

# Application of Pender's Health Promotion Model in Military Spouses

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# **Presenter Disclosures**

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**The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:**

**“No relationships to disclose”**

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# Background: Health Promoting Lifestyles

- Health behaviors have a significant influence on health status (Health, 2006)
- Health promotion focuses on increasing personal responsibility for health behavior in individuals and groups
- A health-promoting lifestyle includes (DHHS, 2007) :
  - Regular physical activity
  - Eating a healthy diet
  - Periodic health screening
  - Avoidance of health risk behaviors
- National Initiatives (e.g. Healthy People 2020)

# Background: Families of Military Members

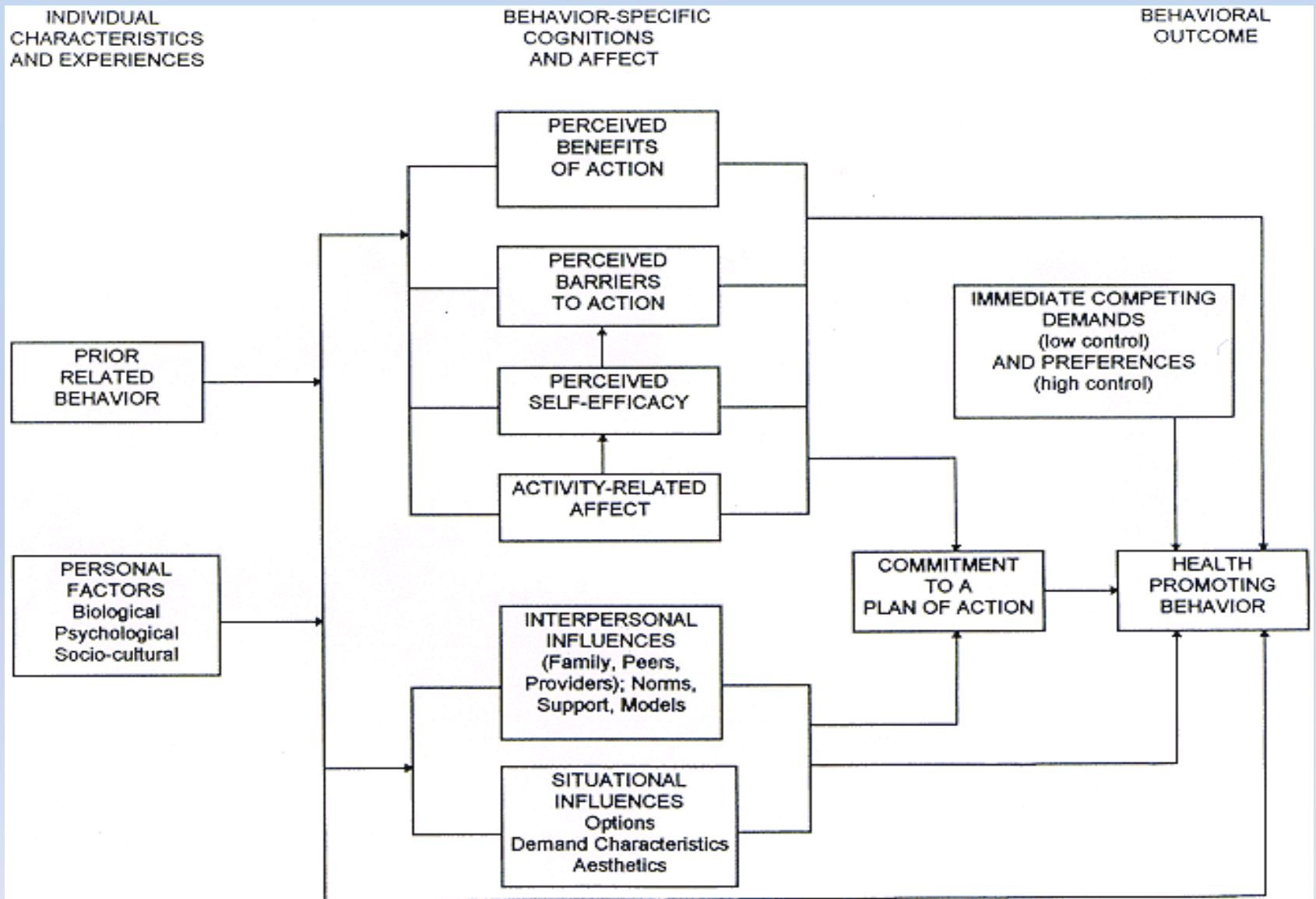
- ~726,000 spouses of active duty military are eligible to receive health care in military treatment facilities
- Despite previous studies on determinants of health-promoting behaviors in active duty military, little is known about factors that promote the practice of health promoting behaviors among **family members** of military personnel
- Understanding these factors could assist the DoD in implementing cost-effective intervention programs to improve health

