U.S. ARMY COMBAT CAPABILITIES DEVELOPMENT COMMAND – ARMY RESEARCH LABORATORY

Self-Reported Stress-Related Coping Strategies and Perceived Stress among a Sample of Active Duty and Veteran U.S. Military Service Members

Valerie J. Rice, Ph.D., CPE, OTR/L, COL (R)
Paul J. Schroeder, Ph.D.

INTRODUCTION

High Demand / High Stress Among Military

- Combat Exposure
- Time & Mission Urgency
- Shifting Sleep Schedules
- Family Separations/Moves
- High Uncertainty
- High Responsibility
- Relationships (leadership, cohesion, social support…)
- Role conflict, commitm… commitment, wo… …work/life balance

Moral Injury

Post Deployment Dysfunctional Coping

- Alcohol, avoidance
- Impacts job performance, mission, welfare

Delahaij & Van Dam, 2017

BACKGROUND

- **Healthy Coping Associated with**
  - Job Satisfaction
  - Perceived occupational self-competence
  - Goal commitment
- **Unhealthy Coping Associated with**
  - Job Dissatisfaction
  - Depression, anxiety
  - Exhaustion
  - High blood pressure
- **Sources of Occupational Stress**
  - High job demands (workload, time pressure, work hrs., physical demands
  - Hindrances (role ambiguity, conflict, organizational restraints)
  - Social Issues (discrimination, harassment, poor/unsupportive leadership)

BACKGROUND

Most frequently self-reported coping strategies'

- Emotion-focused techniques
  (e.g., positive reframing, acceptance, and religion)
- Problem-focused techniques (e.g., active coping and planning)
- Self-reported resilience
  - ✚ correlated with emotion-focused coping ($p < .05$)
  - ▬ correlated with dysfunctional coping (e.g., behavioral disengagement and self-blame) ($p < .05$) Rice, V. & Liu, B. (2016)
- ➨ Positive emotion & problem-focused coping strategies
  - ▬ associated with job stress and health symptoms

Day, A.L. & Livingstone, H.A. (2001)

Healthy coping is an important component of active duty service member's readiness for duty, and for both active duty and veterans' ability to take control of their own health.

BACKGROUND

- **Dysfunctional Coping (denial, venting) associated with:**
  - High job strain (nurses)
  - Lower levels of dispositional resilience in military
- **Problem-focused and positive emotion coping**
  - associated with job stress and health symptoms (military)
- **Coping Style associated with**
  - Organizational and operational support (police)
  - Work characteristics (police)

PURPOSE

Investigate U.S. active duty and veteran service member's

- self-reported coping activities
- perceived stress
- relationship between the two

Hypotheses:

- Positive coping activities, including physical activity, will be negatively associated with perceived stress
- Negative coping strategies will be positively associated with perceived stress
- Demographic variables (e.g., age, gender education, and time-in-service) will be associated with coping activities

METHOD

- Active Duty & Veterans, n = 246
- IRB approved consent form
- Assessments
  - Demographic Survey
  - Perceived Stress Scale (PSS): 10-item self-report
  - Stress Reduction Activities Survey (SRAS)

- Analyses
  - Pearson Product Moment Correlations
  - ANOVA
  - Tukey's B post-hoc
  - Spearman Rank Order Correlations – SRAS
  - Non-parametric Mann-Whitney U test (gender & military status
  - Non-parametric Kruskal-Wallis test (race, education, marital status)
  - Forward-entry multiple regression for predicting Perceived Stress

PSS scores

RESULTS

DEMOGRAPHICS

Demographic	#	%
Gender		
Male	133	54.1
Female	113	45.9
Race		
African-American	61	40.3
Native American	4	1.6
Caucasian	131	53.3
Hispanic	42	17.1
Asian	5	2.0
Other	0	0.0
NR	3	1.2

- M_{age}: 47.91 ± 12.43 yrs.
- $M_{time\text{-}in\text{-}service}$: 14.69 ± 8.98 yrs.

