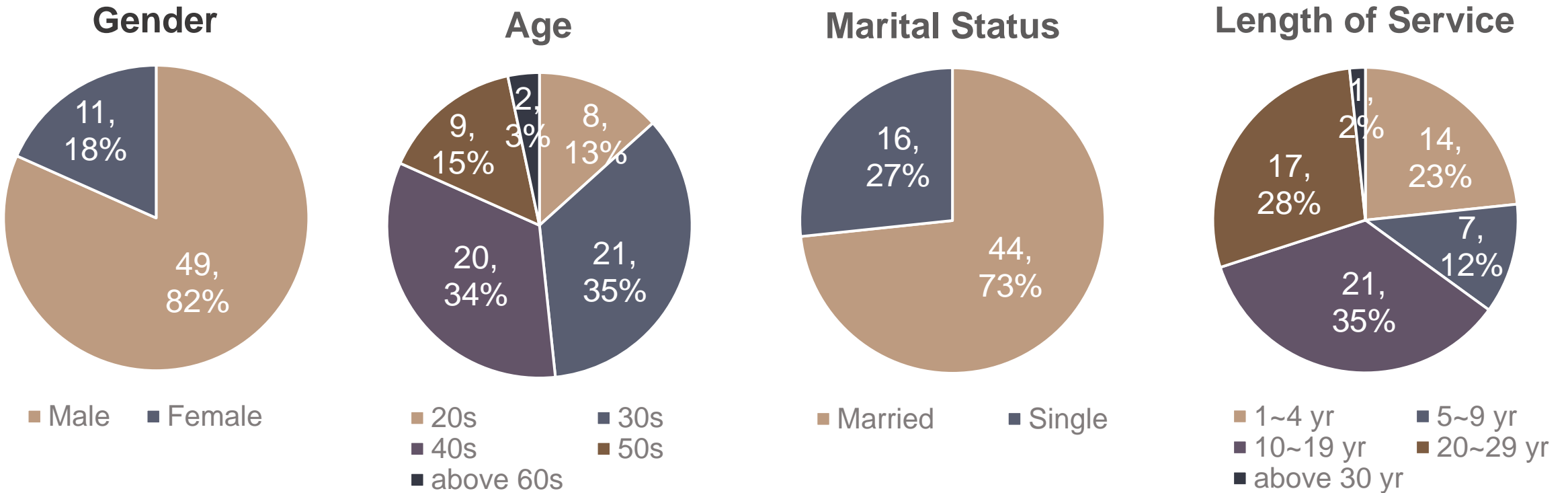
Explores the feasibility of field application of the EAL program

Determine the safety and efficacy of the program

Generate evidence for general use of the program

Demographic Information of Participants

60 firefighters were recruited from 9 provinces and 2 cities across South Korea.

