



# Morningness/Eveningness Preferences & Cadet Performance



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# Agenda



Advanced Individual Academic Development  
(Monterey – Naval Postgraduate School)

Introduction

Method

Preliminary Results

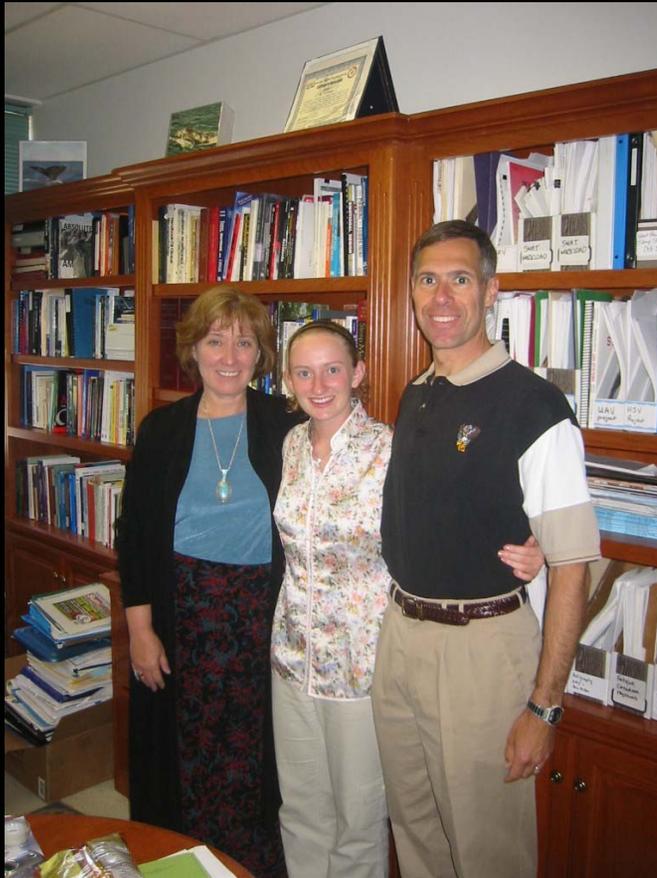
Discussion

Questions/Comments





# Advanced Individual Academic Development Naval Postgraduate School (Monterey)



Dr. Miller, Cadet DeVany,  
and COL Shattuck

- Review the scientific literature on sleep deprivation.
- Assist in the analysis of data from the four-year longitudinal sleep study of USMA cadets.



Cadet DeVany and Cadet Barnett



# Introduction



## *Morningness/Eveningness (M/E)*

Morning types (Larks) go to bed and get up earlier than evening types (Owls).

~Ishihara, K., A. Miyashita, et al. (1986).

Larks sleepier during night shift work than owls.

~ Hilliker, N. A., M. J. Muehlbach, et al. (1992).

Negative effects of the incongruence between morningness-eveningness preference and morning-evening shift work.

~Smolensky, M., & Lamberg, L. (2001).



# Introduction



## *Performance*

Losing sleep diminishes student alertness, interest, and ability to absorb knowledge.

~Dement, W. C., & Vaughan, C. (1999).

Researchers found differences in audio-visual performance for Larks (better in the morning) and Owls (better in the evening).

~Kerkhof, G. A., H. J. Korving, et al. (1980).



# Introduction



Warfare is changing....

- We attack at dawn
- We own the night
- 24/7 operations

We need both M/E personality types to have a flexible military organization.

Implications for young soldiers in Army (junior enlisted soldiers are the same age as USMA cadets)

**Research Question:** How do morningness/eveningness preferences influence cadet performance and attrition at USMA.



# Method



## Participants

- All members of the USMA Class of 2007 ( $n=1266$ )
- All members of the USMA Class of 2008 ( $n=948$ )

## Apparatus

Morningness/Eveningness determined by a six question derivation of the Horne-Ostberg M/E Questionnaire

## Procedure

- Administer M/E Questionnaire to the Class of 2008
- Collect attrition and performance (academic, physical, and military) data
- Compare Class of 2007 M/E data (from previous research) with Class of 2008 M/E data
- Analyze Class of 2008 attrition and performance data and compare with M/E preferences