DEMOGRAPHICS

Demographic	#	%
Education		
High school/G.E.D.	14	5.7
AA/some college	82	33.3
Bachelors	61	24.8
M.A./Ph.D.	73	29.7
Other advanced professional degree	16	6.5
Marital status		
Married	142	57.7
Divorced	49	19.9
Widowed	3	1.2
Single/separated	42	17.1
Partnered w/sig. other	9	3.7
NR	1	0.4
Military status		
Active duty	84	34.1
Veterans	162	65.0

- $V_{age} > AD_{age}$, $p < .01$
- $V_{TIS} = AD_{TIS}$, $p > .05$.

PERCEIVED STRESS SCALE (PSS)

- Average total score was 19.29±8.04
  - Male norm: 12.1±5.9
  - Female norm: 13.7±6.6
  - Age 45-54: 12.6±6.1

- Older age associated with lower PSS scores, $r\ (246) = -.41$, $p < .05$
- Longer active duty time - lower perceived stress, $r\ (246) = -.27$, $p < .01$
- AD participants - lower PSS scores (M=17.19±7.61) than veterans (M=20.36 ±8.12), $F\ (1,244) = 8.77$, $p < .01$, $\eta p^2 = .03$

- Education impacted PSS, $F\ (1,245) = 10.43$, $p < .01$, $\eta p^2 = .15$

  - Participants with M.A. or Ph.D. degrees (MA/PhD) had lower PSS scores (M = 14.90±7.88), than those with a high school degree or G.E.D. (HS/GED) (M=23.07±7.34), some college or AA degree (SC/AA) (M=22.11±7.44), or a bachelor's degree (BD) (M=20.23 ±7.02), p's < .01