# Theoretical Framework

## Pender's Health Promotion Model

- Health promoting lifestyle is defined by Pender as “multidimensional patterns of self-initiated actions and perceptions that serve to maintain or enhance the level of wellness, self-actualization, and fulfillment of the individual”  
(Walker, Sechrist, & Pender, 1987, p. 77)
- The Health Promotion Model (HPM) was designed to “integrate nursing and behavioral science perspectives on factors influencing health behaviors”  
(Pender, Murdaugh, & Parsons, 2006, p. 47)
- The model consists of three broad constructs 1) individual characteristics and experiences, 2) behavior-specific cognitions and affect, and 3) behavioral outcomes

# Health Promotion Model (Revised)



Revised Health Promotion Model

# Individual Characteristics and Experiences

- Personal characteristics and experiences that affect subsequent action (Pender, Murdaugh, & Parsons, 2006, p. 45-46)
  - **Prior Related Behavior:** frequency of the same or similar behavior in the past
  - **Personal factors:** shaped by the nature of the target behavior
    - Biological – age, gender, BMI, pubertal status, menopausal status, aerobic capacity, strength, agility or balance
    - Psychological – self-esteem, self-motivation and perceived health status
    - Sociocultural – race, ethnicity, acculturation, education and SES



# Behavior-Specific Cognitions and Affect

- Behavior specific variables have a major influence upon motivation (Pender, Murdaugh, & Parsons, 2006, p. 46-49)
  - **Perceived Benefits of Action:** anticipated benefits from participation in a health behavior
  - **Perceived Barriers to Action:** perceptions concerning the unavailability, inconvenience, expense, difficulty, or time-consuming nature of a particular action (real or imagined)
  - **Perceived Self-Efficacy:** judgment of personal capability to carry out a particular health promoting behavior
  - **Activity-Related Affect:** subjective feeling states that occur prior to, during, and after an activity; reflects the emotional reaction or gut-level response to the thought of the behavior (positive or negative)

# Behavior-Specific Cognitions and Affect

(Pender, Murdaugh, & Parsons, 2006, p. 46-49)

- **Interpersonal Influences:** cognitions concerning the behaviors, beliefs or attitudes of others; primary sources of interpersonal influence on HPBs are family, peers, and health care providers; others include:
  - Norms - expectations of significant others
  - Social support - instrumental and emotional encouragement
  - Modeling - vicarious learning through observing others engaged in a particular behavior
- **Situational Influences:** personal perceptions and cognitions of any situation or context that can facilitate or impede behavior; includes perceptions of options available, demand characteristics, and esthetic features of the environment

# Behavioral Outcomes

- The endpoint or action outcome in the HPM (health promoting behaviors); directly influenced by two prior components:  
(Pender, Murdaugh, & Parsons, 2006, p. 50)
  - Commitment to a Plan of Action: initiates a behavioral event unless a competing demand or preference interferes
    - Commitment to carry out a specific action at a given time and place and with specified persons or alone, irrespective of competing preferences
    - Identification of definitive strategies for eliciting, carrying out, and reinforcing the behavior
  - Competing Demands and Preferences: alternative behaviors that intrude into consciousness as possible courses of action immediately prior to the intended occurrence of a planned HPB
    - Competing Demands: alternative behaviors over which an individual has low control such as work and family responsibilities
    - Competing Preferences: alternative behaviors over which the individual has a high level of control such as a choice of a high fat versus low fat snack; dependent upon an individual's ability to self-regulate

# Purpose

- The purpose of this research was to determine factors which may influence participation in a healthy lifestyle using Pender's Health Promotion Model

# Specific Aim 1

- To describe the following in spouses of active duty military members:
  - **Personal factors** (biological, psychological, and socio-cultural)
  - **Behavior-specific cognitions** (perceived self-efficacy, interpersonal influences, and situational influences)
  - **Health promoting behaviors** (health responsibility, physical activity, nutrition, interpersonal relations, spiritual growth, and stress management and avoidance of tobacco and alcohol)

