

**STUDENTS' PERCEPTIONS OF THE IMPACT
OF HEALTH CONCERNS ON THEIR
ACADEMIC PERFORMANCE:**

**ARE THERE DIFFERENCES BETWEEN
GRADUATE AND UNDERGRADUATE
STUDENTS?**

Presented by: Melissa Kenzig, MSPH, CHES , Health Services at Columbia University
Presented at: ACHA Annual Meeting, May 28, 2009, San Francisco, CA

OVERVIEW

- ① Research questions
- ① Literature review
- ① Hypothesis & Rationale
- ① Methods
- ① Data analysis
- ① Results
- ① Discussion



RESEARCH QUESTIONS

- ① What health concerns are reported by university students and are there differences between undergraduate and graduate students?
- ① Which health concerns do students report causing a negative academic impact and are there differences in the frequencies of these reports between undergraduate and graduate students?



LITERATURE REVIEW

- ◎ Between 60-70% of all high school graduates attend college (about half of those complete a degree), and approximately 40% of students who complete a bachelors degree subsequently enroll (though not all complete) an advanced graduate degree. (14%)
- ◎ Degree completion is correlated with significant jumps in health and socioeconomic status.
- ◎ Health concerns are linked to attendance/ absenteeism, academic achievement, cognitive ability, and persistence (not dropping out).
- ◎ Specific health issues linked to academic performance include: sleep disturbances, anxiety, allostatic load, depression, communicable illnesses, physical activity.

LITERATURE REVIEW: SELECTED BIBLIOGRAPHY

- ⊙ Dusselier, L., et. al., Personal, Health, Academic, and Environmental Predictors of Stress for Residence Hall Students. *Journal of American College Health*. 2005;54(1):15-24.
- ⊙ Gerdes H, Mallinckrodt, B. Emotional, social, and academic adjustment of college students: A longitudinal study of retention. *Journal of Counseling and Development*. 1994;73(3):281-289.
- ⊙ Kellah ME. The relationship of university students' sleep habits and academic motivation. *NASPA Journal*. 2006;4.
- ⊙ Kent B.H. Service needs of traditional age and adult graduate students. *NASPA Journal*. 1992;30(1):20-29.
- ⊙ Mullen A.L., Goyette K.A., Soares J.A. Who goes to graduate school? Social and academic correlates of educational continuation after college. *Sociology of Education*, 2003;76(2): 43-169.
- ⊙ Needham BL, Crosnoe, R., Muller, C. Academic failure in secondary school: The inter-related role of health problems and educational context. *Social Problems*. 2004;51(4):569-586.
- ⊙ Polson C.J. Adult graduate students challenge institutions to change. *New Directions for Student Services*. 2003;102:59-68.
- ⊙ Sarid O, Anson, O., Yaari, A., Margalith, M. Academic stress, immunological reaction, and academic performance among students of nursing and physiotherapy. *Research in Nursing & Health*. 2004;27(5):370.
- ⊙ Taras H & Potts-Datema, W. *The Journal of School Health*. 2005;75(7).
- ⊙ Trockel, M. T., et. al., Health-related variables and academic performance among first-year college students: Implications for sleep and other behaviors. *Journal of American College Health*. 2000;49(3):125-31.



RATIONALE & HYPOTHESIS

- ◎ Students who have health conditions that are so significant as to affect their academic performance may not be able to enter into an advanced degree program.
- ◎ Graduate students (and older students in general) may have learned to cope with both chronic and acute health conditions and learned strategies to prevent acute and long-term stressors from affecting their health and academic performance.
- ◎ Students aiming for an advanced degree may have unique characteristics that support their success, broadly speaking. What we discover about them may help us determine how best to support undergraduates.
- ◎ Hypothesis: Graduate students are less likely than undergraduate students to experience health concerns and less likely to report health concerns has having negatively impacted their academic performance.

METHODS

- ① ACHA-NCHA
- ① CU IRB approval
- ① Spring 2005
- ① All students over the age of 18 invited to participate
- ① 2,078 (29.8%) of CU undergraduate students
- ① 4,554 (34.9%) of CU graduate students

DATA ANALYSIS: DEMOGRAPHICS

	CU Undergrad Students		CU Grad Students	
	Actual ^a	NCHA ^b	Actual ^a	NCHA ^b
Total enrollment	6,975	2,078	13,059	4,554
Age in years (%)				
<i>18-20</i>	50.9	57.4	0.7	0.4
<i>21-24</i>	35.0	32.3	17.9	25.7
<i>25-29</i>	8.0	5.2	40.1	48.1
<i>30+</i>	5.8	5.1	31.5	25.8
Sex (%)				
<i>Male</i>	53.0	43.2	52.0	43.3
<i>Female</i>	47.0	55	48.0	56.7
Ethnicity (%) ^c				
<i>White</i>	50.8	64.7	53.0	63.0
<i>Black</i>	6.9	6.6	5.5	3.9
<i>Hispanic/Latino</i>	8.0	7.7	5.9	7.0
<i>Asian/Pacific Islander</i>	17.1	18.7	12.8	20.0
<i>American Indian</i>	0.3	0.7	0.3	0.4
<i>Other/Unknown</i>	16.8	5.8	22.5	6.1
International (%)	7	7.6	38	27.1
Sexual Orientation (%) ^d				
<i>Heterosexual</i>	N/A	89.8	N/A	91.7
<i>Gay/Lesbian</i>	N/A	4.0	N/A	4.6
<i>Bisexual</i>	N/A	4.1	N/A	2.8
<i>Other/Unsure</i>	N/A	2.1	N/A	1.0