STRESS REDUCTION ACTIVITIES SURVEY

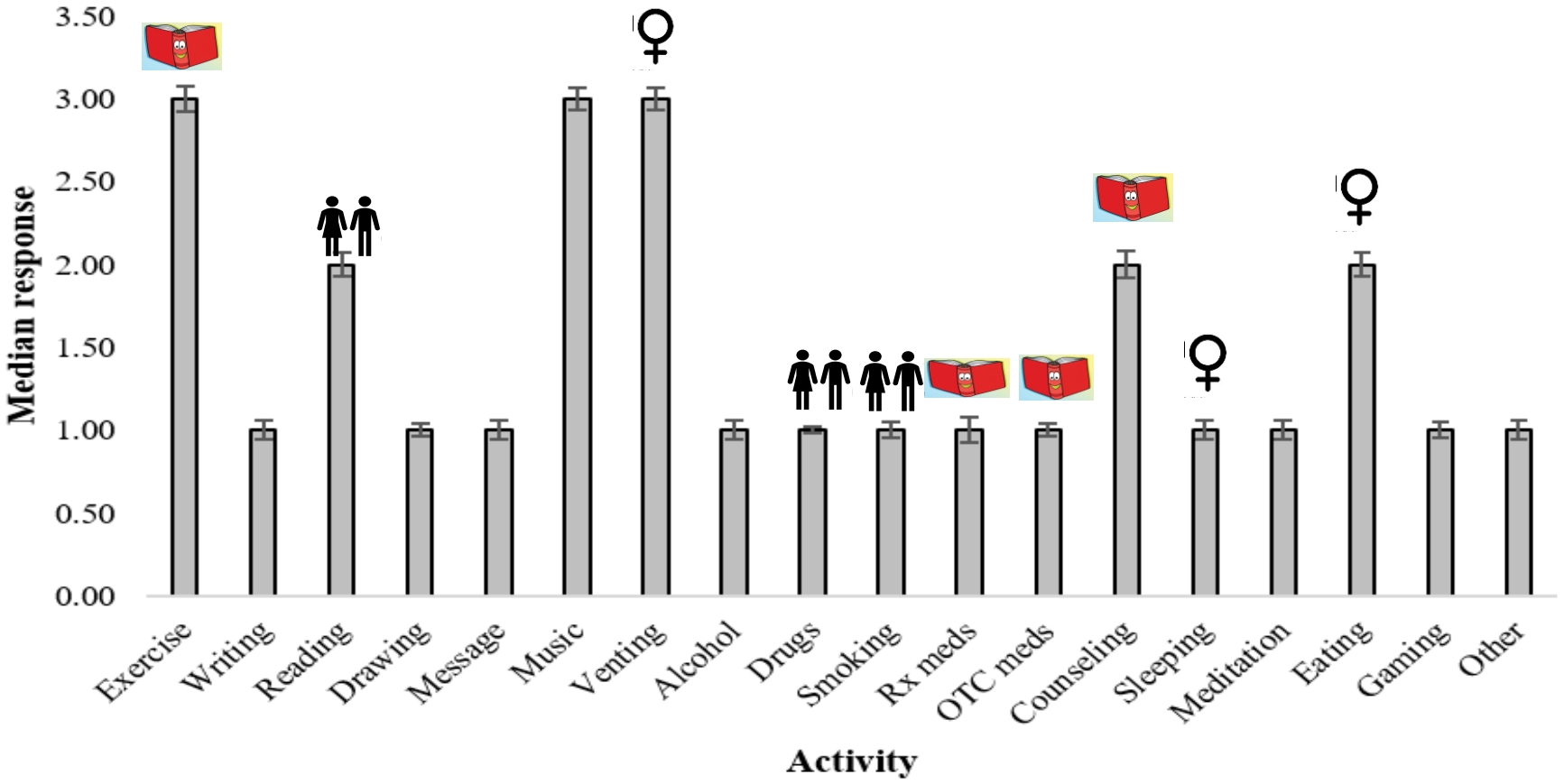