# Specific Aim 2

- To validate Pender's Health Promotion Model by determining the extent to which personal factors, behavior-specific cognitions and competing demands predict health promoting behaviors in spouses of military service members

# Model of Health Promoting Behaviors

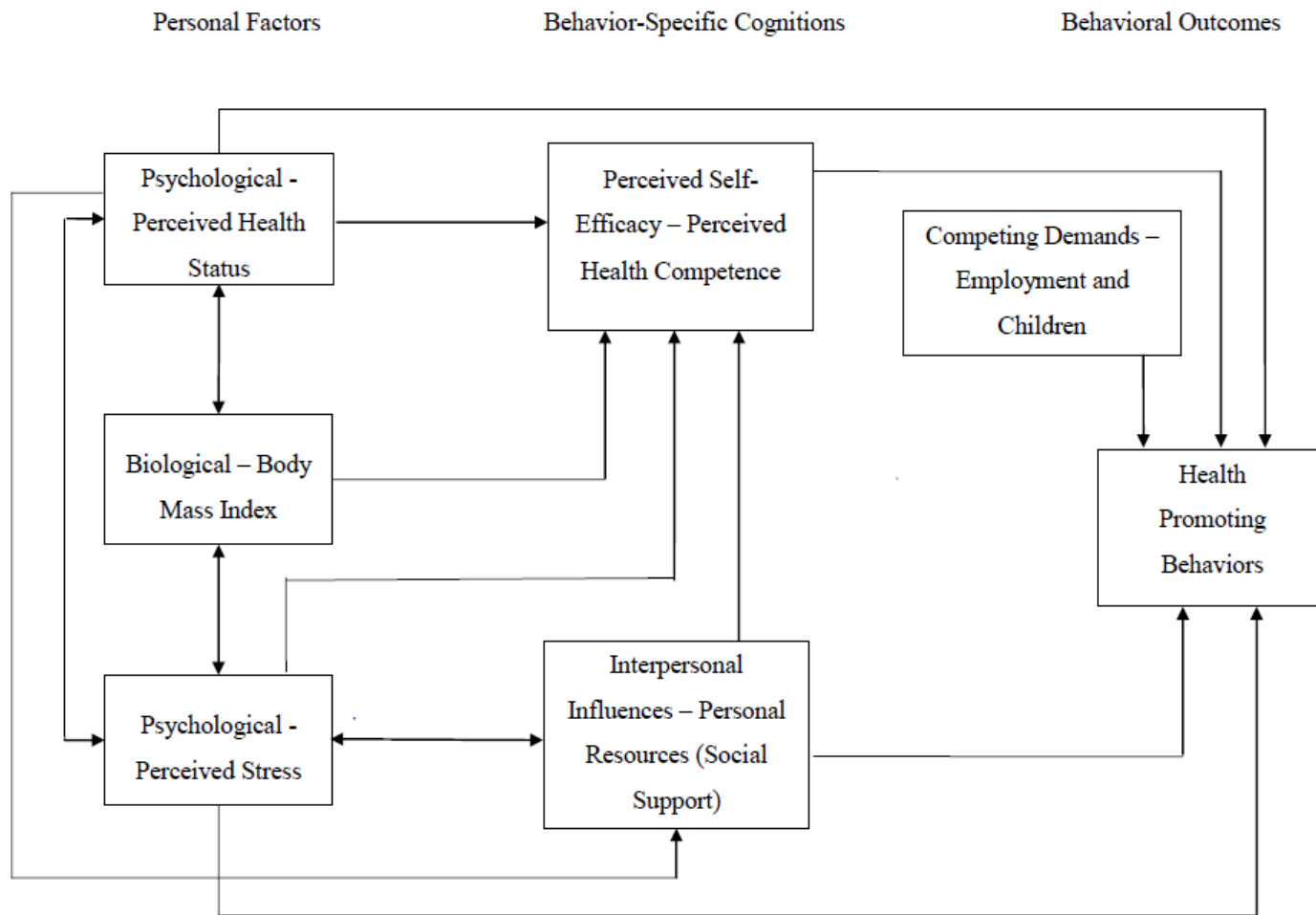


Figure 2. Proposed model of health promoting behaviors in spouses of Active Duty Military