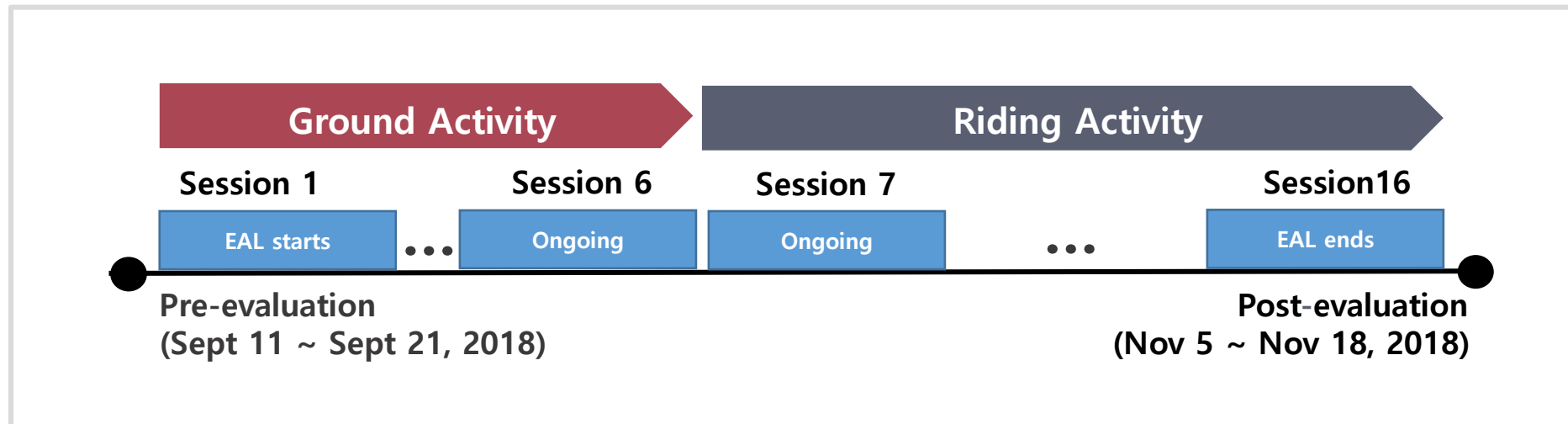


EAL Program

Session number	Activities	Objectives	
		Horse Skills	Life Skills
1	Orientation	- Program introduction - Safety education	Starting a new thing
2	Observing horse behavior	Approaching and greeting a horse	Getting to know horses
3	Grooming	Learning how to use grooming tools	Learning new skills
4	Leading a horse	Leading the horse using a lead rope	Leadership
5	Desensitizing	Introducing an unfamiliar object to a horse	Building trust
6	Harnessing	Learning about horse tack and how to use it	Implementing in sequence
7	Mounting & dismounting	- Mount and dismount - Basic riding posture	Self-confidence
8	Walking and halting	Using verbal aide and reins, walking and halting	Sense of control
9	Simple course work	Practicing how to use rein at walk	Planning
10	Interactive vaulting	Performing simple movements on the horse	Improvement in physical functions
11	Walk and trot 1	Practicing posting at trot	Coping with challenge
12	Walk and trot 2	Speed control at trot	Self-Control
13	Changing directions	Changing directions at trot	Communication with horses
14	Trot in a course 1	Playing games in a course (designed by instructors)	Concentration
15	Trot in a course 2	Playing games in a course (designed by participants)	Creativity
16	Wrap up	Free riding and reflection	Sense of accomplishment