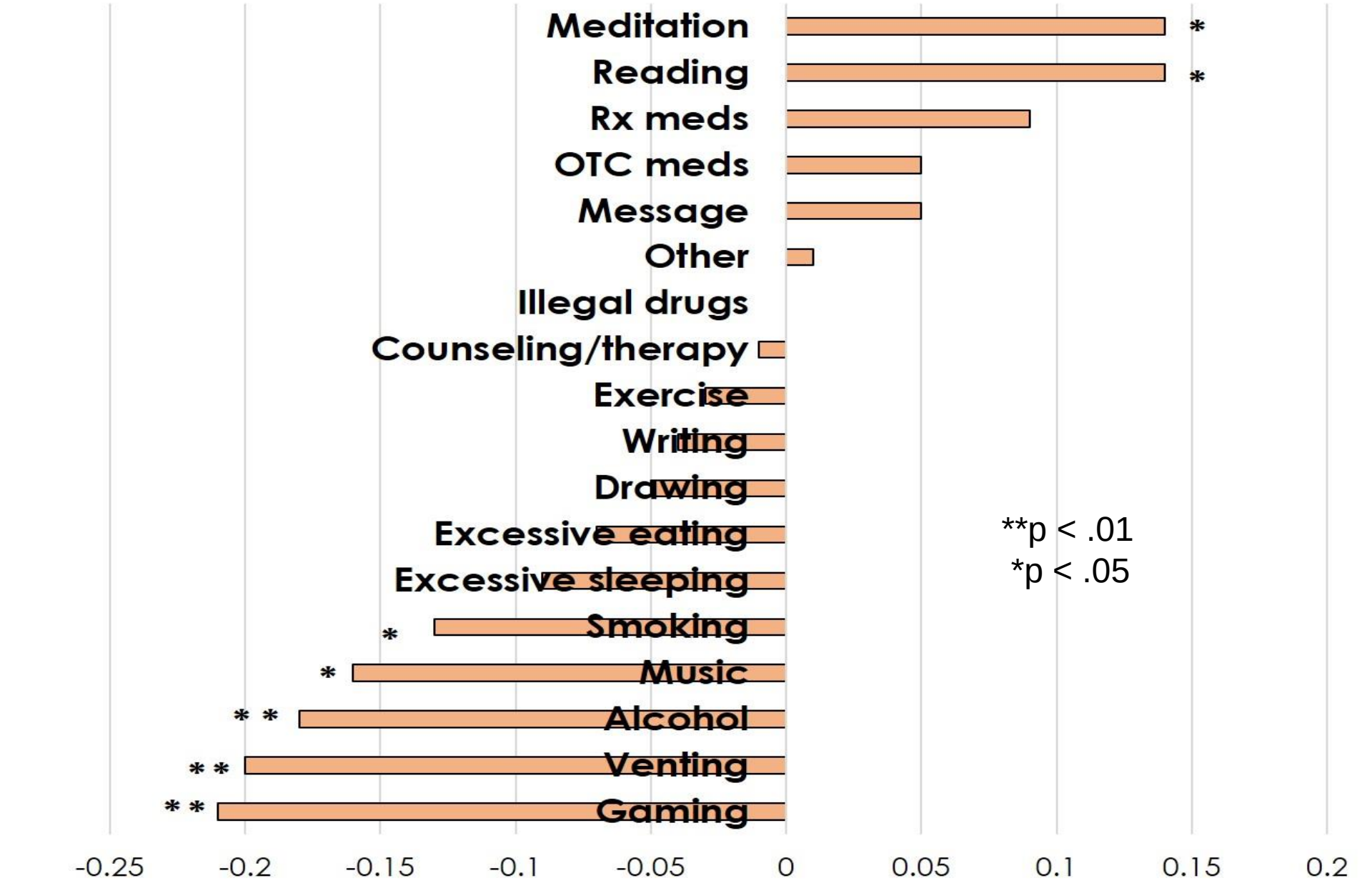