<b>Concept</b>	<b>Variable</b>	<b>Conceptual Definition</b>	<b>Operational Definition</b>
Biological Factors	Demographics	Individual personal characteristics that cannot be changed by nursing interventions	Age, body mass index (BMI), gender
Sociocultural Factors	Demographics	Individual personal characteristics that cannot be changed by nursing interventions	Race, education, spouse's service, rank and deployment status; acculturation (growing up in a military family or prior military service)
Psychological Factors	Perceived Health Status	Self evaluation of one's perception of current health	Score on Perceived Health Status (PHS)
	Perceived Stress	Degree to which situations in one's life are appraised as stressful- how unpredictable, uncontrollable, and overloaded respondents find their lives	Total score on perceived stress scale (PSS)
Perceived Self-Efficacy	Perceived Self-Efficacy	An individual's confidence in his or her ability to take action necessary to produce an outcome	Scores on perceived health competence scale (PHC)
Interpersonal Influences	Social Support	Social relationships theoretically based on multidimensional characteristics of 1) worth, 2) social integration, 3) intimacy, 4) nurturance, and 5) assistance.	Total score on the Perceived Resource Questionnaire Part 2 (PRQ85)
Competing Demands	Competing Demands	Alternative behaviors over which an individual has low control such as work and family responsibilities	Employment status, number of hours worked outside the home, number of and age of children living at home
Health Promoting Behaviors	Health Promoting Behaviors	Behaviors which an individual engages in toward the enhancement of health, functional ability, and better quality of life.	Total Score on Health-Promoting Lifestyle Profile II (HPLP II), Score on each HPLPII subscale, BRFSS tobacco/alcohol questions



# Methods: Participants

- Cross-sectional study of **1008** military spouses
  - Recruited via advertisement from: Fayetteville Observer, Paraglide newspaper, Ft Bragg Facebook website, Womack and all clinics, Child Development Centers, post fitness centers, PX, commissaries, Army Community Services, post library, post recreation centers and community centers
  - Completed a survey about their perceived health status, self-efficacy, personal resources, perceived stress and participation in health promoting behaviors
- **Inclusion criteria:**
    - Spouse serving on active duty
    - Ability to speak, read, and understand English
  - **Exclusion criteria:**
    - Active duty spouses (22 dual military couples)
    - Male spouses (only 12 males participated)

# Sample Characteristics

## 807 Female Spouses

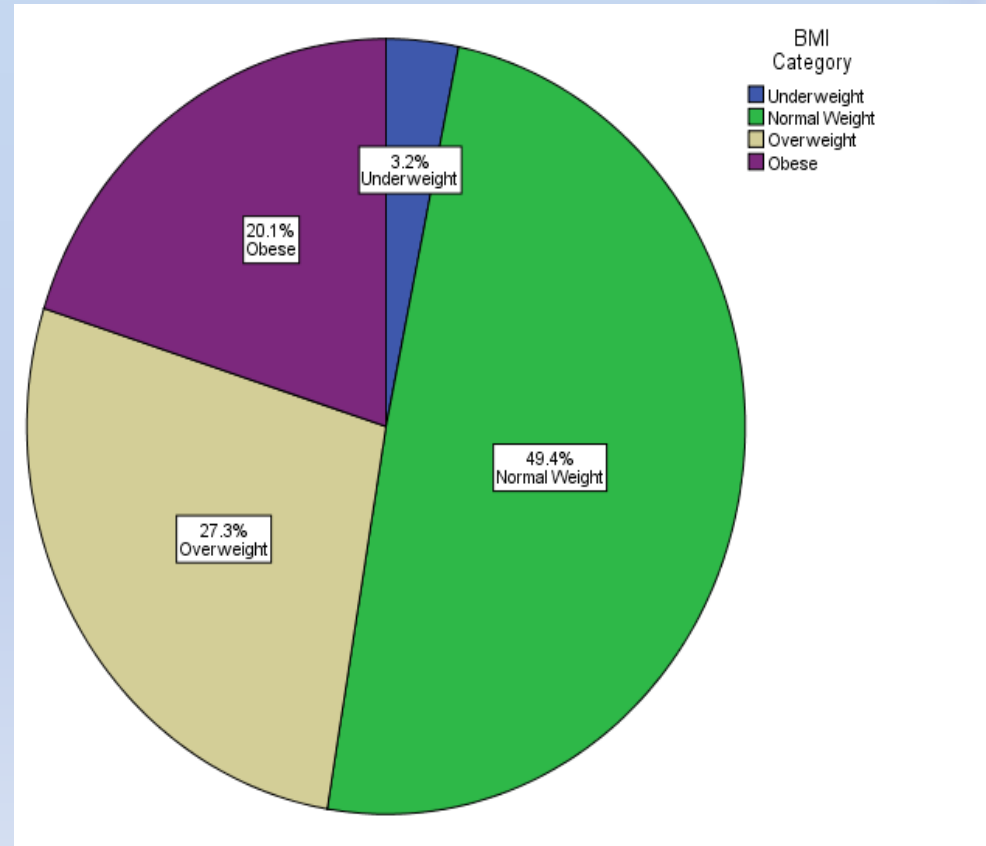
Demographic		Mean/Percentage
Age		29.80 (range from 18-56 years old)
Race/Ethnicity	Caucasian	72.5%
	Hispanic	11.5%
	African American	6.1%
	Asian	2.6%
	Other	4.6%
Education Level	GED	2.2%
	High School Diploma	10.3%
	Some College	40.9%
	Bachelor's Degree	31.5%
	Graduate's Degree	15.0%