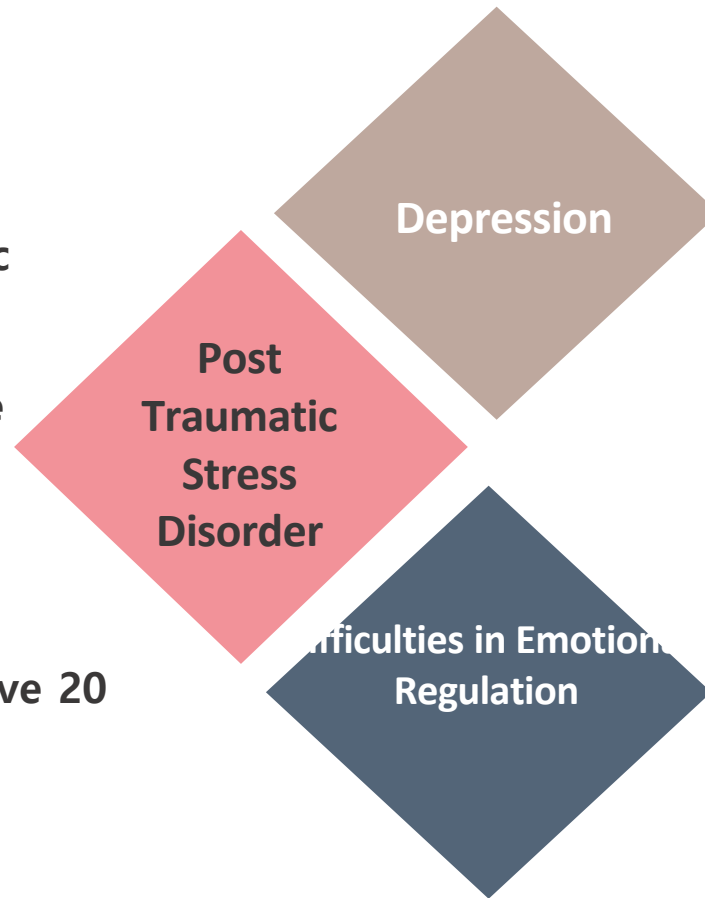
Research Procedure

- Period: September 11th, 2018 ~ November 18th, 2018
- A total of 16 sessions for eight weeks (twice a week)
- One-group pretest-posttest design
- Before starting the survey and EAL program, the Trauma and Psychological First Aid Training was provided to effectively deal with possible psychological crises.



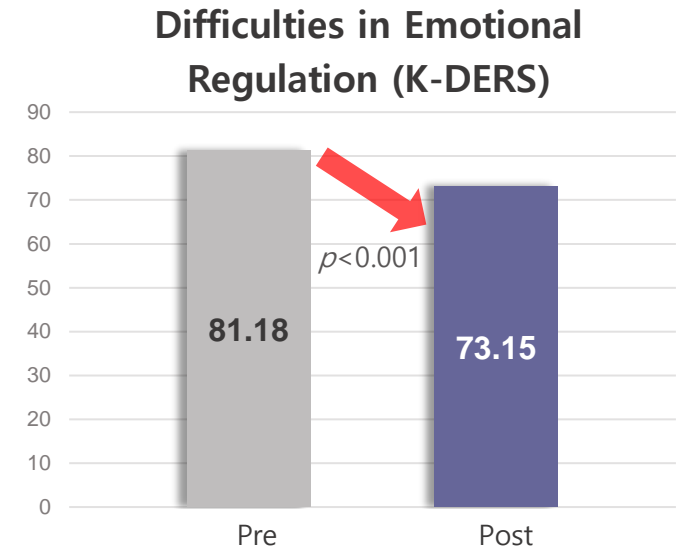
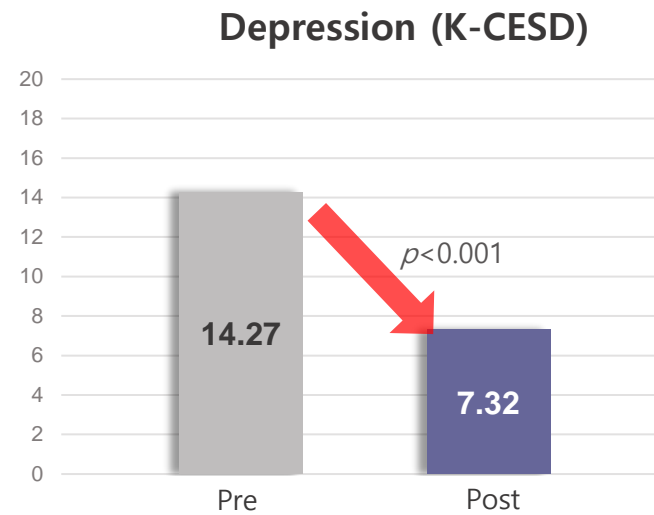
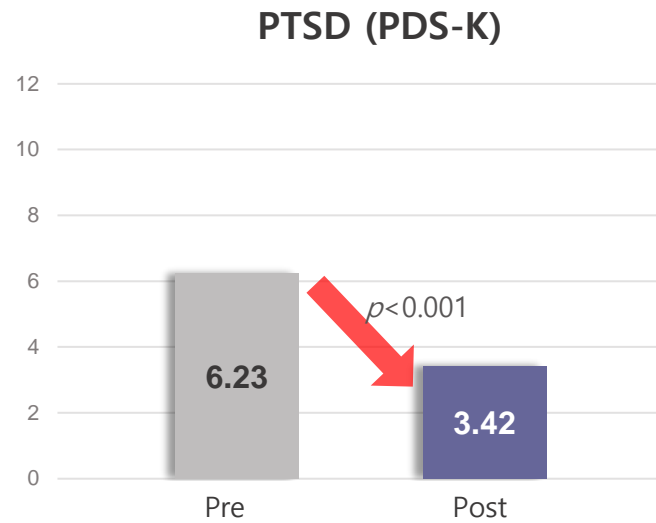
Measurements

