

# Challenge toward Healthy College Life and Health Behaviors: Health Literacy and College Achievement

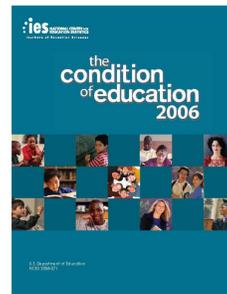
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## BACKGROUND

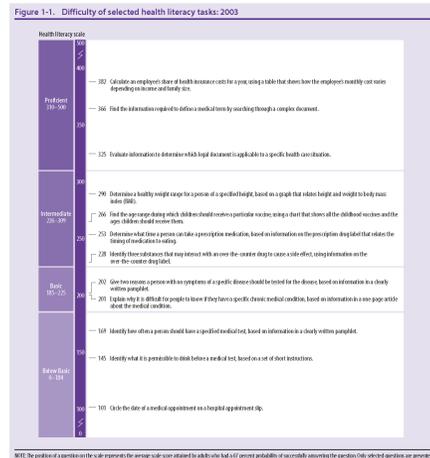
- Health literacy:** The Patient Protection and Affordable Care Act of 2010, Title V, defines health literacy as the degree to which an individual has the capacity to obtain, communicate, process, and understand basic health information and services to make appropriate health decisions.
- Literacy vs. Health Literacy:** Limited literacy and limited health literacy are NOT the same thing. While strong literacy and numeracy skills may make health information and services easier to navigate, healthcare activities can still be unfamiliar territory to individuals.
- Limited information available on **college student** health literacy in 2006 U.S. Department of Education Report.
  - Focus traditionally on specific disease, health outcomes, health conditions, health disparities, minority populations, or situations.

Source:  
 U.S. Department of Education, National Center for Education Statistics. (2006). *The Condition of Education 2006* (NCES 2006-071). Washington, DC: U.S. Government Printing Office.



### Overview of literacy level and measuring health literacy

Level and definition	Key abilities associated with level
<b>Below Basic</b> indicates no more than the most simple and concrete literacy skills. Score ranges for Below Basic: Prose: 0-209 Document: 0-204 Quantitative: 0-234	<ul style="list-style-type: none"> <li>locating easily identifiable information in short, commonplace prose texts</li> <li>locating easily identifiable information and following written instructions in simple documents (e.g., charts or forms)</li> <li>locating numbers and using them to perform simple quantitative operations (primarily addition) when the mathematical information is very concrete and familiar</li> </ul>
<b>Basic</b> indicates skills necessary to perform simple and everyday literacy activities. Score ranges for Basic: Prose: 210-264 Document: 205-249 Quantitative: 235-269	<ul style="list-style-type: none"> <li>reading and understanding information in short, commonplace prose texts</li> <li>reading and understanding information in simple documents</li> <li>locating easily identifiable quantitative information and using it to solve simple, one-step problems when the arithmetic operation is specified or easily inferred</li> </ul>
<b>Intermediate</b> indicates skills necessary to perform moderately challenging literacy activities. Score ranges for Intermediate: Prose: 265-339 Document: 250-334 Quantitative: 290-349	<ul style="list-style-type: none"> <li>reading and understanding moderately dense, less commonplace prose texts as well as summarizing, making simple inferences, determining cause and effect, and recognizing the author's purpose</li> <li>locating information in dense, complex documents and making simple inferences about the information</li> <li>locating less familiar quantitative information and using it to solve problems when the arithmetic operation is not specified or easily inferred</li> </ul>
<b>Proficient</b> indicates skills necessary to perform more complex and challenging literacy activities. Score ranges for Proficient: Prose: 340-500 Document: 335-500 Quantitative: 350-500	<ul style="list-style-type: none"> <li>reading lengthy, complex, abstract prose texts as well as synthesizing information and making complex inferences</li> <li>integrating, synthesizing, and analyzing multiple pieces of information located in complex documents</li> <li>locating more abstract quantitative information and using it to solve multi-step problems when the arithmetic operations are not easily inferred and the problems are more complex</li> </ul>



Source:  
 U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2003 National Assessment of Adult Literacy.