# Sample Characteristics

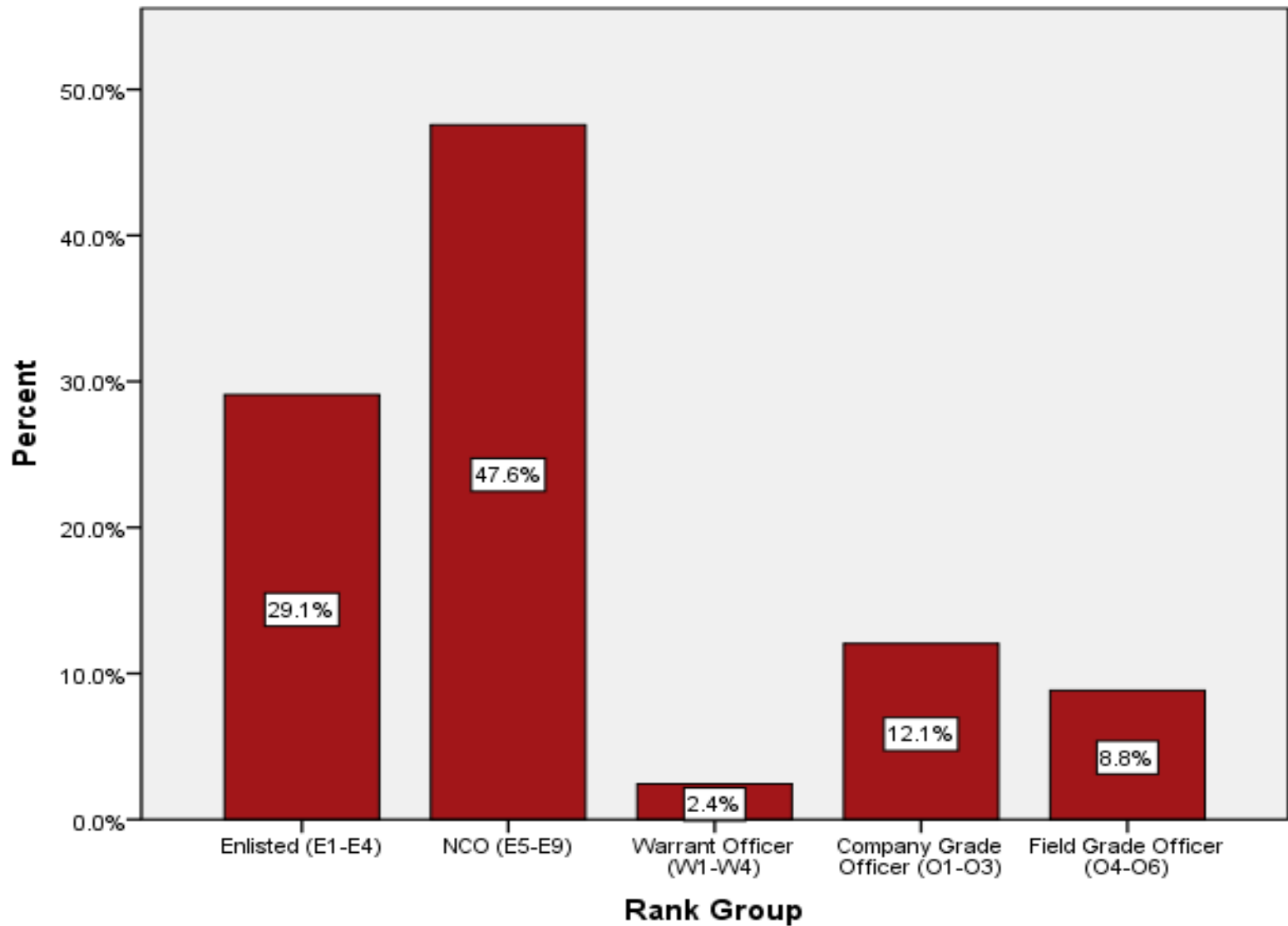
- 32.4% work outside the home
- 72.6% had children, including stepchildren living at home
  - Number of children  $M = 2.06$
  - Age of oldest child  $M = 7.97$  years old
  - Years married  $M = 5.30$  years

