Social support factors moderate health outcomes, and differ for deployed male and female Service members

MAJ ANGELA YARNELL, DR. KATIE NUGENT, JESSICA KIM, AND CPT KARMON DYCHES

The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the official policies, either expressed or implied, of the Department of the Army, of the Department of Defense, or the U.S. Government.

Background

Background

StrXss

HEALTH

Social Support

READINESS

Performance

Role of the Leader?

Methods

- Deployed Soldier Wellbeing Surveys
  - ➢ <14% female in each sample
- Combined data from 4 surveys (2005, 08, 11, 12)
- Retrospective data analyses
- Chi-square and t-tests
  - ➢ demographics, stress and health
- Matched sample based on demographics
- Linear and logistic regressions
  - ➢ stress & health; social support & health
- Regression models with social support x stressor interaction terms

Self-reported Stress- Entire Sample

Number of Stressful Life Events
p=0.011

Stress, Emotional, Alcohol or Family Problem During this Deployment
p=0.017

■ Women (n=570)
■ Men (n=4,759)

Number of Deployment Injuries
p<0.001

Combat Exposures
p<0.001
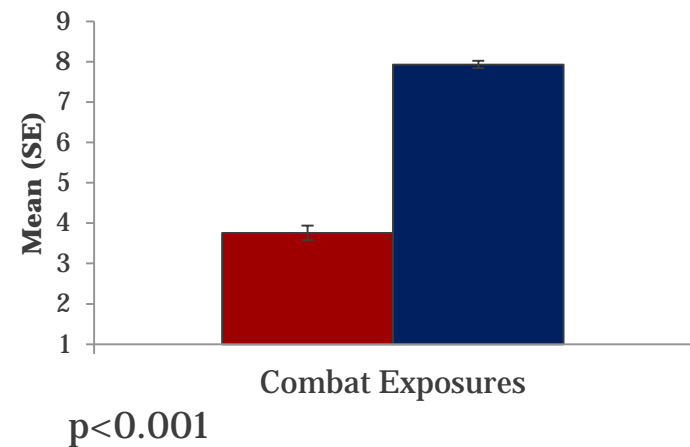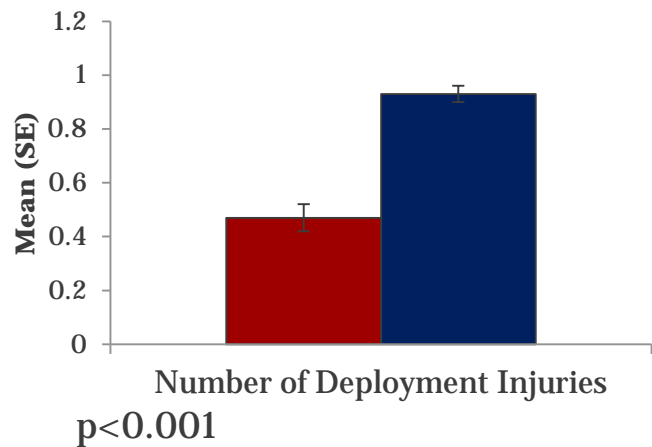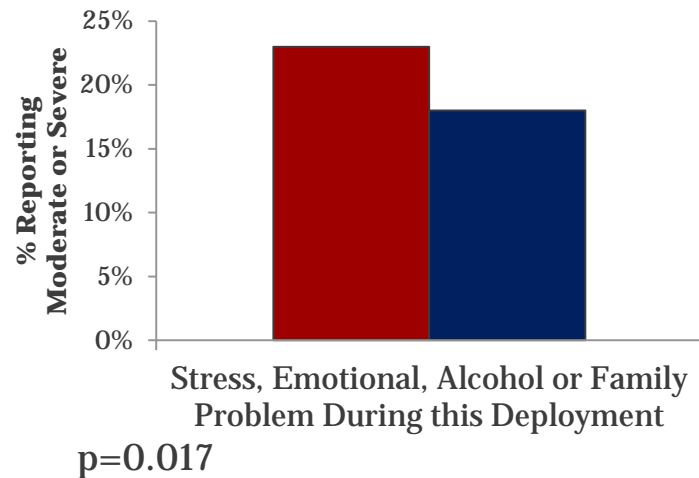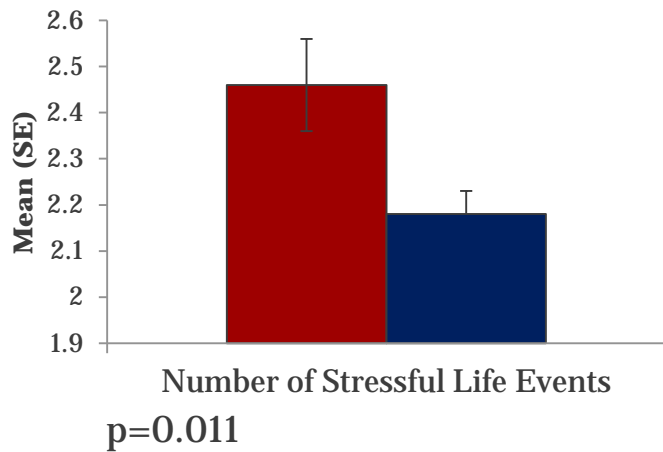
Self-reported Health- Entire Sample

