



# Hyper Realistic Immersion Training Directly Improves Resilience in Medical Personnel. Does It Affect Post-Traumatic Stress Disorder (PTSD)? Can It Be Used on First Responders?



Elias Leavitt, OMS-III, 2LT, US Army; Sarah Szybist, OMS III, 2LT, US Air Force; Renato Rapada, PGY-I, CPT, US Army; Anthony LaPorta, MD, COL(RET), US Army; Gail Singer-Chang, Psy-D, MA, MS; Natalie Nevins, DO, US Army; Tuan Hoang, MD, CAPT, US Navy; Reginald Franciose, MD; Michael Czekajlo, MD, PhD; Kelly McDonald, PhD; Roy Alson, MD, PhD; Niela Darmani; Marian Safaoui, MD

## BACKGROUND

“Hardiness” is a generalized mode of functioning that influences people’s interpretation of the world and helps make sense of their experiences. Its components, Challenge, Commitment, and Control, facilitate a flexible, confident, and passionate approach to life that ensures a strong degree of resiliency. These components are important in the development of military personnel in their ability to recover quickly and perform optimally during times of stress.

## METHODS

This study evaluated 35 military medical students who completed the Intensive Surgical Skills Course (“cut-suit week”), an immersion-based training exercise held at the end of April 2018 at Strategic Operations in San Diego, CA. During cut-suit week, students rotate through various medical and surgical roles in mass casualty scenarios of increasing stress, as well as attend lectures on various topics of military medicine. Students took the Hardiness Resilience Gauge (HRG), created by Multi-Health Systems Inc, before and after the course. HRG is a 28-item questionnaire measuring hardiness that results in a Total Hardiness score and scores on each of the Challenge, Control, and Commitment subscales. Students answer the questions on a scale of 0 to 3, with 0 meaning “Not at all true” and 3 meaning “Completely true”. Scores are generated by summing students’ responses on the scale and are presented for Time 1 (prior to cut-suit week) and Time 2 (after cut-suit week).

Sample questions:

- Changes in routine are interesting to me.
- My choices make a real difference in how things turn out in the end.
- It is up to me to decide how the rest of my life will be.

