

Stress inoculation and medical education

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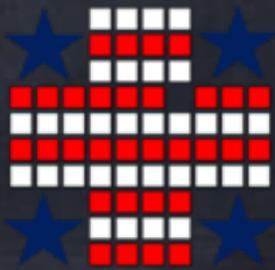
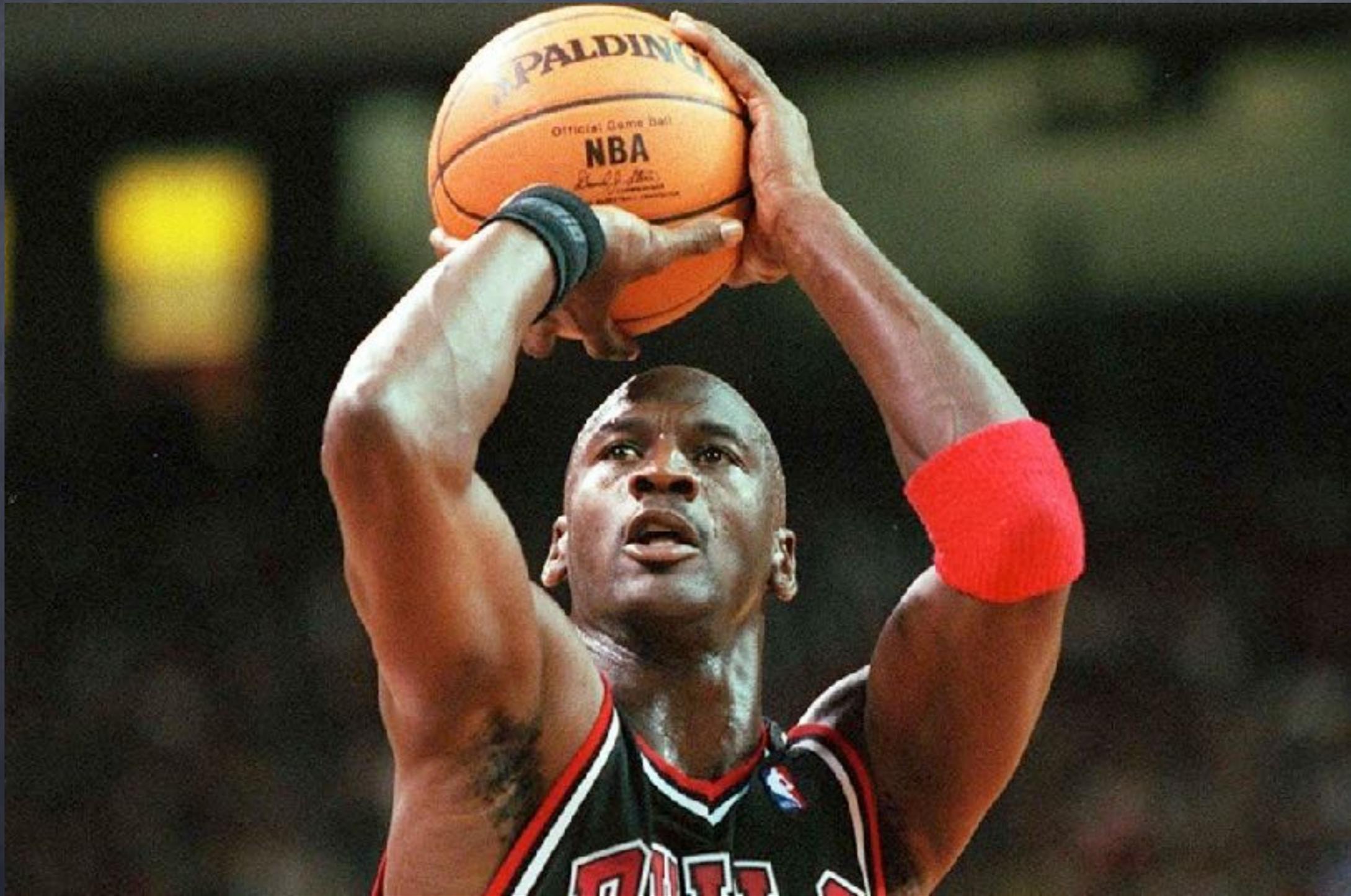
Naval Medical Center Sand Diego