# Body Mass Index (BMI)

- Body Weight  
 $M = 159.04$  lbs  
Range: 80 – 360 lbs
- BMI  
 $M = 25.85$   
Range: 15.2 – 51.6
- **Almost half of the sample (47.4%) was overweight or obese**

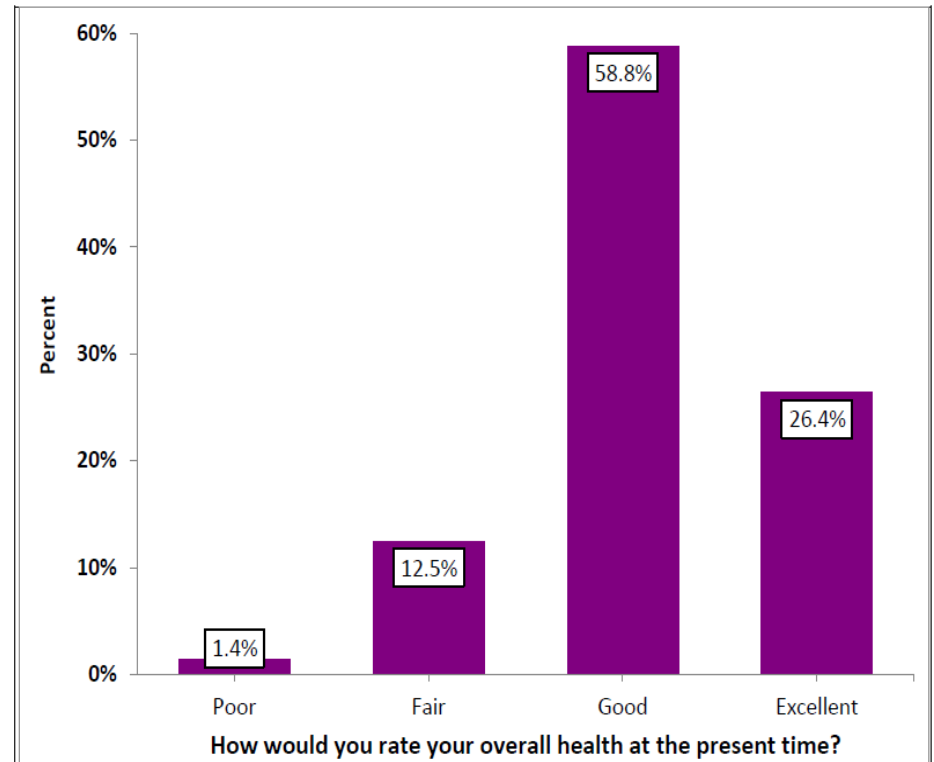


# Spouse's Rank



# Measures: Personal Factors

- **Perceived Health Status (Psychological Factor):** “How would you rate your overall health at the present time?” Choices were Poor, Fair, Good, or Excellent.
- The majority rated their overall health as good. However, 14% felt their health was fair or poor.



# Measures: Behavior Specific Cognitions

## Perceived Health Competence Scale (Perceived Self Efficacy):

A measure of the degree to which an individual feels capable of effectively managing his or her health outcomes. The belief that one is capable of achieving their health goals is associated with positive health outcomes. The PHCS consists of eight statements with responses ranging from 1 = “strongly disagree to 5 = “strongly agree.” Possible scores range from 8 to 40 with higher scores indicating a higher level of perceived health competence. (Smith, Wallston, and Smith, 1995).