DATA ANALYSIS

- ⊙ NCHA (version 1) question 44: Within the last school year, have any of the following affected your academic performance? (please select the most serious outcome for each item below).
 - ⊙ This did not happen to me/not applicable
 - ⊙ I have experienced this issue but my academics have not been affected
 - ⊙ Received lower grade on an exam or important project
 - ⊙ Received a lower grade in the course
 - ⊙ Received an incomplete or dropped the course

DATA ANALYSIS

- ⊙ Data recoding
 - ⊙ System missing (.)
 - ⊙ Did not experience health concern (0)
 - ⊙ Experienced health concern, no impact (1)
 - ⊙ Experienced health condition, with impact (2)
- ⊙ Total responses to item
 - ⊙ All responses – System missing
- ⊙ Must eliminate System missing from analysis to perform subsequent calculations

DATA ANALYSIS

- ⊙ Experienced health concern = Experienced condition, no impact (1) + Experienced condition, with impact (2)
 - ⊙ Or, Total responses to item – Did not experience health concern (0)
- ⊙ Experienced academic impact = Experienced condition, with impact (2) / Experienced health concern (1 + 2)

RESULTS

- ⊙ Top 10 most commonly reported health concerns experienced by both undergrads and grads:
 - ⊙ Cold/flu/sore throat
 - ⊙ Stress
 - ⊙ Concern for a troubled friend or family member
 - ⊙ Sleep difficulties
 - ⊙ Alcohol use
 - ⊙ Internet use/computer games
 - ⊙ Relationship difficulty
 - ⊙ Depression/anxiety/seasonal affective disorder
 - ⊙ Allergies
 - ⊙ Sinus infection/ear infection/bronchitis/strep throat

RESULTS

- ⊙ The top 10 health concerns students most often reported as causing an academic impact among CU undergraduate students:
 - ⊙ Attention deficit disorder
 - ⊙ Depression/anxiety disorder/seasonal affective disorder
 - ⊙ Learning disability
 - ⊙ Pregnancy
 - ⊙ Sleep difficulties
 - ⊙ Stress
 - ⊙ Cold/flu/sore throat
 - ⊙ Relationship difficulty
 - ⊙ Internet use/computer games
 - ⊙ Mononucleosis
 - ⊙ Death of a friend or family member

- ⊙ Over 34% of undergraduate students who reported each of these health concerns also reported an academic impact as a result.

RESULTS

- ◎ The top 10 health concerns students most often reported as causing an academic impact among CU graduate students:
 - ◎ Learning disability
 - ◎ Attention deficit disorder
 - ◎ Depression/anxiety disorder/seasonal affective disorder
 - ◎ Pregnancy
 - ◎ Mononucleosis
 - ◎ Relationship difficulty
 - ◎ Stress
 - ◎ Sleep difficulties
 - ◎ Death of a friend or family member
 - ◎ Chronic illness
 - ◎ Sexual assault

- ◎ Over 20% of graduate students who reported these health concerns also reported an academic impact due to it.

	Experienced in last 12 months (%)	
	CU Undergrads	CU Grads
Alcohol Use**	62.0	49.2
Allergies	36.5	33.4
Assault (physical)	3.3	2.7
Assault (sexual)	3.2	2.2
Attention Deficit Disorder**	13.7	10.9
Cold/Flu/Sore throat**	84.5	79.5
Concern for a troubled friend or family member**	64.9	59.6
Chronic illness**	12.9	10.2
Chronic pain**	13.7	10.8
Death of friend or family member	22.5	20.5
Depression/Anxiety Disorder/Seasonal Affective Disorder**	39.9	34.3
Drug Use**	17.9	9.7
Eating Disorder/Problem**	10.8	5.6
HIV Infection	0.9	0.5
Injury**	17.0	11.6
Internet Use/ Computer Games**	63.1	49.3
Learning Disability**	6.4	3.8
Mononucleosis**	4.1	1.4
Pregnancy (yours or your partner's)**	1.6	4.1
Relationship Difficulty**	49.6	45.3
Sexually Transmitted Disease	2.2	3.0
Sinus Infection/Ear Infection/Bronchitis/Strep Throat**	28.3	23.5
Sleep Difficulties**	65.2	56.1
Stress**	83.2	77.9