Objectives

- The case for stress inoculation
- Stress responses/effects
- Strategies and education

Disclaimer

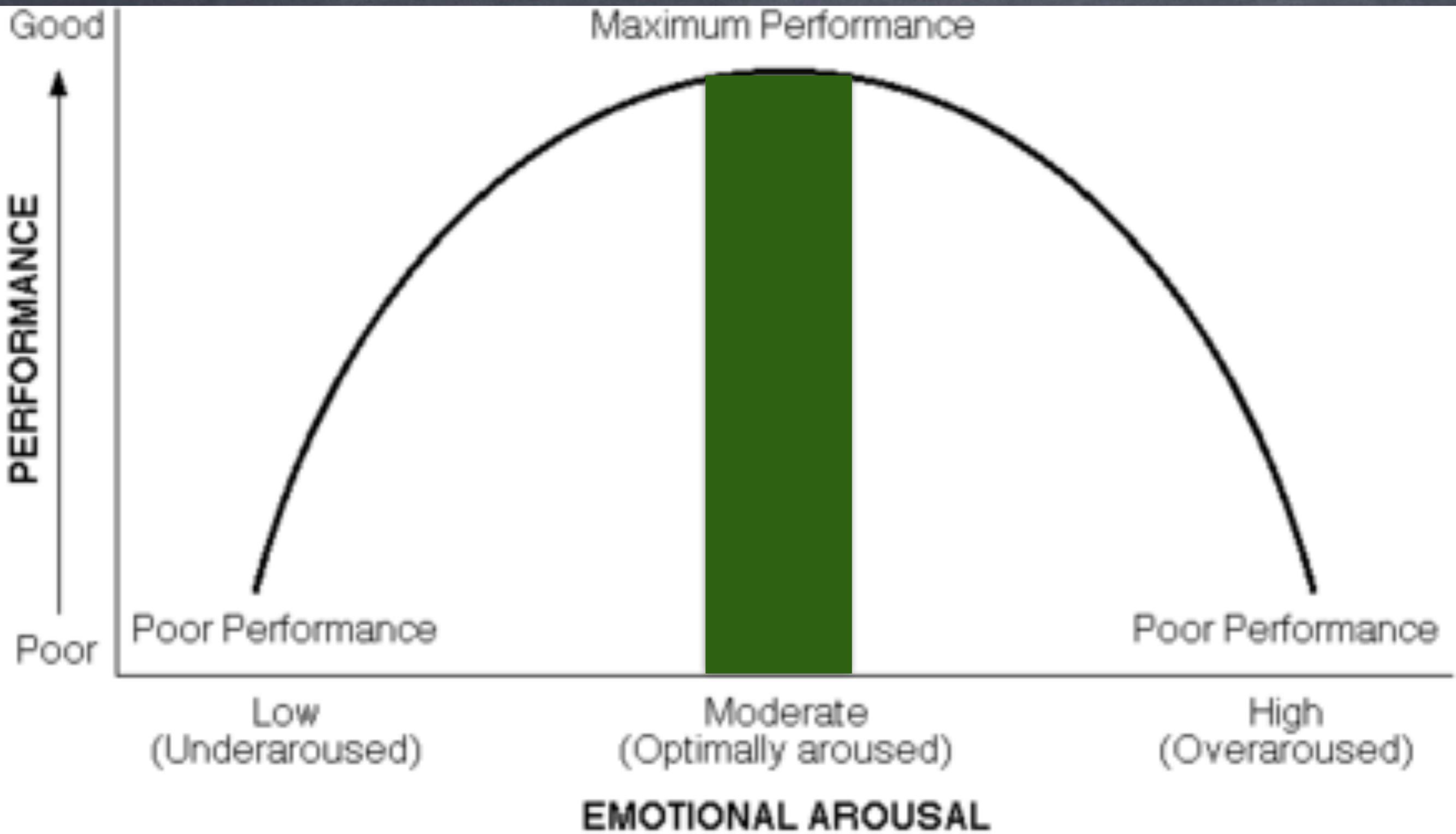
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• The secret of success in life is for a man to be ready for his time when it comes.