Women (n=570)
Men (n=4,759)

*p<0.02
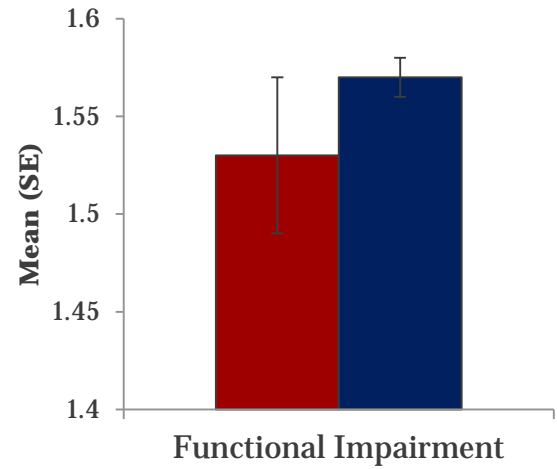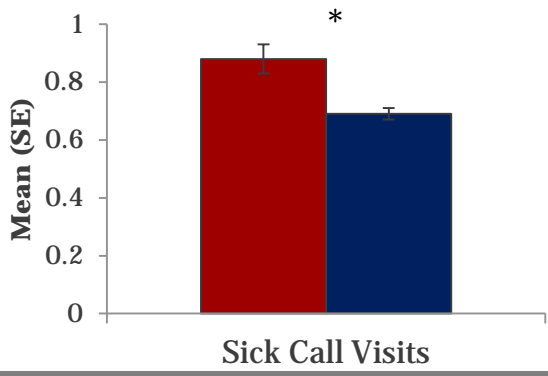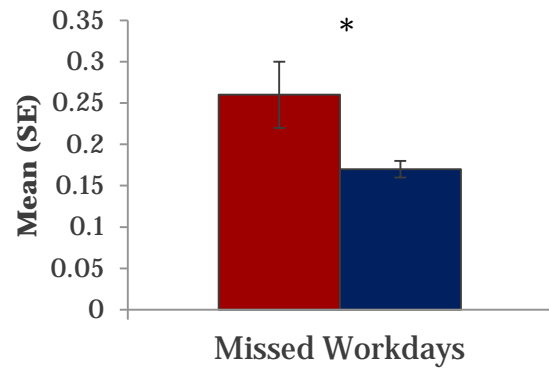