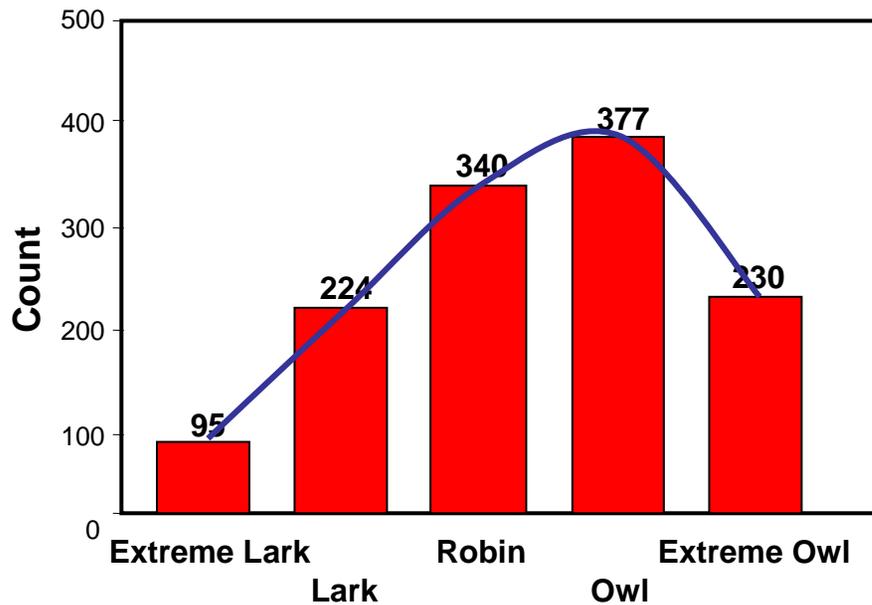




# Preliminary Results

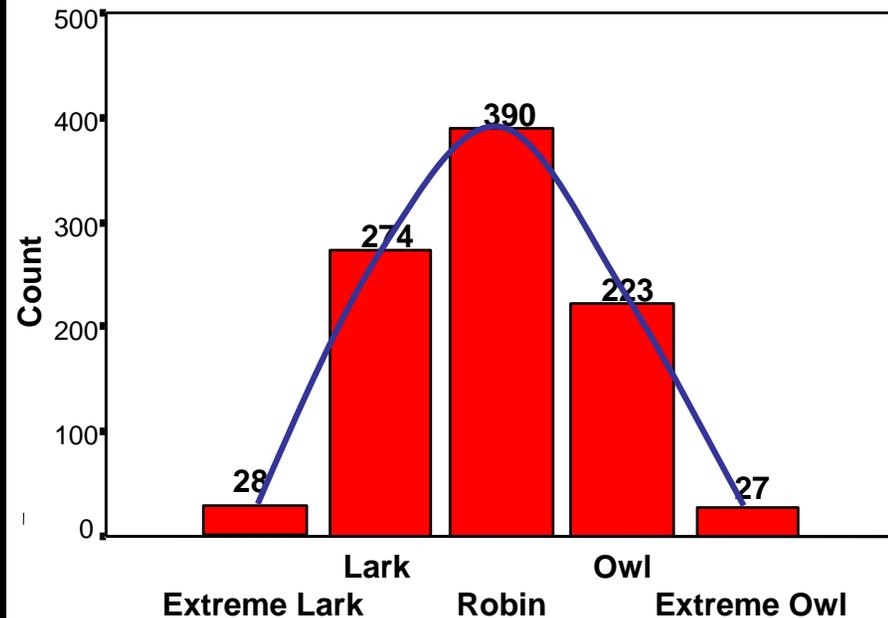


## Class of 2007



Morningness/Eveningness Preference

## Class of 2008



Morningness/Eveningness Preference



# Discussion



- ❑ **Distribution of Larks and Owls in 2008 different from previous study**
  - 2007 skewed to Evening
  - 2008 skewed to Morning
  
- ❑ **Class of 2007 data collected within their 1<sup>st</sup> three days at USMA; Class of 2008 data collected 2 ½ months after they arrived at USMA**
  
- ❑ **Possible explanations:**
  - Social desirability bias
  - Cognitive dissonance
  - Different class makeup





# Discussion



## *What's Next.....*

### **□ Administer Morningness/Eveningness Survey to Class of 2007**

- If shift toward M from initial M/E distribution, time at USMA influenced responses (M/E is malleable or cadets think M is preferred response)
- If no change, Classes of 2008 and 2007 have different class makeups (late testing date for 2008 did not influence)

### **□ Collect attrition and performance score data at the end of the semester on the Class of 2008**

### **□ Analyze Class of 2008 attrition and performance data and compare with morningness/eveningness preferences.**



# Questions/Comments?



“The usual sequence of events when clients start learning about sleep is first to deny the problem, then to recognize it and seek a quick fix...At some point the idea clicks in clients’ heads, and they see how they can use their knowledge to set up meetings for periods when they’ll be at their peak, or take catnaps to allow them to outlast others who are working late on a rush project.”

*~The Promise of Sleep (235-236)*