-Benjamin Disraeli



Andersen, C., 1976

Stress inoculation

- Phase 1: Conception/education
- Phase 2: Skill acquisition and rehearsal
- Phase 3: Apply w/ increasing stress

Foreword by bestselling author
Brad Thor



WARRIOR MINDSET

Mental Toughness Skills
for a Nation's Peacekeepers

Michael J. Asken, Ph.D.

Lt. Col. Dave Grossman with Loren W. Christensen

“For years, so many involved in military or law enforcement tactical training opted for the ‘sexier side’ of skill sets, working on deadly force, discriminative marksmanship or defensive tactics, but rarely, if ever, factoring in the mental side and it’s importance to our success”

Warrior Mindset

“For years, so many involved in **Emergency Medicine** opted for the ‘sexier side’ of skill sets, working on **difficult airways and other procedures** but rarely, if ever, factoring in the mental side and it’s importance to our success”



Payne, 2000



The rationale

- It's not intuitive
- Delay in technical skills
- Undermines patient safety
- Sub-group of individuals never excel

Trying to figure out when I can
have that meltdown that I am
entitled to...



your  cards
someecards.com

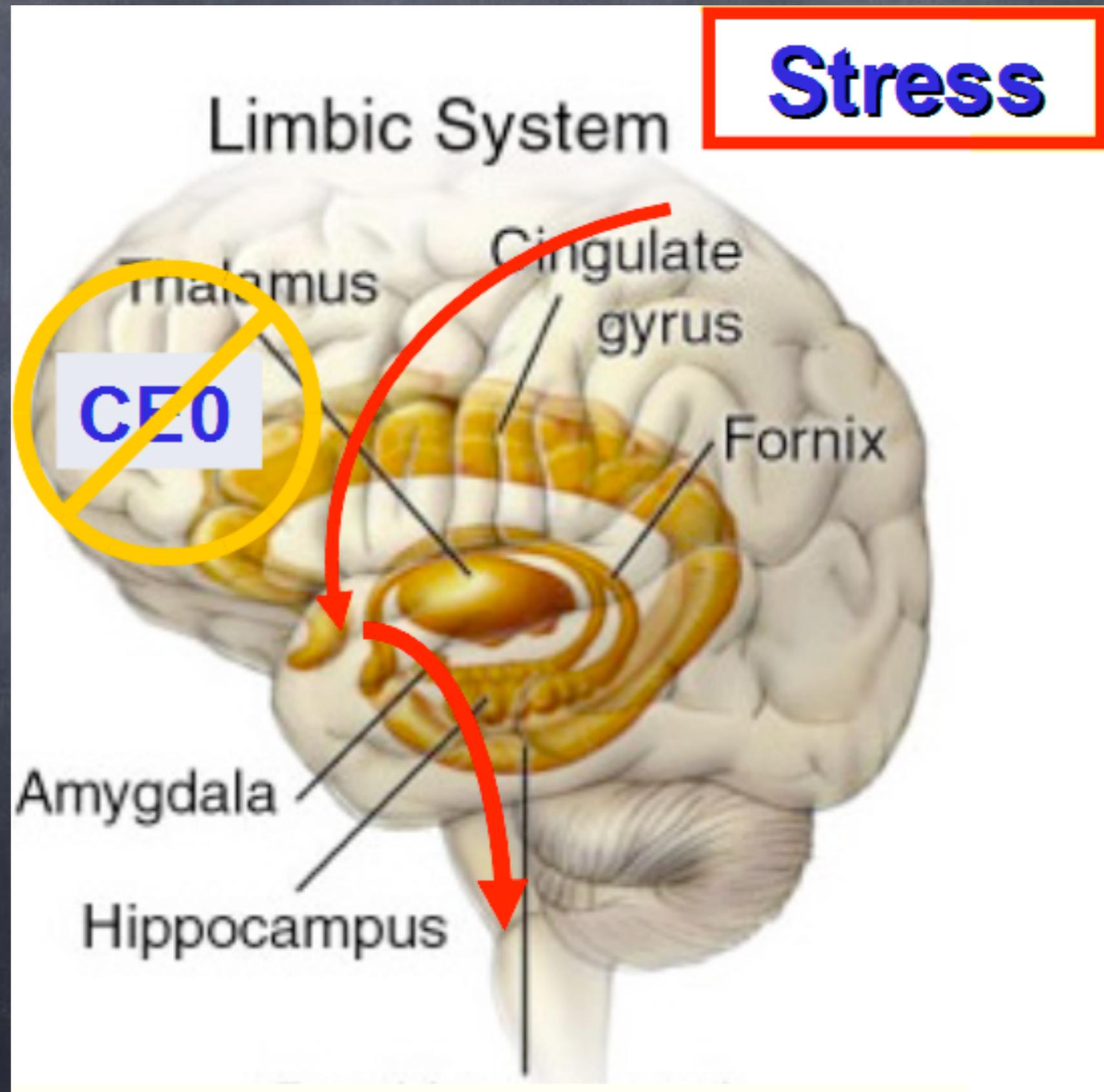
Stress

- Sudden and unexpected demands
- Consequences are immediate and severe
- Environment is complex and unpredictable
- Multiple tasks under adverse conditions

Warrior Mindset



Your brain on stress



Tunelo, Eero

Stress responses

- Selective attention
- Premature closure
- Tunnel vision
- Fine motor degradation



> 115 = loss of
fine motor
skill

Siddle, B., 1995.

Stress responses

- Emotion focused
- Avoidance focused
- Problem focused

Maladaptive responses

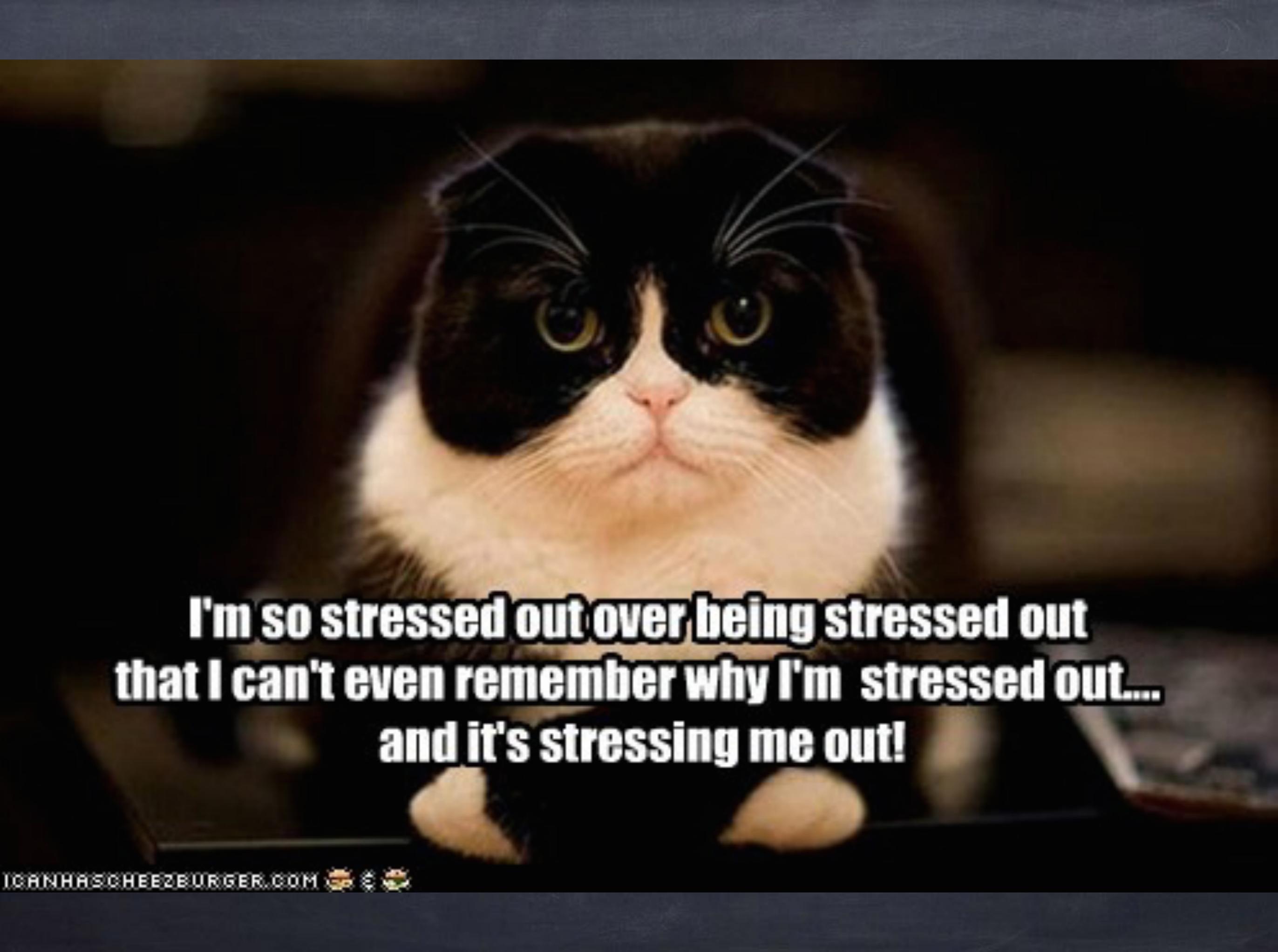
- Rumination and brooding
- Catastrophizing
- Safety-seeking behaviors
- Absence of self-disclosure
- Failure to access and employ social supports