Figure 1. Median responses for the SRAS. Higher responses indicate greater likelihood of engaging in the activity. Rx Meds = prescription medications and OTC meds = over the counter medications. Drugs = illicit drugs.
Error bars are standard errors.

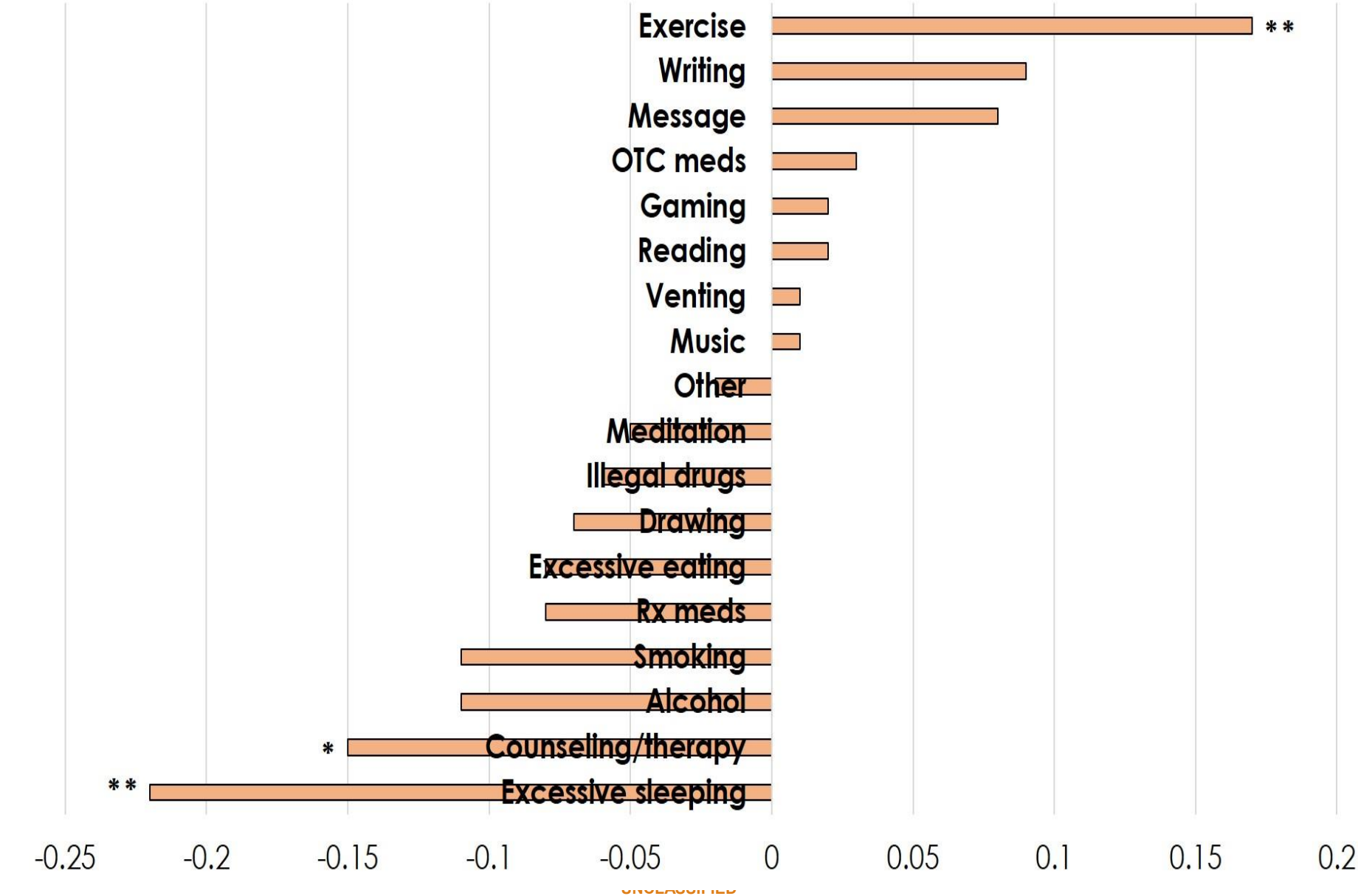
Correlations between SRAS, Age, & Time-in-Service

Measure	Age	Time-in-service
Exercise	-.03	.17**
Writing	-.04	.09
Reading	.14*	.02
Drawing	-.05	-.07
Message	.05	.08
Music	-.16*	.01
Venting	-.20**	.01
Alcohol	-.18**	-.11
Illegal drugs	.00	-.06
Smoking	-.13*	-.11
Rx meds	.09	-.08
OTC meds	.05	.03
Counseling/therapy	-.01	-.15*
Excessive sleeping	-.09	-.22**
Meditation	.14*	-.05
Excessive eating	-.07	-.08
Gaming	-.21**	.02
Other	.01	-.02