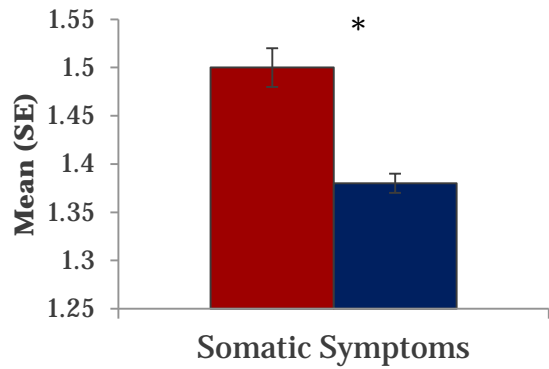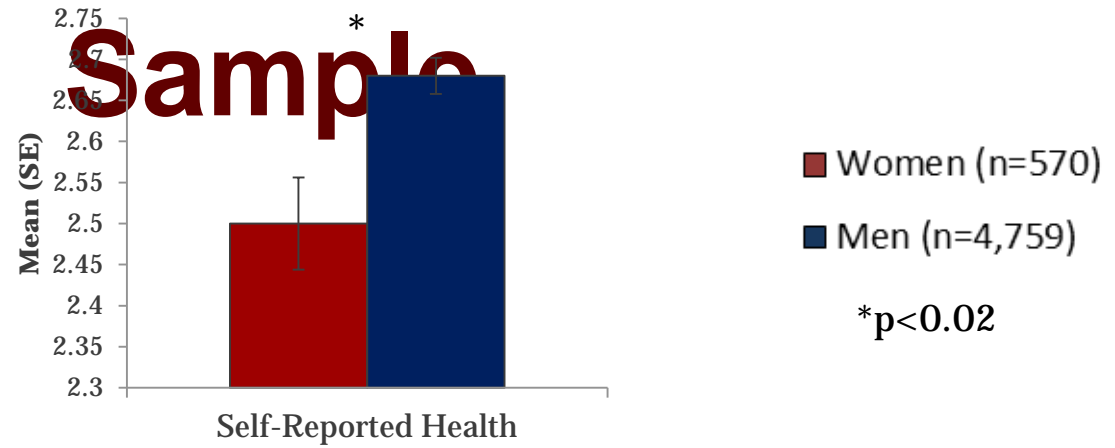
Social Support- Entire Sample
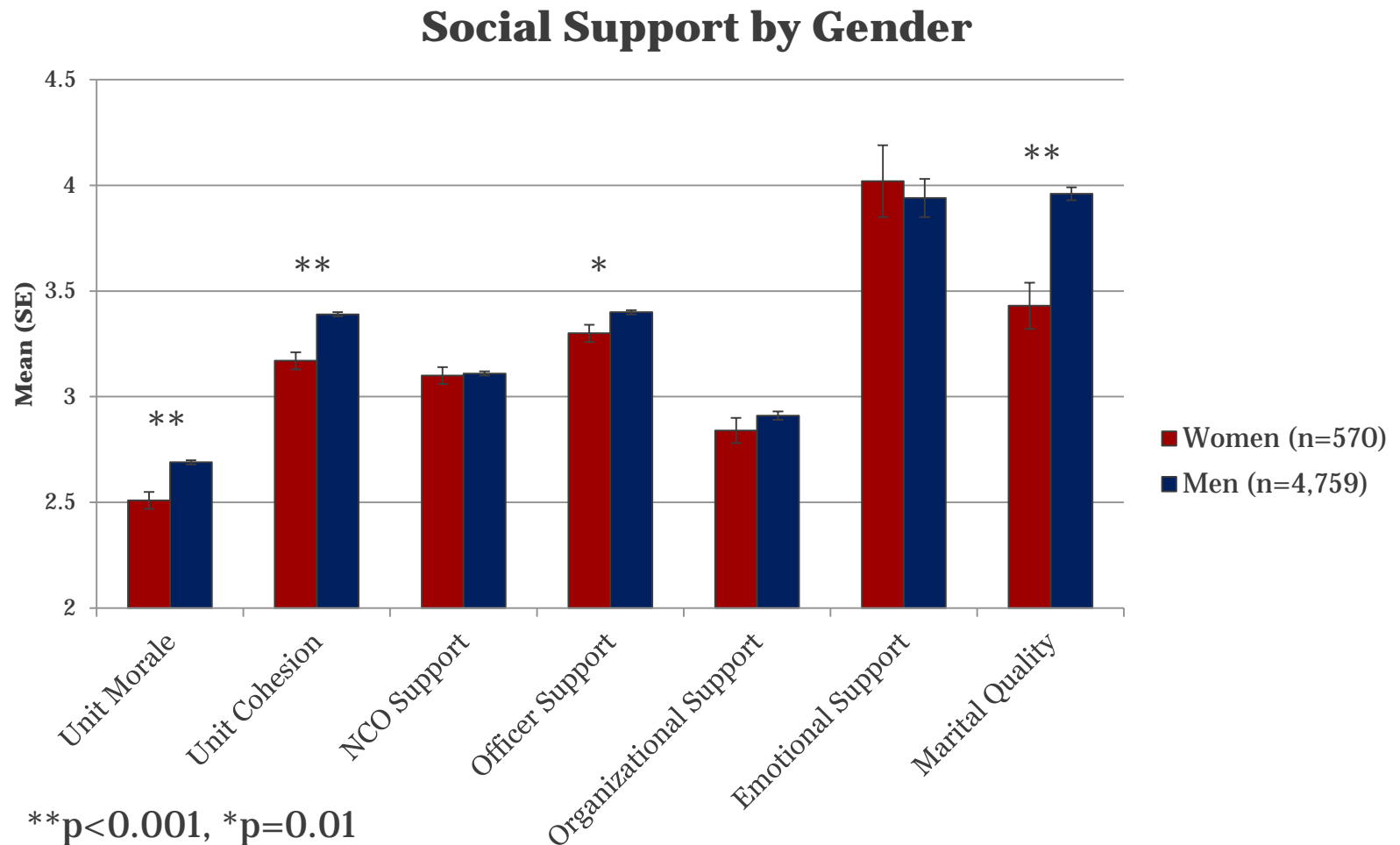
Social Support by Gender