Stress

- Threat = I don't have resources
- Challenge = difficult, but has resources

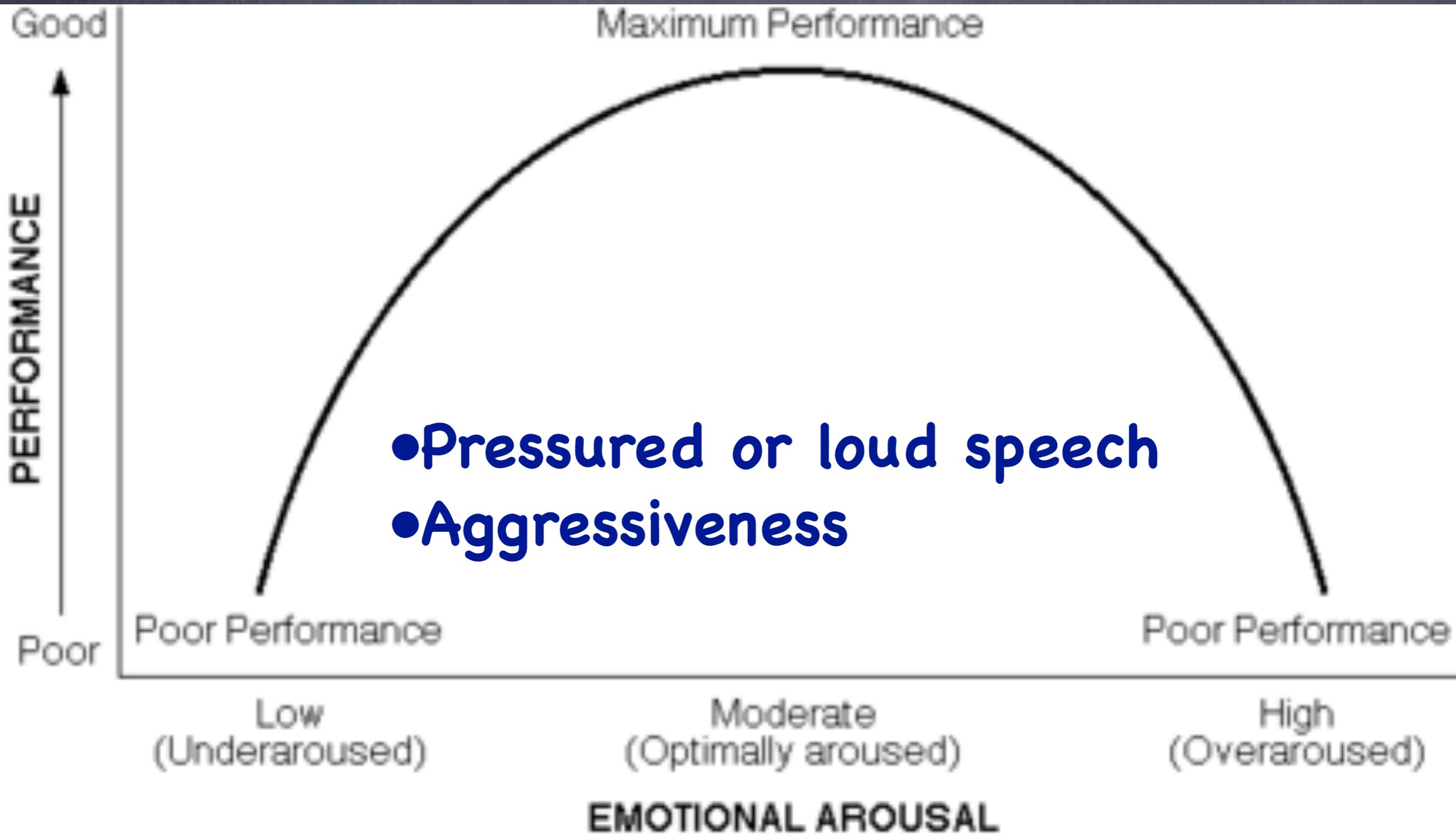
Stress and memory

- Cortisol decreases working memory
- Stress can increase consolidation



**I'm so stressed out over being stressed out
that I can't even remember why I'm stressed out...
and it's stressing me out!**

Stress \neq Arousal



Consequences

- Misdiagnosis of trainee problems
 - Poor teamwork
 - Poor communication
 - Poor clinical judgement

ANTI-STRESS KIT



- 1. PRINT THIS SHEET**
- 2. TAPE IT ON A HARD SURFACE**
- 3. BANG HEAD AGAIN THE RED 'X'**
- 4. AND YOU'RE DONE**

Psychological Techniques

Realistic Fear

Fear of the unknown

Anxiety

Illogical Fear

Fear of Failure

- Increased training
- Goal Setting
- Imagery