**Sample Mean: 30.77 (*SD* = 5.97)**

**Sample Range: 11 – 40**

**Sample Reliability: 8 items;  $\alpha = .86$**

# Measures: Personal Factors

## Perceived Stress Scale – 10

### (Psychological Factor):

The Perceived Stress Scale (PSS-10) is designed to measure the degree to which situations in one's life are appraised as stressful. It measures how unpredictable, uncontrollable, and overloaded respondents find their lives. Respondents are asked how often they felt a certain way in the past month with response choices ranging from 0 = "never" to 4 = "very often." Higher scores indicate higher level of perceived stress. Possible scores range from 0 to 40 points. (Cohen & Williamson, 1988).

**Sample Mean: 16.47 (*SD* = 5.88)**

**Sample Range: 0 – 35.4**

**Sample Reliability: 10 items;  $\alpha = .89$**



# Measures: Behavior Specific Cognitions

## Perceived Resource Questionnaire Part 2 (Interpersonal Influence):

The Personal Resource Questionnaire (PRQ85) Part 2 consists of 25 items designed to measure social support, five from each dimension of social relationships. Respondents are asked to rate each statement on a scale ranging from 1 = “strongly disagree” to 7 = “strongly agree” points. Possible scores range from 25 to 175 with higher scores indicating a higher level of perceived social support. (Lindsey and Yates, 2004).

**Sample Mean: 139.79 (*SD* = 22.51)**

**Sample Range: 40 - 175**

**Sample Reliability: 25 items;  $\alpha$  = .92**

# Measures: Behavioral Outcomes

## Health Promotion Lifestyle Profile II (HPLPII) (Health Promoting Behaviors) :

Measures six dimensions of health promoting behavior: 1) spiritual growth, 2) interpersonal relations, 3) nutrition, 4) physical activity, 5) health responsibility, and 6) stress management. It consists of 52 items from which a total score and six subscale scores are derived. Respondents are asked to self report the frequency in which they engage in each health promoting behavior with response choices ranging from 1 = “never” to 4 = “routinely.” Scores range from 1 – 4, calculated as the mean of individual's responses to all 52 items and for each subscale.(Berger & Walker, 2004).

**Sample Mean: 2.64 (SD = .49)**

**Sample Range: 1.3 – 4.0**

**Sample Reliability: 52 items;  $\alpha = .95$**

# Relationships

Pearson Correlations Among Study Variables and HPLPII Subscales (N = 807)

	BMI†	PHS	PHCS	PRQ	PSS	HPLPII
<i>HPLPII Subscales</i>						
Health Responsibility	-.099**	.213	.348**	.385*	-.330**	-
Physical Activity	-.241**	.361**	.463**	.362**	-.364**	-
Nutrition	-.240**	.343**	.442**	.371**	-.413**	-
Spiritual Growth	-.194**	.378**	.484**	.649**	-.616**	-
Interpersonal Relations	-.121**	.288**	.406**	.753*	-.531**	-
Stress Management	-.234**	.367**	.474**	.538**	-.550**	-

†N = 802, \*\* p< 0.01.

