



# Resiliency Training for About-to-be-Deployed Submariners

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## INTRODUCTION

The submarine environment contain a number of unique psychological challenges. For example, on a submarine, there is:

- little physical and personal space
- no sunlight
- pervasive sleep deprivation
- high work and performance demands
- threat to personal relationships brought on by the distance and isolation of military deployments.

Each year, the submarine force has over 350 sailors discharged from the military due to psychological reasons. Put another way, 33% of submariners will be discharged for psychological reasons before completing their first enlistment.

We implemented 4 hours of ACT training for sailors about to leave on their first submarine tour. We aimed to increase psychological flexibility and increase psychological resilience.

### Objectives:

> It was our aim to use ACT training to improve work performance and decrease psychological problems for submariners.

## PARTICIPANTS

• 290 male, first-tour, not-yet-qualified submariners, average age: 21.89 years ( $SD = 2.71$ )

• 10 - 20 sailors trained per week

• 24 groups trained

• 17 fast attack submarines from Naval Submarine Base New London

## METHOD

• Four, 60-min ACT training sessions

• Each session involves interactive exercises and group discussion.

## ACT Resiliency Training Protocol

### Day 1

#### Choosing Values

- Passengers on the bus.
- Listing fears (Fear in a hat)
- Writing a speech
- Filling out value worksheets

#### Assessments:

Personal Value Questionnaire

### Day 2

#### Experimenting with Control

- Controlling thoughts and feelings exercises.
- Exploring cost/benefits for typical solutions for unwanted experiences.
- Normalizing struggle / fear / anxiety / control.

#### Assessments:

Acceptance and Action Questionnaire

Beck Depression Inventory II

### Day 3

#### Defusion

- Milk, Milk, Milk
- I am having the thought that...
- Practice watching thoughts.

#### Assessments:

Dissociative Experience Scale

### Day 4

#### Setting Goals and Committed action

- Characteristics of good goals.
- Committed action.
- Submarine specific scenarios
- Students be the trainer

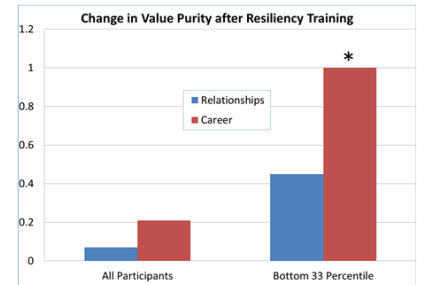
#### Assessments:

Deployment Risk and Resiliency

Personal Value Questionnaire

## Results: Value Purity

- The Personal Values Questionnaire was administered on the first day of training and also was administered a second time to a subset of participants at the end of training to assess change in value purity.
- Value purity was calculated as recommended by Blackledge & Ciarrochi (2005) and reflects the degree to which a participant embraces values for willful acceptance-based reasons as opposed to reasons due to avoidance or pliance.
- A change in value purity was calculated by subtracting the value purity score at the first session from the value purity score obtained at the last session.
- We focused on values for "Relationships" and for "Career" since these were most closely aligned with the areas we were hoping to affect with our resiliency training.

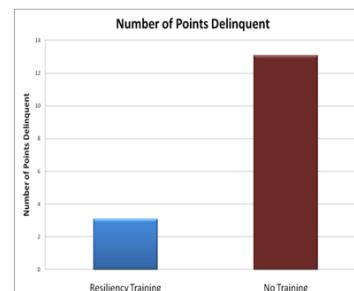


There was no significant change in value purity when examining all participants. But, if we look at those who likely were embracing their values due to avoidance and pliance, there was a significant change in value purity for career ( $p < 0.05$ , one-sample T-test), but no significant change for relationships values. That is, those who scored in the bottom 33% of value purity in careers displayed a significant increase in value purity at the end of training.

## RESULTS



The Resiliency training was well liked, and >95% of submariners would recommend this training.



Those who went through the training performed better on submarine performance tasks than matched controls.

Scale	Mean	SD	Minimum	Maximum
Beck Depression Inventory II	5.40	4.61	0.0	26.0
Acceptance and Action Questionnaire-II	15.31	5.66	7.0	34.0
Dissociative Experiences Scale	17.05	12.69	0.4	61.1
Deployment Risk and Resilience Inventory – Prior Stressors	4.16	3.45	0.0	12.0
Deployment Risk and Resilience Inventory – Childhood Family Environment	44.57	5.11	30.0	61.0

For the BDI-II, the group revealed minimal depression symptoms; For the AAO-II, the group showed comparable acceptance scores to university students and community samples who have a mean = 18.51 ( $SD = 7.05$ ). For the DES, the group on average displayed comparable dissociation scores to college students. If we use a cut-off of 30 as increased psychological risk, we see that 33 individuals (approximately 15%) scored in that range. For the Prior Stressors scale of the DRRI, we observed that our group is comparable with both active-duty and reserve veterans (King, King, & Vogt, 2003). However, for Childhood and Family Environment scores, the score of 44.57 was markedly lower than the 57.80 average observed in military veterans, suggesting less cohesion and closeness in their family life.

## CONCLUSIONS

- The 4 hour ACT-based Resiliency training was well received.
- Initial analyses show that those who went through the training tend to perform better on their submarine skills than matched sailors who did not go through the training.
- Assessments show comparable levels of Acceptance, Dissociation, and Depression to control groups.
- The training seemed to improve value purity for those who were embracing their values due to avoidance and pliance.
- Ongoing analyses are being conducted to determine whether these sailors are displaying psychological flexibility / resiliency one year post training.
- Additional efforts are being conducted to determine whether computerized resiliency training is possible aboard military ships.

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