- The Korean versions of the Posttraumatic Diagnosis Scale (PDS-K)
- Participants divided into 2 groups by the scores of PDS-K
 - * Posttraumatic Stress Symptom (PTSS)
 - 1) PTSS risk group(n=28)
 - High risk PTSD(n=2): PDS-K score above 20
 - Subsyndromal PTSD(n=26)
 - 2) PTSS non-risk group(n=32)

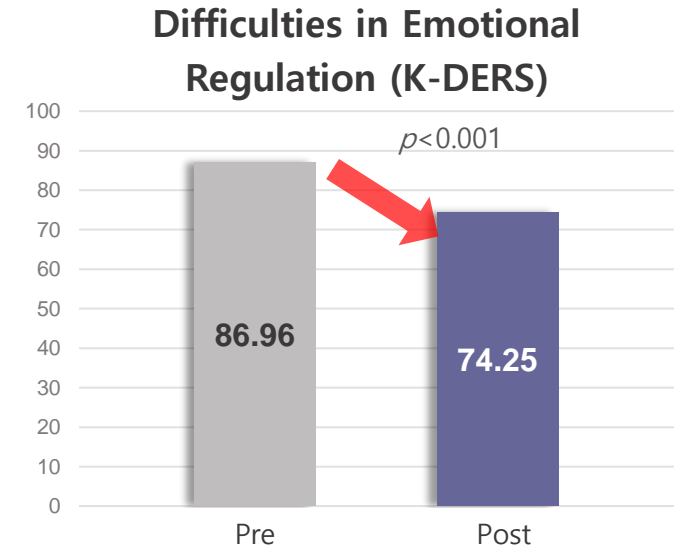
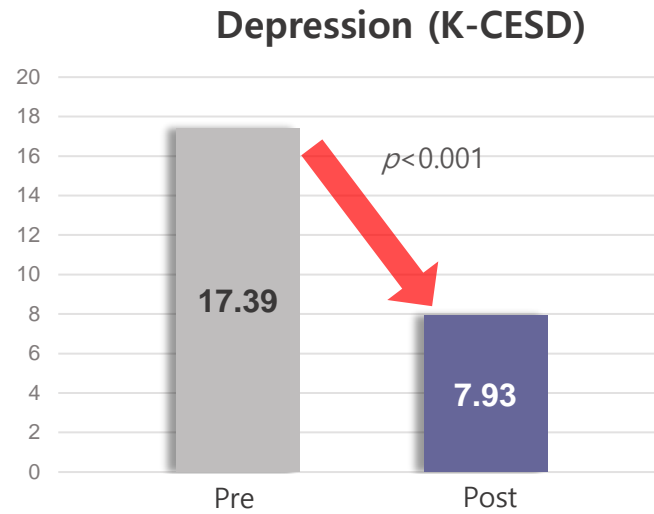
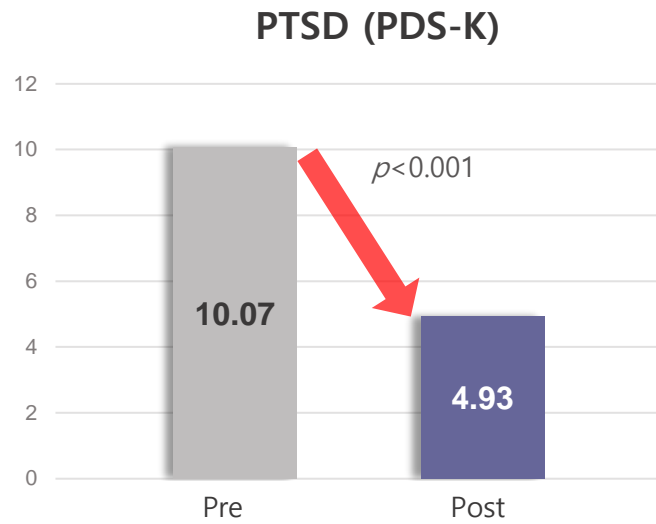


