Student Veterans in College: Do They Perform Differently from Their Civilian Peers?

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Context

- Recent and Ongoing Military Operations
  - OEF and OIF

- Changes to Educational Benefits
  - Expanded benefits in Post 9-11 GI Bill

- Need to Support Retraining of Veterans
  - Discharged veterans, combat wounded veterans

- Current Period of Fiscal Contraction
  - Fewer courses, campus services
Background

- **Background Characteristics**
  - More likely to be male, older, African American (NCES, 2009)
  - Service disrupts life course (Brooks, 2010; MacLean, 2005)

- **College Experiences**
  - Enroll at greater rates in community colleges and Associate degree programs, while equally enroll FT/PT basis (NCES, 2009)
  - Major in engineering, computer science, business (Adelman, 2008)
  - Less engaged but equally satisfied (Moltz, 2010)

- **Achievement and Engagement Outcomes**
  - Need for more research on the characteristics and conditions that can help explain veteran student achievement and engagement in college
Research Design

- **Research Purpose**
  - To examine differences in the levels of college outcomes between veteran and non-veteran undergraduate students
  - To investigate unique patterns in predictors of success for undergraduate student veterans

- **Research Questions**
  - What are the patterns of college student outcomes for veteran college students? Do veteran students tend to have lower levels of college outcomes than their civilian peers?
  - If so, what are the student characteristics and conditions that contribute to such patterns?

- **Research Design**
  - Nonexperimental survey research design
Data Source and Sample

Data Source

- 2008 University of California Undergraduate Experience Survey (UCUES) and student records data from the University of California (UC) system’s office.
  - UCUES is a longitudinal survey of UC undergraduate students administered by the UC Berkeley Office of Student Research

Sample

- 21,179 records
  - Less than 1% (.08%) reported being a veteran (n=163)
  - Overall, sample is traditional age (68% 18 or younger) and ethnically diverse (34% Asian, American, 33% White, 15% Latino, 3% African American)
Variables

- **Outcome Variables**
  - College Grade Point Average (GPA)
  - Sense of Belonging

- **Predictor Variables**
  - Three blocks
    - Student demographics
    - Other input characteristics
    - College experiences
Predictor Variables in Detail

- **Student demographic characteristics**
  - Gender
  - Ethnicity
  - Age
  - Income
  - Veteran status
    - Veteran, veteran/active duty military, veteran/reserve or national guard

- **Other student input characteristics**
  - Student level
    - Freshman, sophomore, junior, senior
  - Transfer status
    - Freshman applicant or transfer applicant
More Predictor Variables in Detail

- **College experiences**
  - Academic participation and interaction
    - Contributed to a class discussion, interacted with faculty during class
  - Collaborative work
    - Sought academic help from instructor or tutor, worked on class projects
  - Extracurricular engagement
    - Participating in student clubs or organizations, socializing with friends
  - Time employed
    - Paid employment, work on campus, work related to academics
  - Campus climate for diversity
    - Students are respected here regardless of their race or ethnicity
  - Academic time
    - Attending classes, studying and other academic activities
Analysis

- Descriptive analysis
  - Distributions, measure of central tendency, dispersion

- Blocked multiple regression
  - Two models (one for each DV)
    - Use of full student sample to examine how being a veteran student affects college outcomes
## Results: Descriptive Statistics

Mean and Standard Deviations of Outcome, Demographic, and College Experience Variables by Non-Veteran and Veteran Students

<table>
<thead>
<tr>
<th>Variables</th>
<th>Non-Veteran (n = 19,845)</th>
<th>Veteran (n = 153)</th>
</tr>
</thead>
<tbody>
<tr>
<td>College GPA</td>
<td>3.11 (.57)</td>
<td>3.03 (.56)</td>
</tr>
<tr>
<td>Sense of Belonging</td>
<td>5.04 (1.90)</td>
<td>4.96 (2.17)</td>
</tr>
<tr>
<td>Age</td>
<td>19.21 (3.32)</td>
<td>26.98 (6.85)</td>
</tr>
<tr>
<td>Academic Participation and Interaction</td>
<td>4.72 (1.84)</td>
<td>5.59 (2.03)</td>
</tr>
<tr>
<td>Collaborative Work</td>
<td>4.90 (1.95)</td>
<td>4.96 (2.30)</td>
</tr>
<tr>
<td>Campus Climate for Diversity</td>
<td>5.30 (1.81)</td>
<td>5.20 (2.01)</td>
</tr>
<tr>
<td>Extracurricular Engagement</td>
<td>4.90 (1.76)</td>
<td>4.14 (1.71)</td>
</tr>
<tr>
<td>Time Employed</td>
<td>4.29 (1.58)</td>
<td>4.54 (1.61)</td>
</tr>
<tr>
<td>Academic Time</td>
<td>5.09 (1.91)</td>
<td>5.38 (1.99)</td>
</tr>
</tbody>
</table>
### Results: Being a Veteran Student and Its Impact on College Outcomes