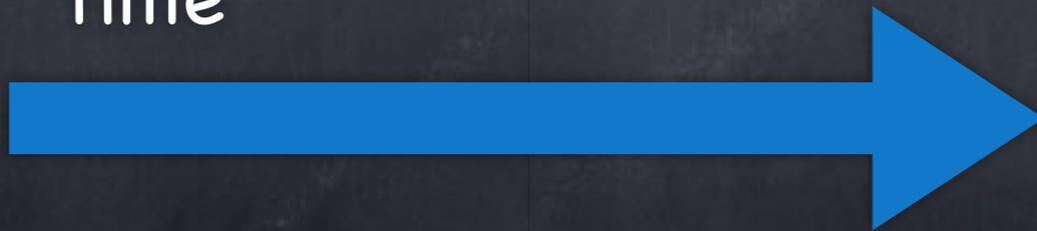
- Imagining alternate response
- Exploration time

- Tactical breathing

- Self-talk

- Shaping
- Self-talk
- Counseling

- **Simulation**



Warrior Mindset

Visualization

- Before every shift I do the same thing. As soon as I get into my own personal vehicle, I turn off the radio and run through three things: A high speed pursuit, first aid/CPR and a barricaded person scenario.

Visualization

- Before every shift I do the same thing. As I'm driving in, I turn off the radio and run through three things: a perimortem C-section, pediatric jet ventilation and an emergency thoracotomy.

Visualization

- Combine senses/emotions
- Visualize overcoming failure
- Visualization does not replace practice



Lorello et al., 2015.