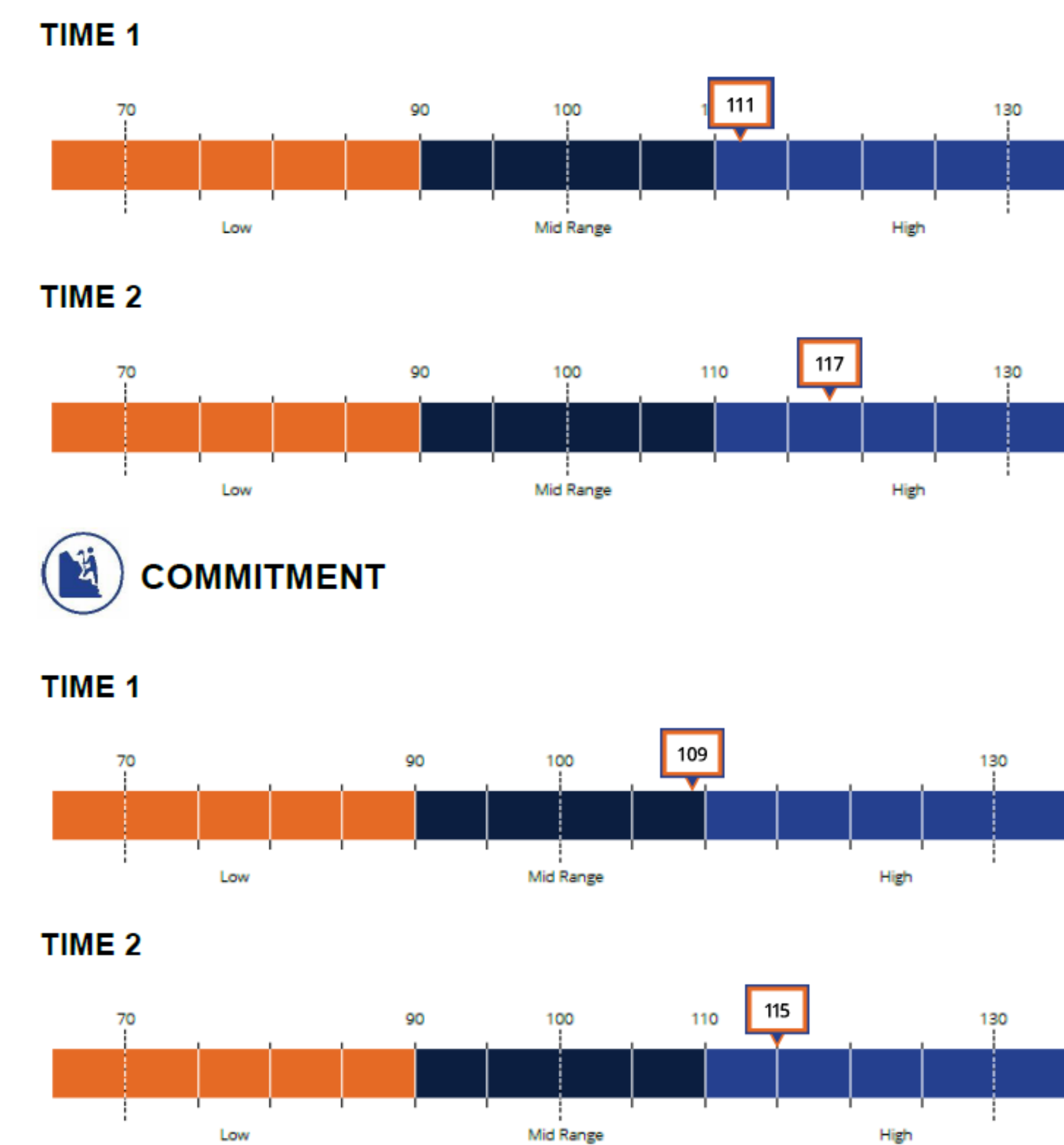
## THE HARDINESS MODEL

**CHALLENGE:** Seeing change and novelty as exciting and as an opportunity for you to learn and grow

**COMMITMENT:** Having a sense of self-efficacy and the belief that you can influence outcomes in your life

**CONTROL:** Being engaged and seeing most parts of your life as interesting and meaningful

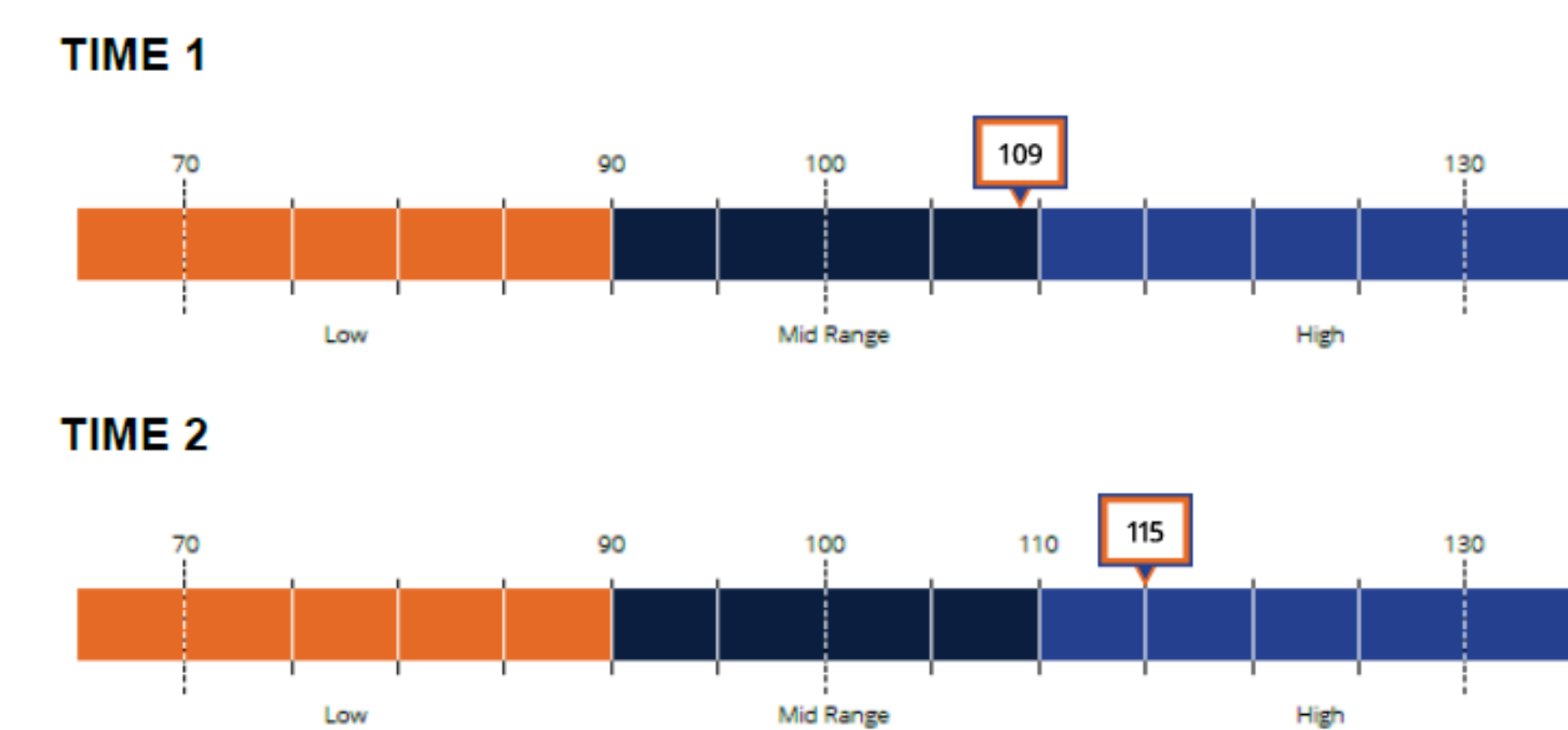
### TOTAL HARDINESS



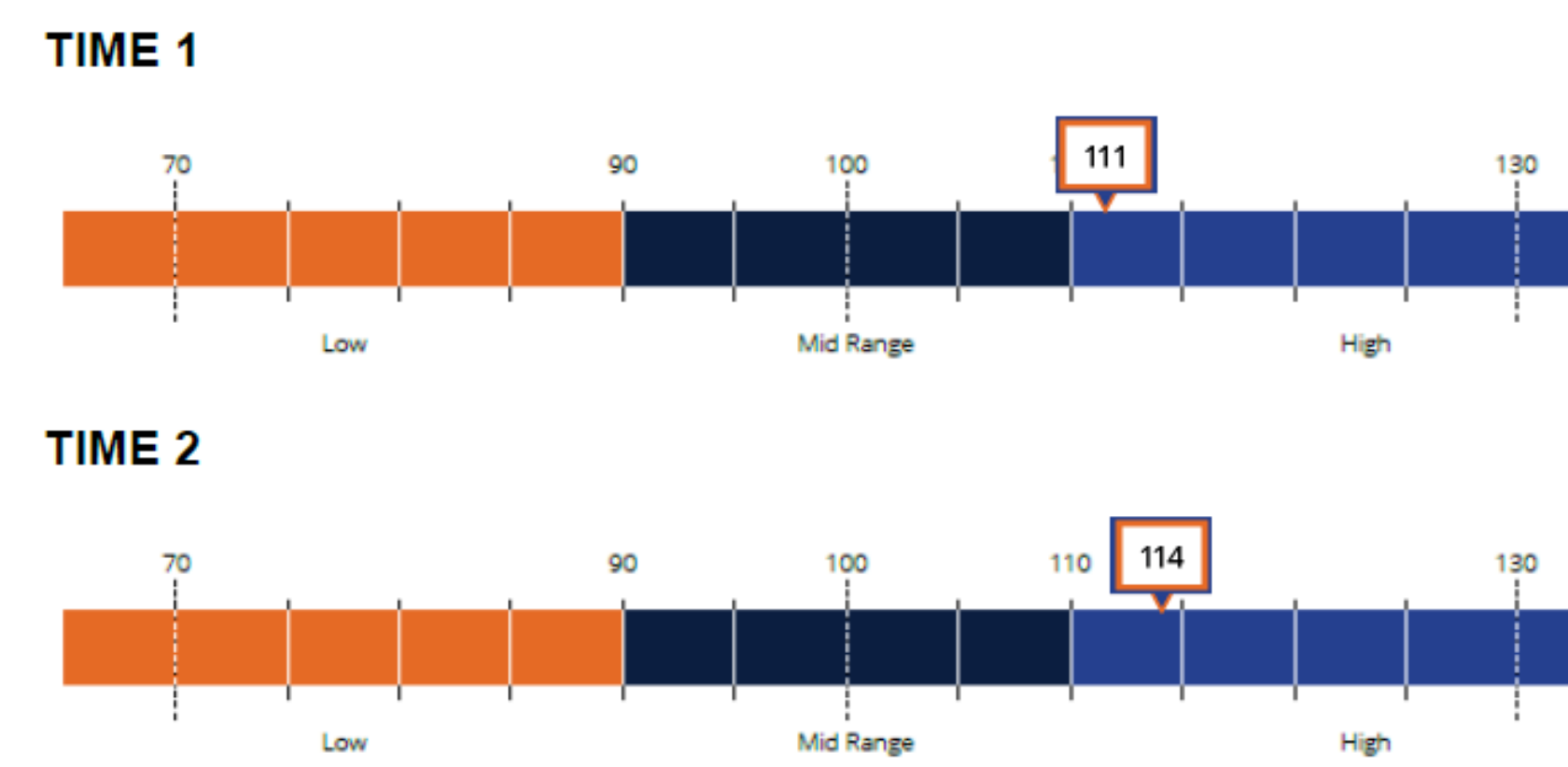
### CHALLENGE



### COMMITMENT



### CONTROL



**FIGURE 1:** Scores for Total Hardiness, Challenge, Commitment, and Control. Time 1: before cut-suit week. Time 2: after cut-suit week



**FIGURE 2.** A military medical student, in the role of a physician, attends to an injured patient during a training exercise.



**FIGURE 3.** A military medical student participates in a trauma scenario in the role of an injured patient.

## RESULTS

All of the scores presented are standard scores, with means of 100 and standard deviations of 15. At both time points, on average, students scored in the Mid (90-110) to High (110-130) range for Total Hardiness, Challenge, Control, and Commitment. The average Total Hardiness scores increased from 111 to 117,  $t(34) = 5.52, p < 0.001$ . The average Challenge scores increased from 112 to 118,  $t(34) = 3.84, p = .001$ . The average Control scores increased from 111 to 114,  $t(34) = 2.38, p = .02$ . The average Commitment scores increased from 109 to 115,  $t(34) = 5.42, p < .001$ .

## CONCLUSION

The increase in students’ Total Hardiness, Challenge, Commitment, and Control scores over the course of one week shows the efficacy of immersion training in changing the perception of self and of one’s surrounding environment. The use of training exercises that create stressful, simulated events in developing one’s resiliency and hardiness can potentially aid in the training and development of military groups and medical personnel, including first responders. Further investigation regarding the utility of “cut-suit week” trainings for the management and/or prevention of PTSD may also be explored in future studies.

## REFERENCES

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This is solely the opinion of the authors of this study and not the US Military. We have no disclaimers or disclosures.