Demographics Entire Sample

Demographic Variable	Women (n=570)	Men (n=4,759)	Test Statistic	p value
Age, n (%)				
18-24	232 (41%)	1934 (41%)		
25-29	158 (28%)	1287 (27%)	X2 (3df)=0.97	0.808
30-39	128 (22%)	1138 (24%)		
40 or older	52 (9%)	394 (8%)		
Education				
Some High School	2 (0.5%)	14 (0.4%)		
HS Diploma/GED	85 (21%)	1768 (45%)		
Some college/AA	227 (56%)	1606 (41%)	X2 (4df)=88.14	0.000
Bachelors Degree	68 (17%)	433 (11%)		
Graduate Degree	23 (6%)	120 (3%)		
Rank				
E1-E4	301 (53%)	2567 (55%)		
E5-E9	200 (35%)	1701 (36%)	X2 (2df)=2.15	0.341
Officer/Warrant Officer	64 (11%)	443 (9%)		

Demographics Entire Sample

Demographic Variable	Women (n=570)	Men (n=4,759)	Test Statistic	p value
Primary Component				
Active	210 (63%)	1262 (61%)	X2 (2df)=10.14	0.006
Reserve	57 (17%)	248 (12%)		
National Guard	68 (20%)	548 (27%)		
Marital Status				
Single, Never Married	214 (39%)	1589 (35%)	X2 (4df)=62.95	0.000
Married	226 (41%)	2488 (54%)		
Seperated	39 (7%)	221 (5%)		
Divorced	76 (14%)	290 (6%)		
Widowed	0	8 (0.2%)		
Years Married to Spouse, mean (SE)	4.29 (0.32)	5.49 (0.12)	t=3.11	0.002
Dual Military Couple	68 (52%)	444 (35%)	X2 (1df)=14.12	0.000
At least 1 child	221 (40%)	2158 (47%)	X2 (1df)=9.12	0.003
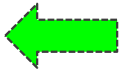
Sample

Demographic Variable	Female (n=458)	Male (n=458)	Test Statistic for Difference	p value
Age, n (%)				
18-24	203 (44%)	203 (44%)		
25-29	127 (28%)	127 (28%)	X2 (3df)=0	1.000
30-39	102 (22%)	102 (22%)		
40 or older	26 (6%)	26 (6%)		
Education				
HS Diploma/GED	81 (24%)	81 (24%)		
Some college/AA	194 (58%)	194 (58%)	X2 (2df)=0	1.000
Bachelors/Graduate Degree	62 (18%)	62 (18%)		
Rank				
E1-E4	258 (56%)	258 (56%)		
E5-E9	153 (33%)	153 (33%)	X2 (2df)=0	1.000
Officer/Warrant Officer	46 (10%)	46 (10%)		
Primary Component				
Active	166 (70%)	166 (70%)		
Reserve	27 (11%)	27 (11%)	X2 (2df)=0	1.000
National Guard	43 (18%)	43 (18%)		
Marital Status				
Single, Never Married	182 (41%)	182 (41%)		
Married	181 (41%)	181 (41%)	X2 (4df)=0	1.000
Separated/Divorced	83 (19%)	83 (19%)		
Years Married to Spouse, mean (SE)	4.33 (0.36)	4.69 (0.41)	t=0.631	0.529
Dual Military Couple	39 (46%)	39 (46%)	X2 (1df)=0	1.000
Have at least 1 child	178 (40%)	178 (40%)	X2 (1df)=0	1.000