- The Center for Epidemiological Studies Depression Scale (K-CESD)
- The Difficulties in Emotional Regulation Scale (K-DERS)

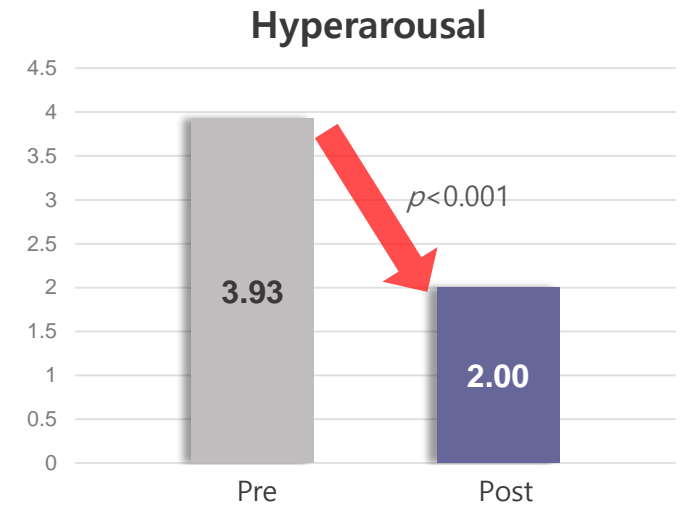
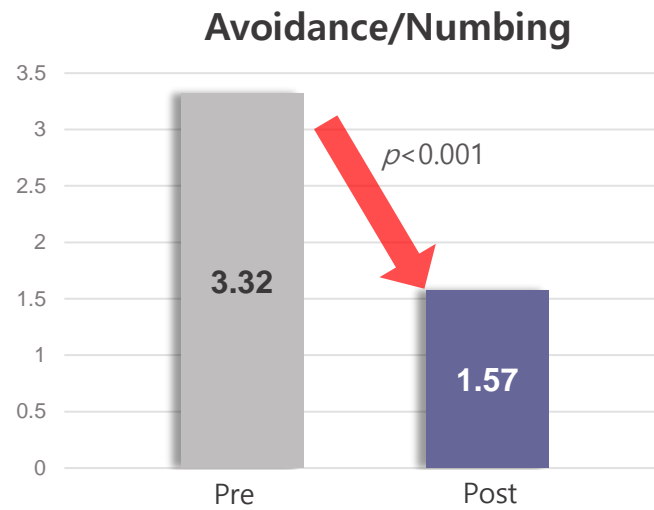
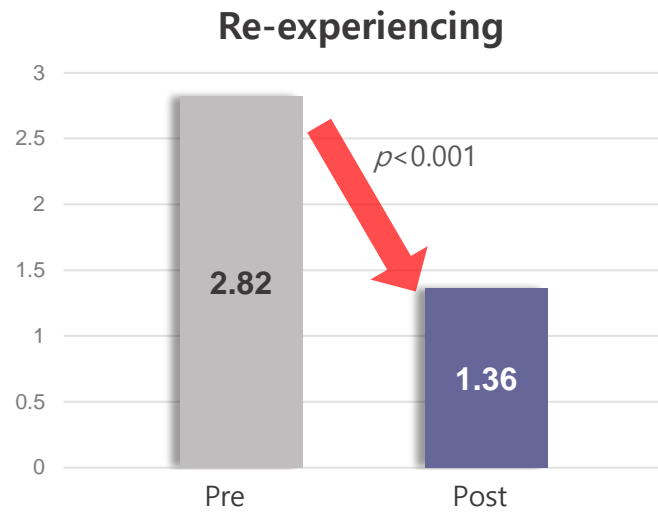
Results of Paired T-Tests for All Participants (N=60)



