

Disordered Eating and Weight Changes after Deployment: Longitudinal Assessment of a Large U.S. Military Cohort

Jacobson, I. G., Smith, T. C., Smith, B., Keel, P. K., Amoroso, P. J., Wells, T. S., Bathalon, G. P., Boyko, E. J., & Ryan, M. A. K. (2009). Disordered eating and weight changes after deployment: Longitudinal assessment of a large U.S. Military cohort. *American Journal of Epidemiology*, 169, 415-427.



Scores were compared on a self-report measure of disordered eating in a sample of Service members who either: deployed with combat exposure, deployed without combat exposure, or did not deploy. The focus of the study was to determine whether deployment or combat exposure were associated with disordered eating or extreme weight change. Findings indicate that combat exposure was associated with an increased risk of new-onset disordered eating among participants who were Caucasian, young, Active Duty, and in the Marine Corps, particularly for those with a reported prior mental disorder diagnosis. Only women were at-risk for extreme weight loss following combat exposure.

Key Findings:

- New-onset disordered eating was most common among participants with combat exposure who were Caucasian, young, Active Duty, and in the Marine Corps, particularly for those who had reported a prior mental disorder diagnosis.
- Women with combat exposure had 1.78 times increased odds of having a new-onset disordered eating behavior (95% confidence interval = 1.02-3.11), and 2.35 times increased odds of losing an extreme amount of weight (95% confidence interval = 1.17-4.70) relative to women without combat exposure.
- Men with combat exposure were more likely to gain an extreme amount of weight from baseline to follow up (odds ratio = .82, 95% confidence interval = .72-.93) relative to non-deployed men.

Implications for Programs:

- Programs could provide classes that teach evidence-based, healthy coping mechanisms for those returning from a combat zone to reduce the likelihood of turning to disordered eating as a form of coping.
- Reintegration programs could include gender-specific curricula, specifically targeting potential patterns of disordered eating based on risk factors associated with each gender.

Implications for Policies:

- Policies could continue to expand endorsement of confidentiality and self-referral for mental health services and disordered eating behaviors.
- Policies could recommend that food services in deployment locations and on bases offer a wide range of healthy, nutritious, appetizing options for Service members and their families.

Avenues for Future Research:

- Future studies could examine individuals who have separated from the military to determine whether extreme weight gain or disordered eating are more common in this group relative to those who remained in the military.
- Future studies could include multiple baseline measures prior to deployment to capture changes in eating patterns (because disordered eating may be episodic in nature and, therefore, may not be present in one baseline measure but could appear in another).
- Future studies could focus on differences in results for Active Duty vs Reserve Component personnel which may offer insights and implications for programs and policies.

Background Information

Methodology:

- A secondary data analysis was conducted on data from the Millennium Cohort Study, a randomly selected population-based sample.
- Participants answered questions about basic demographics (sex, race/ethnicity, branch of service), deployment experiences, history of life stress (categorized as low/mild, moderate, or severe), mental health, alcohol misuse (assessed with the Cutting down, Annoyance by criticism, Guilty feeling, and Eye-openers questionnaire), disordered eating (assessed with Patient Health Questionnaire), height, and weight.
- To be included, participants had to have completed a baseline survey (n = 77,047; baseline conducted between 2001-2003) and a follow-up survey (n = 55,021, 71% completion rate; completed between 2004-2006). Participants were excluded if they had deployed prior to baseline, if they completed either of the surveys while deployed, or if they failed to answer key disordered-eating questions, resulting in a total of 48,378 people included in baseline analyses.
- For weight-change analyses, people were excluded if they reported discrepant heights, did not report height or weight, or if the participant was pregnant or had given birth between baseline and follow-up, resulting in 42,174 participants included in weight-change analyses.
- Odds ratios and logistic regressions were used to compare associations between deployment and disordered eating.

Participants:

- Participants included members from all branches of the military.
- Participants were predominantly male (73%), Caucasian (70%), and Active Duty (57%).
- Most participants were from the Army (women n = 6,347, men n = 15,536), followed by the Air Force (women n = 3,772, men n = 10,198), Navy/Coast Guard (women n = 2,257, men n = 6,128), and Marine Corps (women n = 265, men n = 1,716).

Limitations:

- Disordered eating behaviors can be episodic in nature, making it possible that “new onset” behaviors were not really “new,” but were simply masked during the baseline measure.
- This study relied on self-reports measures, which could yield biased results particularly for assessments of height and weight.
- Reported results do not distinguish differences between Active Duty and Reserve Component Service members.

Assessing Research that Works

Research Design and Sample				Quality Rating:	★★★★
	Excellent (★★★★)	Appropriate (★★★)	Limited (★★)	Questionable (★)	
The design of the study (e.g., research plan, sample, recruitment) used to address the research question was...	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Research Methods				Quality Rating:	★★★☆☆
	Excellent (★★★★)	Appropriate (★★★)	Limited (★★)	Questionable (★)	
The research methods (e.g., measurement, analysis) used to answer the research question were...	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Limitations				Quality Rating:	★★★☆☆
	Excellent Minor Limitations (★★★★)	Appropriate Few Limitations (★★★)	Limited Several Limitations (★★)	Questionable Many/Severe Limitations (★)	
The limitations of this study are...	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Implications				Quality Rating:	★★★☆☆
	Excellent (★★★★)	Appropriate (★★★)	Limited (★★)	Questionable (★)	
The implications of this research to programs, policies and the field, stated by the authors, are...	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/> Not applicable because authors do not discuss implications	
Overall Quality Rating				★★★☆☆	