- Health literacy of college students**
  - The degree to which students have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions and attain a successful achievement of college life.
  - Among the features people identify with successful college life are the following :
    - Physical health
    - Mental health security
    - Coping well from pressure
    - College activities and achievement
    - Creative expression and spirituality
    - College social network

## OBJECTIVES

- This study is a health literacy evaluation for college students in urban settings that aims to evaluate their health behaviors, health knowledge and status, and based upon their socio-demographic background, develop college student health improvement.

## METHOD

- Study Design, Survey, and Participants:**
  - An anonymous survey was conducted via email to approximately one thousand students from an urban university in the northern-east coast of the U.S. in 2014-2015.
  - Received responses from 225 college students.
  - The survey included socio-demographic characteristics, educational achievements, health literacy level, risky health behaviors, and their health education expectations.
- Empirical Model:**
  - College achievement [GPA]<sub>i</sub> =  $\alpha_0 + \alpha_1 \text{Health}_i + \alpha_2 \text{Behavior factors}_i + \alpha_3 \text{Demographic factors}_i + \epsilon_i$
  - Healthy college life<sub>i</sub> =  $\beta_0 + \beta_1 \text{Health literacy}_i + \beta_2 \text{Behavior factors}_i + \beta_3 \text{Demographic factors}_i + \omega_i$
- Dependent variables:**
  - Subjective happiness [quality of college life]  
 Q: Are you happy with your life in general? Please rate from 1 [least satisfied] to 10 [most satisfied].
  - Subjective satisfaction with college life  
 Q: Are you satisfied with your college life in general? Please rate from 1 [least satisfied] to 10 [most satisfied].
  - Subjective view of future after graduation  
 Q: How optimistic are you about your future after graduation? Please rate from 1 [not optimistic] to 10 [very optimistic].
- Independent variables:**
  - Health literacy is a compounding/confounding variable:
    - Health information acquisition at a doctor's office,
    - Understanding prescription labels
    - Health insurance knowledge
    - Use of health information technology
    - Seeking health information through media
    - Knowledge of epidemiology,
    - knowledge of nutrition
    - Health behavior: scale 9 ~36

## RESULTS

- Healthy College Life of College Students**
  - Health Literacy → Happiness in college life, Satisfaction with college life, Optimistic about own future after graduation
- College Achievements**
  - GPA ← Health, Happiness in college life, Satisfaction with college life
- Effect of Health by College Students on College Life**
  - Health → 0.38% increase in happiness in college life, 0.30% increase in satisfaction with college life, 0.28% increase in optimistic about own future after graduation
- Effect of Healthy College Life**
  - Health, Happiness in college life, Satisfaction with college life → 0.24% increase in GPA, 0.25% increase in GPA, 0.20% increase in GPA
- Effect of Health Literacy by college students**
  - Health Literacy → 0.24% increase in happiness in college life, 0.26% increase in satisfaction with college life, 0.21% increase in optimistic about own future after graduation

## CONCLUSIONS/IMPLICATIONS

- There is a positive relationship between health healthy college life.
- Improvement in health raise quality of healthy college life. The elasticity ranges from 0.28%~0.38%.
- Students with good health status, happiness in college life, or satisfaction with college life have better GPA and achievements than students who do not have these characteristics.
- A relative increase in health literacy among college students in urban settings shows clear-cut positive influences on school achievement and maintain good health behaviors
- Good health literacy is the major factor of raise healthy college life.
- College student's with good health literacy suggests their good perception of health knowledge and concepts.
- Good health literacy skills are imperative for a successful college education achievements. Adequate literacy skills by college students are attributed to a healthy college life.
- Clearly this notion is what underlies the broad public concern about the need for health literacy education at the freshmen level.