Stress- Matched Sample

Stress Variable	Female (n=458)	Male (n=458)	Test Statistic for Difference	p value
Number of Stressful Life Events, mean(SE)	2.4 (0.11)	2.36 (0.12)	t=-0.252	0.801
Moderate or Severe Stress, Emotional, Alcohol or Family Problem During this Deployment, n(%)	22.74%	21%	X2(1df)=0.249	0.618
Possible or Definite Marriage Infidelity, n(%)	38%	32%	X2(1df)=1.489	0.222
Combat Exposures	**3.98 (0.20)**	**7.31 (0.29)**	**t=9.367**	**0.000**
Number of Deployment Injuries	**0.49 (0.05)**	**0.98 (0.08)**	**t=4.94**	**0.000**

Health- Matched Sample

Health Outcome Variable	Women (n=442)	Men (n=442)	p value
Functional Impairment	1.511	1.514	0.946
Somatic Symptoms, mean	**1.489**	**1.376**	**0.000**
Self-reported health	2.461	2.344	0.220
Missed work days, mean	0.271	0.216	0.347
Sick call visits, mean	**0.877**	**0.649**	**0.003**
Taken medication, n(%)	8%	5%	0.227
Average hours of sleep per day, mean(SE)	2.629	2.53	0.264
Difficulty Falling/Staying Asleep, mean(SE)	1.868	1.749	0.077
Major Depressive Disorder, n(%)	17.0%	18.1%	0.658

Social Support- Matched Sample

Social Support by Gender in Soldiers

Women (n=458)
Men (n=458)
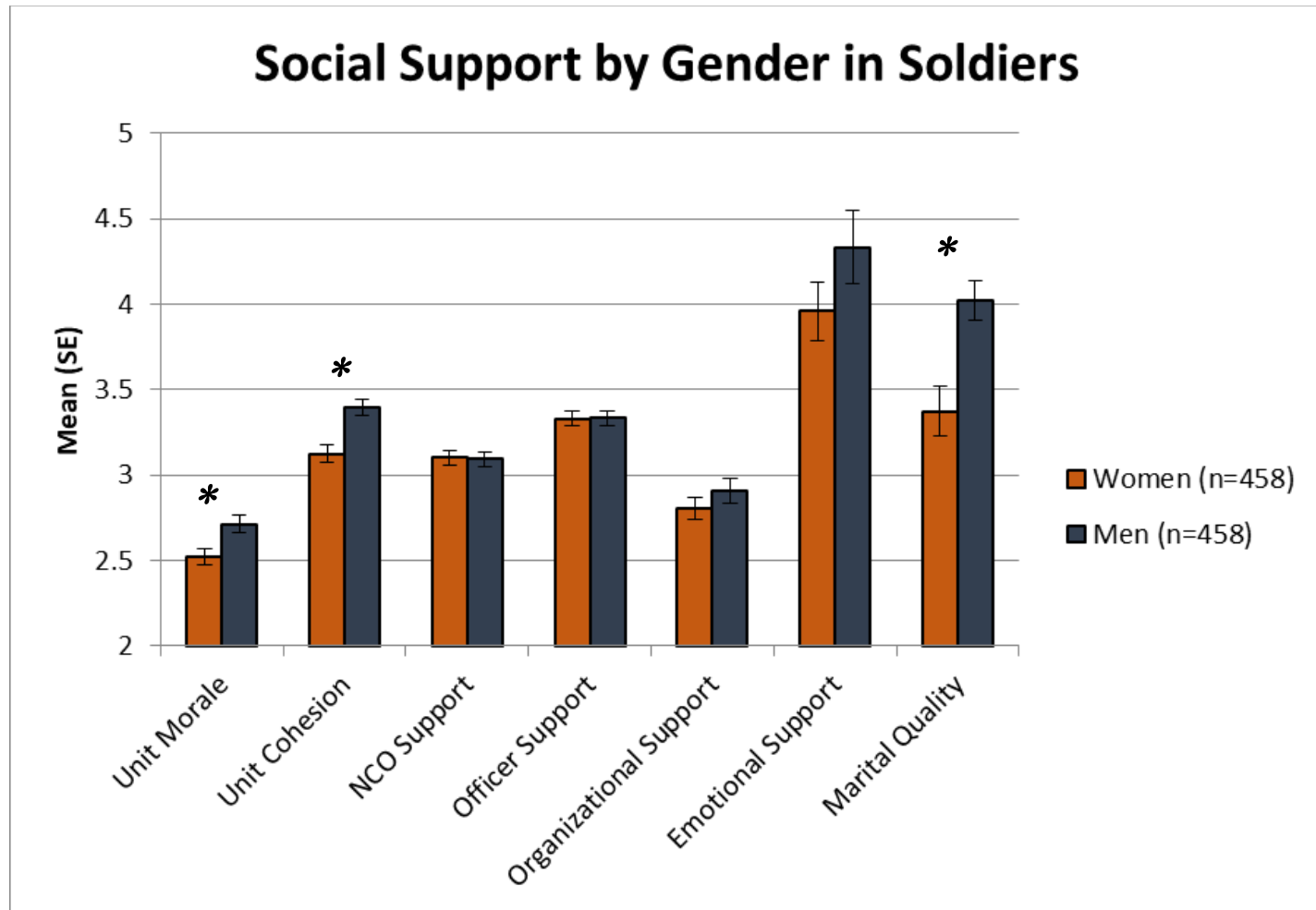
Moderation Model- Matched Sample