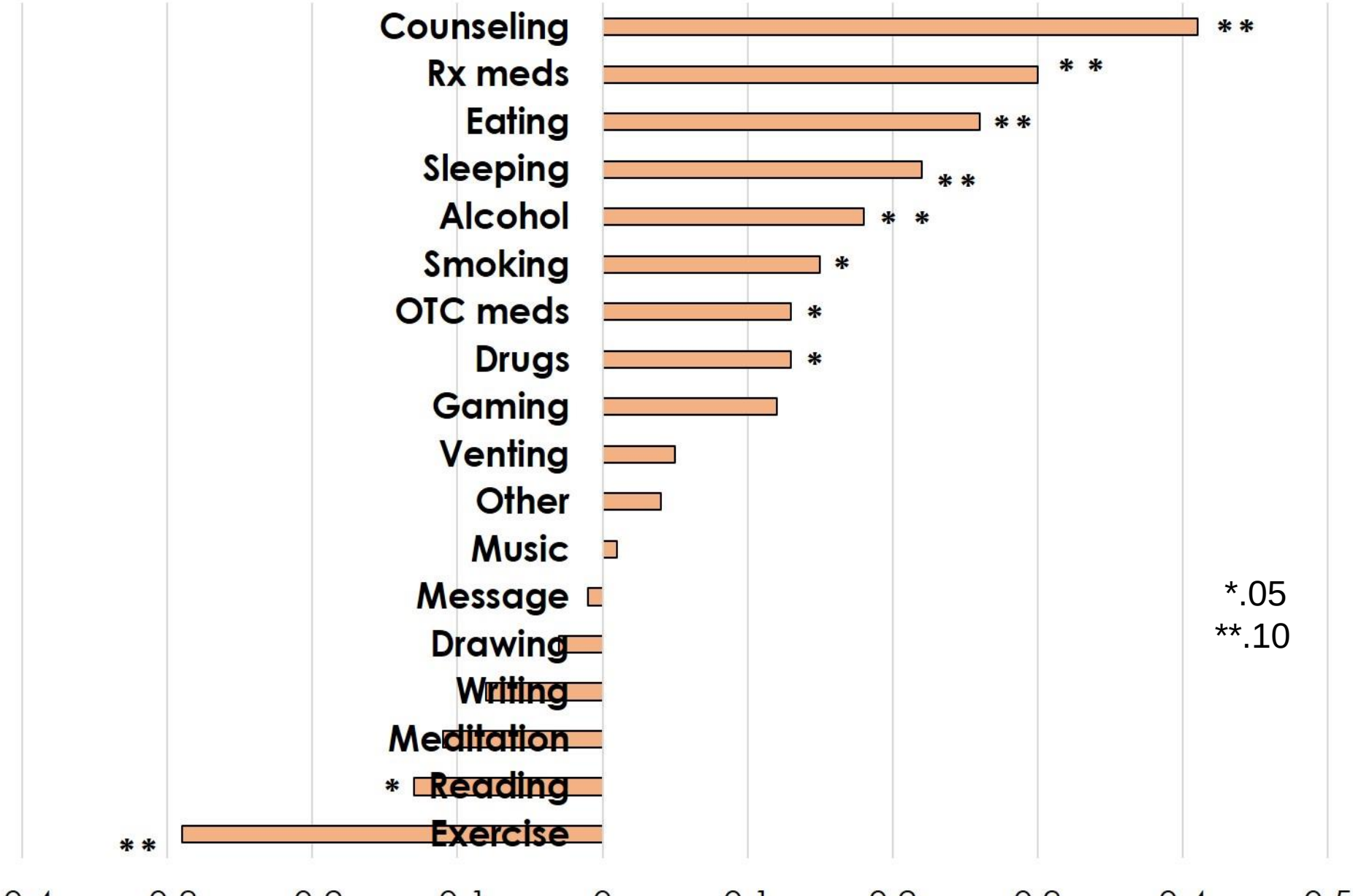
Correlations between SRAS & Age



Correlations between SRAS & Time-in-Service



Correlations between SRAS & PSS



CORRELATIONS BETWEEN SRAS & PSS

Item	Total score on the PSS
Exercise	-.29**
Writing	-.08
Reading	-.13*
Drawing	-.03
Message	-.01
Music	.01
Venting	.05
Alcohol	.18**
Drugs	.13*
Smoking	.15*
Rx meds	.30**
OTC meds	.13*
Counseling	.41**
Sleeping	.22**
Meditation	-.11
Eating	.26**
Gaming	.12
Other	.04