Positive self-talk



**I'm good enough, I'm smart enough,
and doggone it, people like me!**

Simulation

- Over-learning
- Team training
- Preparatory materials
- Pre-gaming your emotions

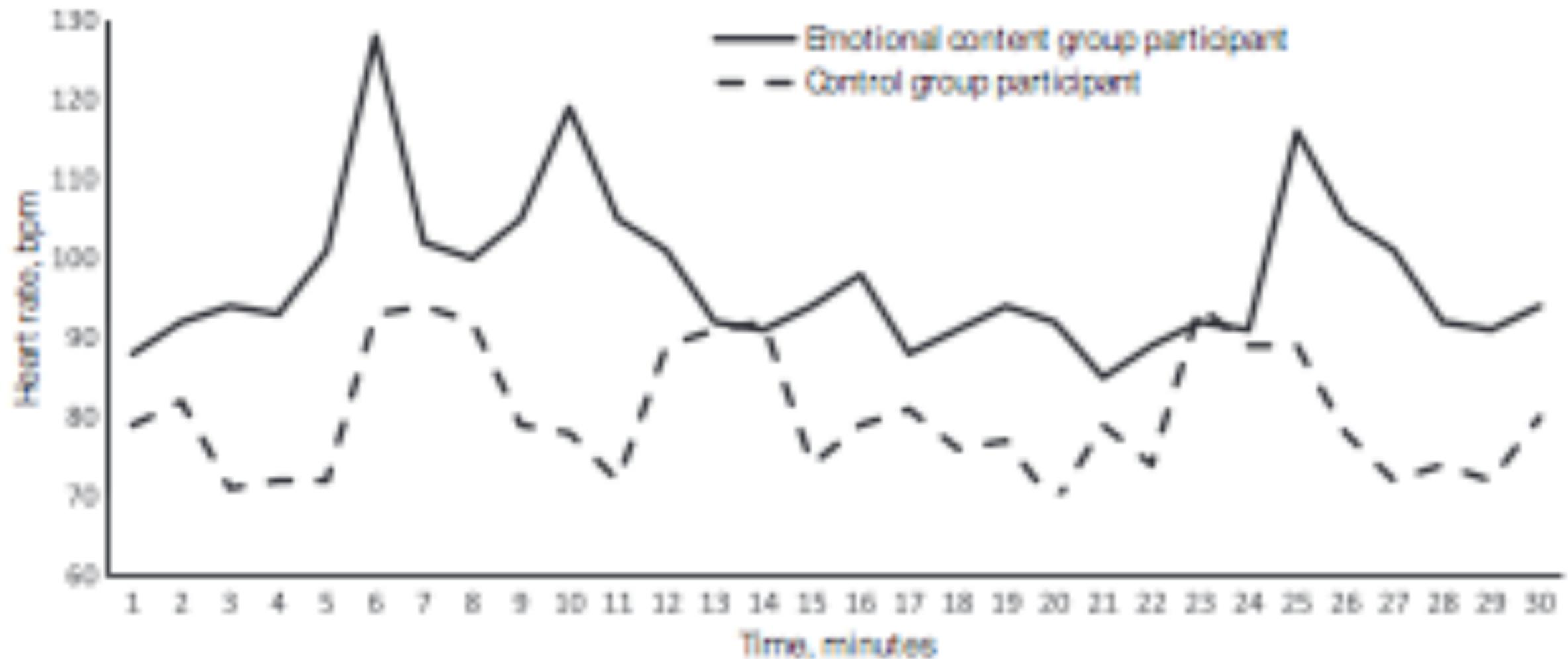
LeBlanc, V., 2009

Stress inoculation & Sim

- Difficult consultant, nurse, family
- Failing devices
- Difficult cases
- Poor outcomes
- Multiple patients

Emotional stress and Learning





- 6 months later- emotional group scored better on megacode

Demaria et al., 2010.

- The premise is quite simple: all training should be three-dimensional, i.e. it should blend the emotional, psychological and physical arsenals; anything you work on should connect to some sort of scenario so that, irrespective of that drill, there's an emotional and psychological rationale for the exercise. This way the training triggers and creates connections between all three arsenals

Summary

- Knowledge alone is not enough
- Stress can be positive
- Stress inoculation is a necessity

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Acknowledgments

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