Moderation Model- Matched

Combat Exposures and Functional Impairment in Males
By Level of NCO Support

Moderation Model- Matched Sample

Combat Exposures and Functional Impairment in Females
By Level of NCO Support
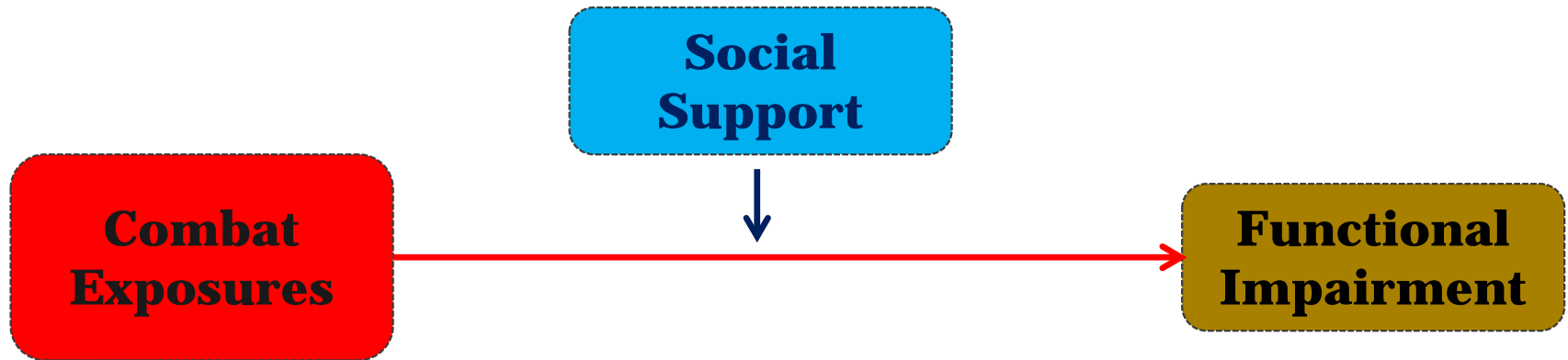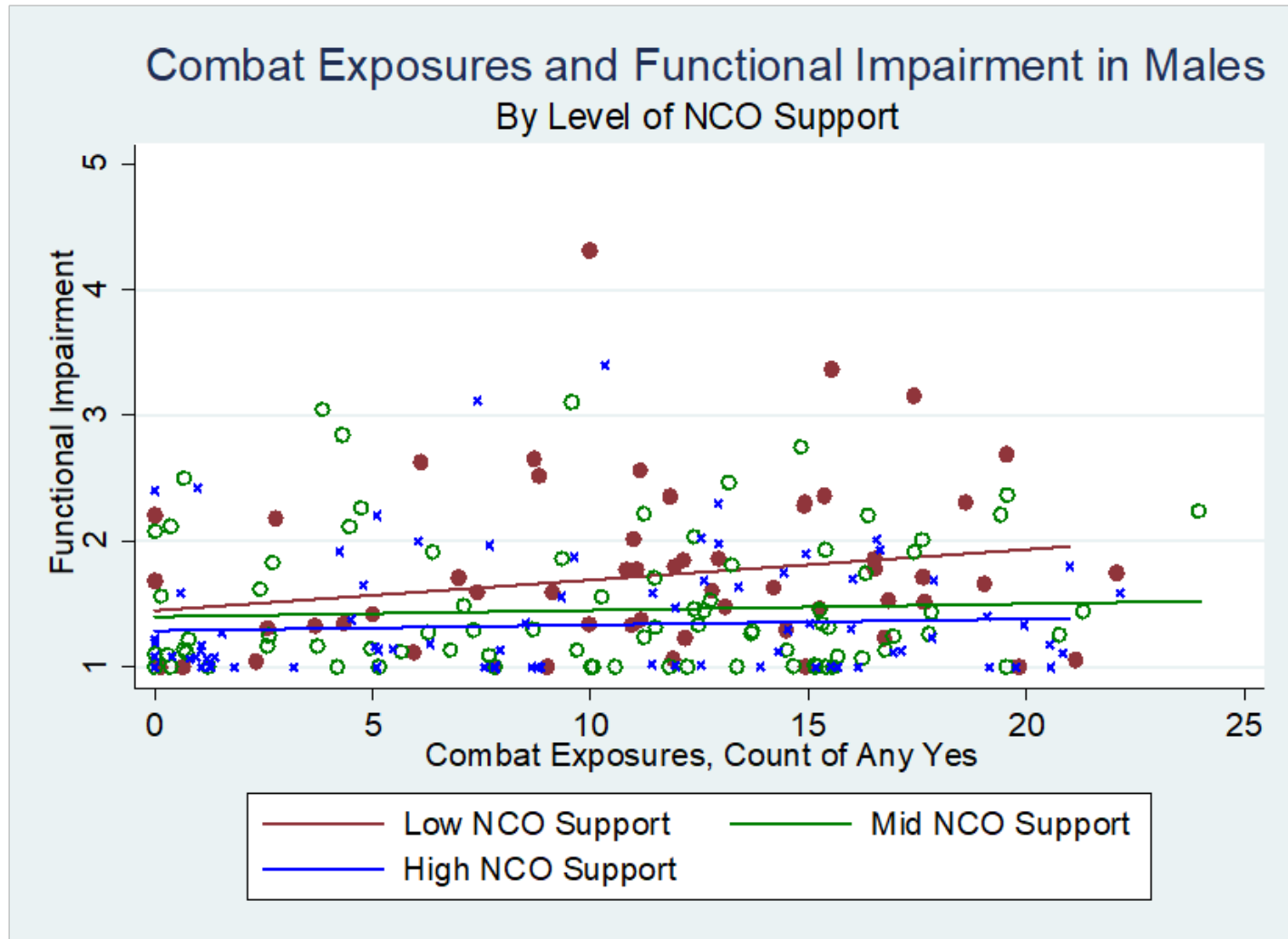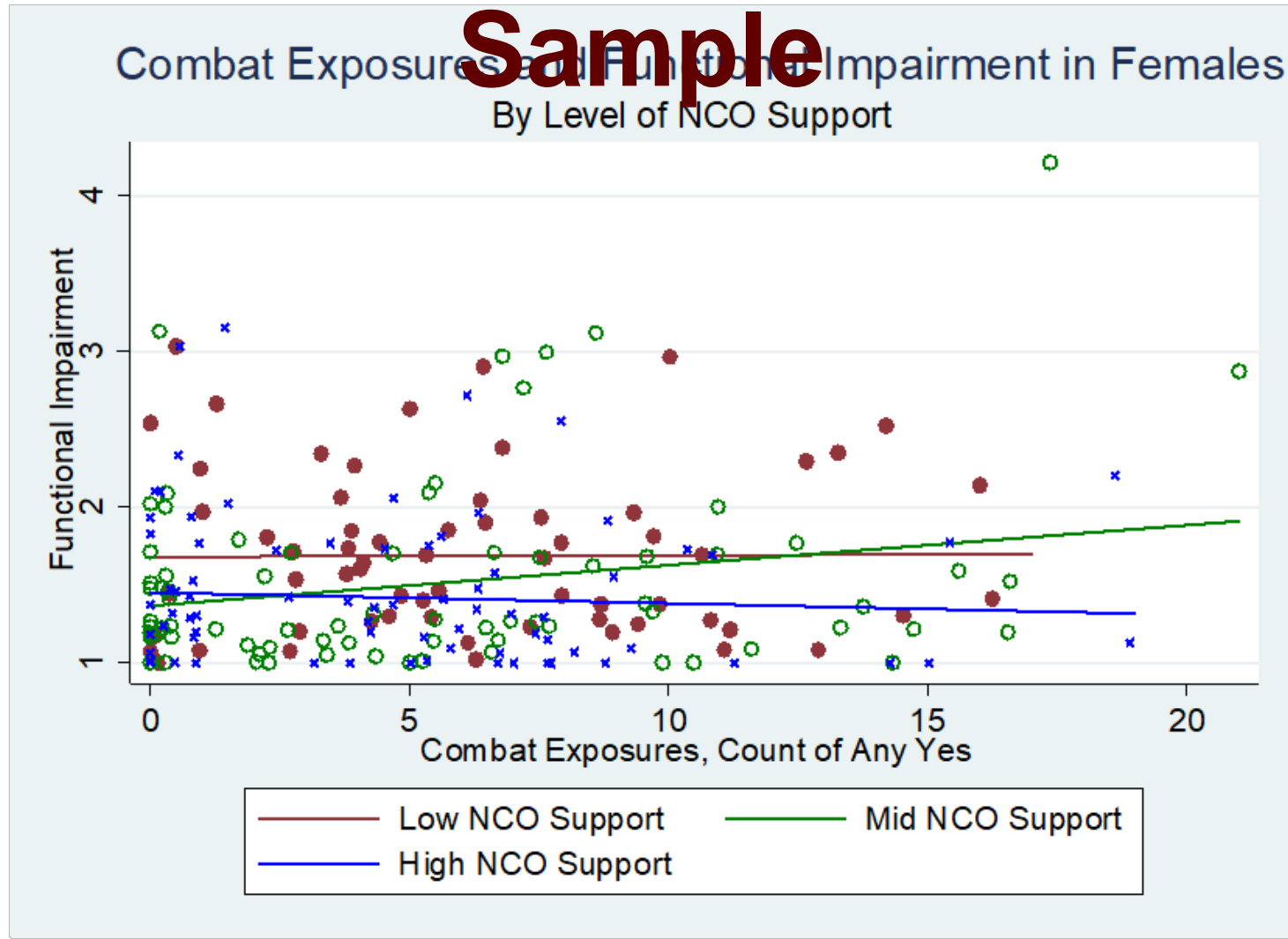
Discussion