Results of Paired T-Tests for PTSS Risk Group (N=28)



Results of Paired T-tests of PDS Sub-scales for PTSS Risk Group

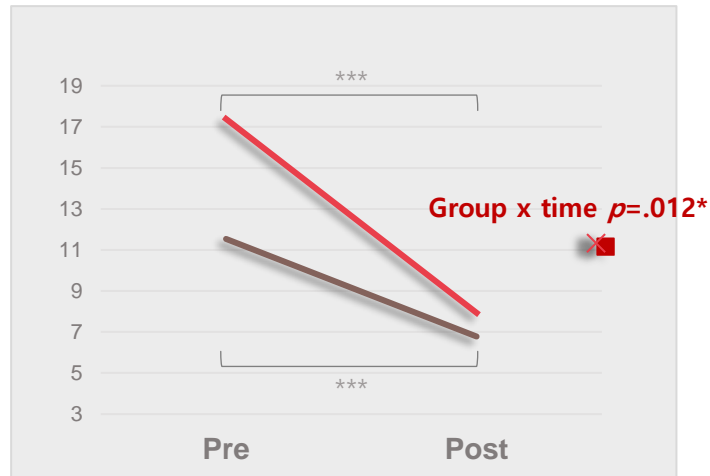


Results of Repeated Measures ANOVA between PTSS Non-risk Group & PTSS Risk Group

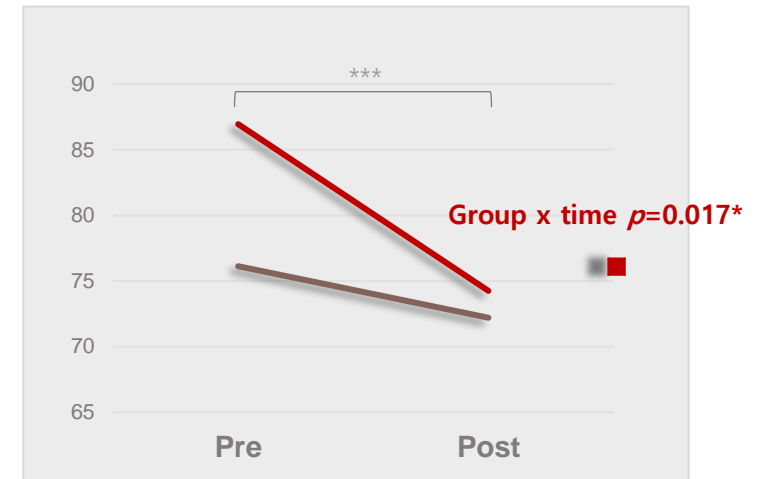
PTSD (PDS-K)



Depression (K-CESD)



Difficulties in Emotional Regulation (K-DERS)



—●— PTSS non-risk group
 —■— PTSS risk group

Conclusions

- EAL was effective in alleviating PTSD, depression, and difficulties in emotional regulation in the entire group of firefighters.

- Greater improvement in psychological stress was found in the PTSS risk group than in the PTSS non-risk group.

- The study successfully verified the feasibility and safety of EAL in South Korea.

- For future research, there is a need to include a control group in the experimental design for more rigorous verification of the effectiveness of EAL.

Thank You

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