**p < .01, *p < .05

Regression Analysis

	Unstandardized coefficients		Standardized coefficients		
Variable	B	Std error	Beta	t	sig
(Constant)	21.40	2.92		7.33	.00
Age*	-.12	.05	-.18	-2.33	.02
Education	-.78	.51	-.10	-1.53	.13
Time in service	-.05	.06	-.05	-.80	.42
Military Status*	2.69	1.23	.17	2.20	.03
Exercise	-.87	.46	-.12	-1.91	.06
Reading	-.41	.43	-.06	-.96	.34
Alcohol	.95	.52	.11	1.82	.07
Drugs	1.22	1.20	.06	1.02	.31
Smoking	.16	.65	.01	.24	.81
Rx meds	.83	.46	.14	1.79	.08
OTC meds	-.34	.82	-.03	-.42	.68
Counselling *	1.08	.48	.16	2.23	.03
Sleep	.30	.56	.04	.53	.59
Eating*	1.10	.44	.16	2.52	.01

**p < .01, *p < .05

DISCUSSION

Partially Supported Hypotheses:

- Positive coping activities were negatively associated with perceived stress (Reading & Exercise)

Supported Hypotheses:

- Negative coping strategies were positively associated with perceived stress (eating, sleeping, alcohol, smoking, illicit drugs -- ALL)
  - ALSO: Counselling, Rx, OTC

Supported Hypotheses:

- Demographic variables were associated coping activities,
  - Age, AD time, AD status, Education

DISCUSSION

- **PSS:** Relatively high stress compared with civilian-based research findings and normative data.
  - Expected

- **SRAS:** Most frequently reported activities
  - **Exercise**
    - Part of military training & readiness
    - Community College Students #3 (Pierceall & Keim 2007)
    - Medical Students (Fares et al. 2015)
  - **Listening to music**
    - Readily available
    - Younger
    - Medical students (Fares et al. 2015)

SRAS: The most frequently reported activities, cont.

- **Venting** – venting can be both positive and negative, depending on how often, whether the individual is an extrovert/introvert, use of information…
  - Younger
  - Community College students #1 (Pierceall & Keim 2007)
  - Talking with co-workers – Physicians (Lemaire & Wallace 2010)

- **Reading**
  - Older
  - Not seen in recent literature
  - Avoidance, diversion or Problem-Focused Information Seeking

SRAS:
The most frequently reported activities, cont.

Counselling

- Stigma
- Less time-in-service (not associated with age)
- Positive Coping Strategy for highest PSS scores

Eating

- Female
- Higher PSS
- High prevalence of Eating Disorders among military/veteran men and women (Bartlett & Mitchell 2015)
- History of trauma - common in individuals diagnosed with an ED in military and veteran samples.
  - Why?
    - Military sexual trauma
    - Strict weight & fitness requirements
    - High stress (combat exposure)
    - Pre-existing
    - PTSD/Depression
    - Habit (eating a lot & quickly, decreased physical activity in veterans)

DISCUSSION

Correlates of stress (PSS)

High Stress	Low Stress
Alcohol Consumption	**Active Duty Status**
Illegal drug use	**Age**
Sleep	Education
Smoking	Time in service
Prescription medication	Exercise
OTC Medication	Reading
Counselling/Therapy	
Eating	

*__Bold__ = significant predictor of perceived stress

Conclusions / Implications

- In most part, supported hypotheses
- Need for increased awareness among service members and veterans about healthy stress coping and the impact of coping activities on perceived stress, personal resilience, and readiness.
- Military familiarization with common coping techniques of service members and veterans, esp. under high perceived stress.
- Direct impact of potentially healthy behaviours/activities on service members and veterans stress, well-being, quality-of-life, and resilience needs further investigation.

U.S. ARMY RDECOM®

Questions?

OPTIMIZE PERFORMANCE

Valerie J. Rice (210) 221-2007
Valerie.j.rice.civ@mail.mil
Paul Schroeder
paul.j.schroeder21.ctr@mail.mil

Questions?

OPTIMIZE PERFORMANCE

Angela D. Jeter (210) 221-2804
Valerie J. Rice (210) 221-2007