- Limitations of Dataset & Retrospective design
  - Sensitivity/specificity of stress related questions
  - Interpersonal stressors not addressed
  - No direct measure of support from peers/friends/family
  - Sample compiled from available survey data collected at different time points and by different groups

One of very few investigations that includes data collected in-theater from deployed, female Service members

Discussion

- Growing evidence that women are NOT more vulnerable than men to stress
  - Similar risk for rate and severity of PTSD and depression from those exposed to combat
  - Similar resilience factors to combat related stressors
- Social Support is a key variable for mental and physical health
- Women historically and in this sample report lower social support than men
- Gender integration studies highlight the important role of the leader in successful integration of women into combat roles

Implications

... SET A SINGLE STANDARD

...TREAT ALL MEMBERS FAIRLY

... MY LEADERSHIP IS CONCERNED
ABOUT MY WELLBEING

MEMBERS OF MY UNIT
STAND UP FOR EACH OTHER

MEMBERS OF MY UNIT
CAN DEPEND ON EACH OTHER

Implications for Integration

- By increasing Social Support for all Warriors we promote adaptive/resilient teams

  ➤ Assess support first, then enhance it (training, education)

- How can leaders increase Social Support for female Service members?

  ➤ Family Supportive Supervisor Behaviors

  ➤ Facilitate a culture of respect to reduce gender bias

Implications for Integration

- **Family Supportive Supervisory Behaviors (FSSB)**

  - Hammer et al., 2009, 2011

  - emotional support

  - role modelling

  - instrumental support

  - creative work-family management

Implications for Integration

- **Facilitate a Culture of Respect**
  - morale & cohesion
  - elements of optimal group contact
    - free of competition
    - viewed as important by the participants
    - equality of status
    - normatively and institutionally sanctioned
    - free from anxiety and other negative emotions

Acknowledgments

Consultants
Dr. Amy Adler
COL Maurice Sipos
Dr. Lyndon Riviere

Co-Authors
Dr. Katie Nugent
Ms. Jessica Kim
CPT Karmon Dyches

Data Management
Ms. Julie Merrill

THANK YOU