# Relationships

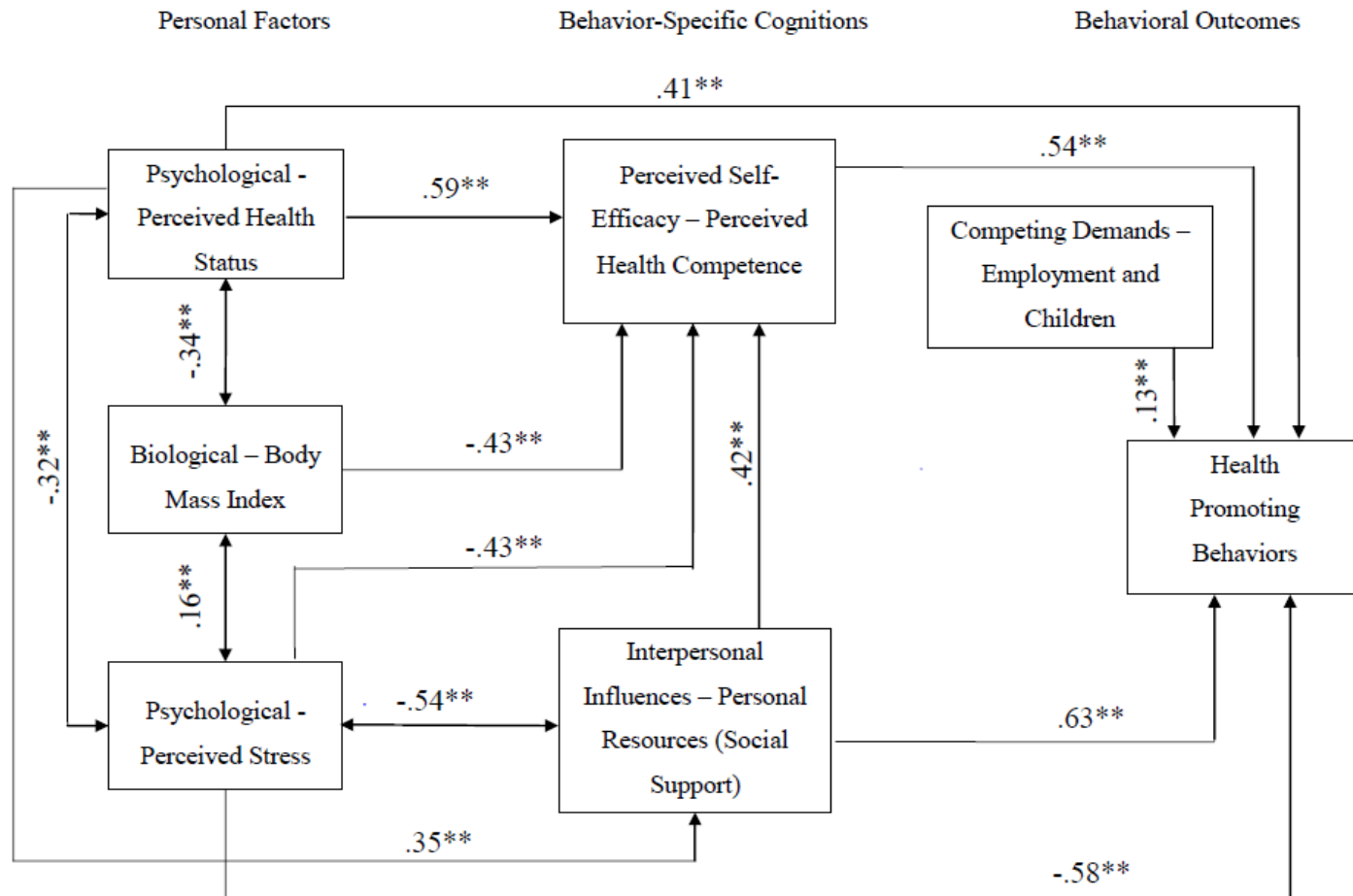


Figure 3. Proposed model with findings from military spouses at Ft. Bragg, NC (N = 807)

# Regression Analyses

- Hierarchical multiple regression using age, BMI, ethnicity, education, deployment factors, perceived health status, self-efficacy, perceived stress, social support and competing demands to examine determinants of a ***health promoting lifestyle (HPLPII)***
  - Entire model explained 55% of the variance in HPLPII
  - Significant predictors:
    - **Perceived Stress** ( $\beta = -.248, p = .002$ )
    - **Self-Efficacy** ( $\beta = .241, p = .006$ )
    - **Social Support** ( $\beta = .370, p < .001$ )

# Limitations

- Cross-sectional study, cause cannot be inferred
- Primarily Army spouses (92.7%)
- Only spouses of active duty service members

# Discussion

- Pender's Health Promotion Model was **validated** in this sample of spouses of military service members
- Perceived stress, social support and perceived health competency appear to be particularly influential in a health-promoting lifestyle in this population; consistent **with previous findings** (e.g. Callaghan, 2006; Eschiti, 2008; Monowatisbarifabad & Karirnzadeh, 2007; Padula & Sullivan, 2006; Ronis, Hong & Lusk, 2006; Smith & Bashore, 2006; Wilson, 2005)

# Implications

- Stress management interventions may positively impact health promoting lifestyles in spouses of military service members
- Enhancing social networks and the support provided by those networks may encourage health promoting behaviors in this vulnerable group
- As health care providers it is important to be cognizant of these factors to effectively educate and provide resources necessary to effect change; specifically **developing interventions** to decrease stress and increase self-efficacy and social support to improve health outcomes in this population



***Thank you***

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