**Variables That Predict College GPA and Sense of Belonging (N = 17,405)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>College GPA</th>
<th>Sense of Belonging</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Demographics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender: Female</td>
<td>.04**</td>
<td>.00</td>
</tr>
<tr>
<td>Race: African American</td>
<td>-.09**</td>
<td>-.02*</td>
</tr>
<tr>
<td>Race: Latino</td>
<td>-.19**</td>
<td>-.02**</td>
</tr>
<tr>
<td>Race: Asian American</td>
<td>-.10**</td>
<td>-.15**</td>
</tr>
<tr>
<td>Age</td>
<td>.04**</td>
<td>.06**</td>
</tr>
<tr>
<td>Family Annual Income</td>
<td>.14**</td>
<td>.06**</td>
</tr>
<tr>
<td><strong>Veteran</strong></td>
<td>-.02**</td>
<td>-.02*</td>
</tr>
<tr>
<td><strong>Input Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>.29**</td>
<td>.10**</td>
</tr>
<tr>
<td>Student Level</td>
<td>.29**</td>
<td>.04**</td>
</tr>
<tr>
<td><strong>College Experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic Participation and Interaction</td>
<td>.12**</td>
<td>.13**</td>
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<tr>
<td>Collaborative Work</td>
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<td>.13**</td>
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<td>Campus Climate for Diversity</td>
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<td>Extracurricular Engagement</td>
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<td>.07**</td>
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<tr>
<td>Time Employed</td>
<td>-.05**</td>
<td>-.03**</td>
</tr>
<tr>
<td>Academic Time</td>
<td>.08**</td>
<td>.00</td>
</tr>
</tbody>
</table>

$R^2 = .13$ $R^2 = .23$

*p < .05, **p < .01
Results: Characteristics and Conditions that Contribute to Veteran Effect

- Gender: Female
- Positive Effect on College GPA

\[ \chi^2 = 90.56, \ p = .000 \]
Results: Characteristics and Conditions that Contribute to Veteran Effect

- Family Annual Income
- Positive Effect on GPA and Sense of Belonging

χ² = 12.27, p = .002
Results: Characteristics and Conditions that Contribute to Veteran Effect

- Being a Freshmen
- Positive Effect on GPA and Sense of Belonging

\[ \chi^2 = 334.01, \ p = .000 \]
Results: Characteristics and Conditions that Contribute to Veteran Effect

- **Extracurricular Engagement**
  - Participating in student clubs or organizations
  - Socializing with friends
  - Partying
  - Participating in physical exercise, or recreational sports
  - Pursuing a recreational or creative interest
  - Attending movies, concerts, or sports
  - Using computer for non-academic purpose
  - Watching TV

- **Positive Effect on Sense of Belonging**

\[
\chi^2 = 37.16, \ p = .000
\]
Results: Characteristics and Conditions that Contribute to Veteran Effect

- Time Employed ($\alpha = .67$)
  - Paid employment
  - Of the total hours spent working for pay, how many hours did you work on campus?
  - Of the total hours spent working for pay, how many hours were related to your academic interest?

- Negative Effect on GPA and Sense of Belonging

$\chi^2 = 8.58, p = .014$
Results: Conditions that Need Further Investigation

- Academic Participation and Interaction ($\alpha = .90$)
  - Contributed to a class discussion
  - Brought up ideas from different courses
  - Asked an insightful question in class
  - Did more work than was required
  - Chose challenging courses
  - Made a class presentation
  - Had a class in which the professor knew or learned your name
  - Taken a research-oriented seminar with faculty
  - Communicated with faculty member by email or in person
  - Talked with instructor outside of class
  - Interacted with faculty during class
  - Worked with faculty on an active other than course work

- Positive Effect on GPA and Sense of Belonging

\[ \chi^2 = 31.71, p = .000 \]
Results: Conditions that Need Further Investigation

- Collaborative Work ($\alpha = .70$)
  - Sought academic help from instructor or tutor
  - Worked on class projects
  - Helped a classmate better understand the course material when studying together
  - Made a class presentation

- Positive Effect on Sense of Belonging

\[\chi^2 = 9.25, \ p = .010\]
Summary and Discussion

- **Effect of Being a Veteran Student on College Outcomes**
  - Significantly negative effect on college GPA and sense of belonging

- **Origins of the Negative Effect of Being a Veteran Student**
  - Student characteristics: Male, transfer, lower level of family income
  - College experience: lower level of extracurricular engagement, higher level of work engagement

- **Predictors for Further Investigation**
  - Veteran students’ higher level of academic participation and interaction, higher level of collaborative work
  - Conditional effects, quality of engagement
Thank You for Your Participation!

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