	Of those who experienced health concern, % who had an academic impact ^a as a result	
	CU Undergrads	CU Grads
Alcohol Use**	10.0	4.4
Allergies**	10.7	3.5
Assault (physical)	9.0	9.0
Assault (sexual)	22.4	19.5
Attention Deficit Disorder**	59.4	47.2
Cold/Flu/Sore throat**	35.9	14.5
Concern for a troubled friend or family member**	29.5	17.1
Chronic illness*	29.4	19.5
Chronic pain	19.6	16.0
Death of friend or family member**	33.5	19.6
Depression/Anxiety Disorder/Seasonal Affective Disorder**	55.2	38.4
Drug Use*	15.1	8.6
Eating Disorder/Problem*	23.9	14.5
HIV Infection	11.1	7.7
Injury	15.7	10.7
Internet Use/ Computer Games**	34.2	17.1
Learning Disability	55.0	57.3
Mononucleosis	34.1	30.4
Pregnancy (yours or your partner's)	44.1	31.3
Relationship Difficulty**	35.3	24.6
Sexually Transmitted Disease	15.2	11.2
Sinus Infection/Ear Infection/Bronchitis/Strep Throat**	27.7	13.1
Sleep Difficulties**	41.7	21.3
Stress**	40.1	23.6

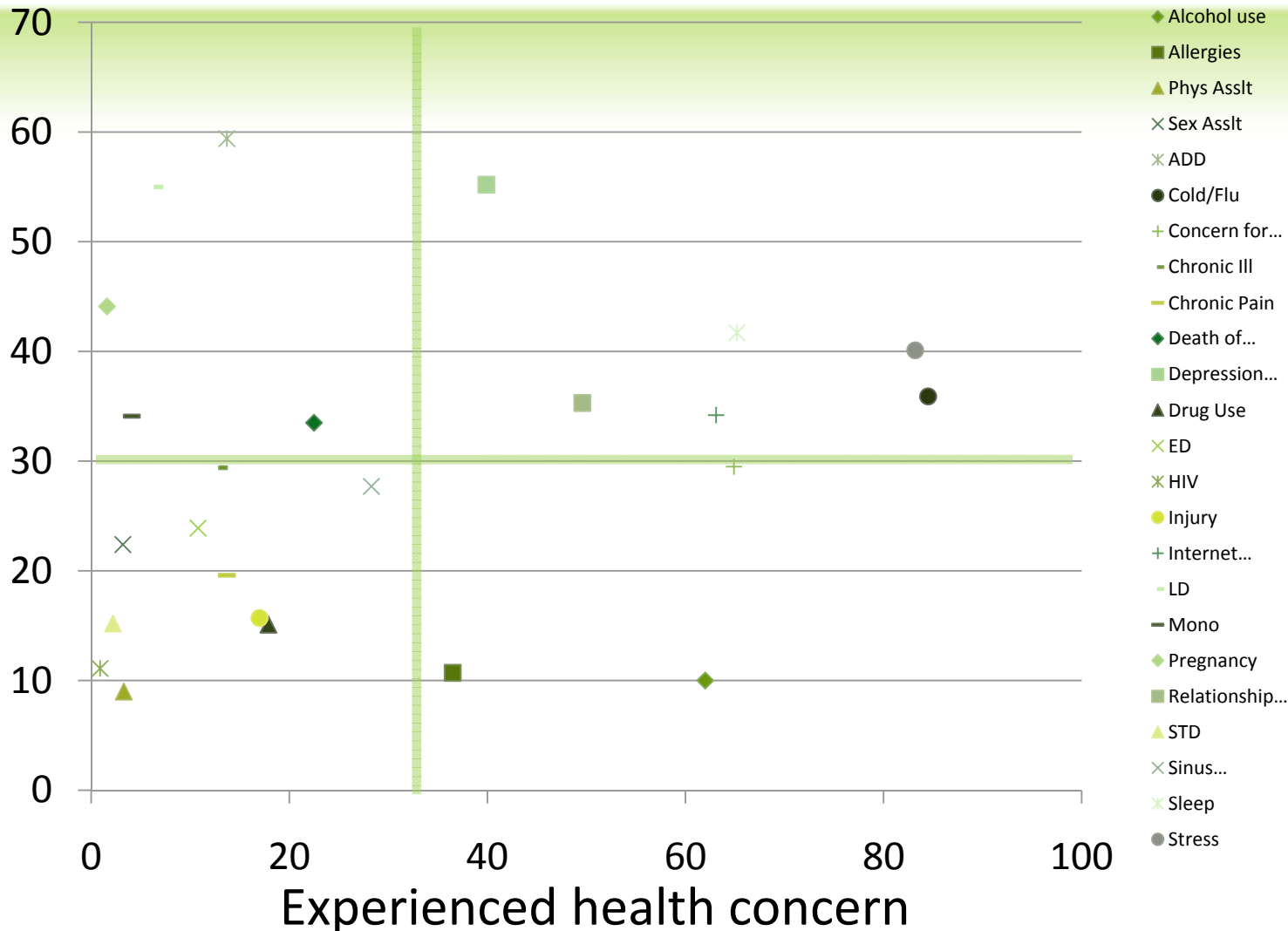
*Statistically significant difference between groups at $p \leq .01$

**Statistically significant difference between groups at $p \leq .001$

^a Academic impact is defined as getting a lower grade on an exam or project, getting a lower grade in a course, or receiving an incomplete or dropping a course.

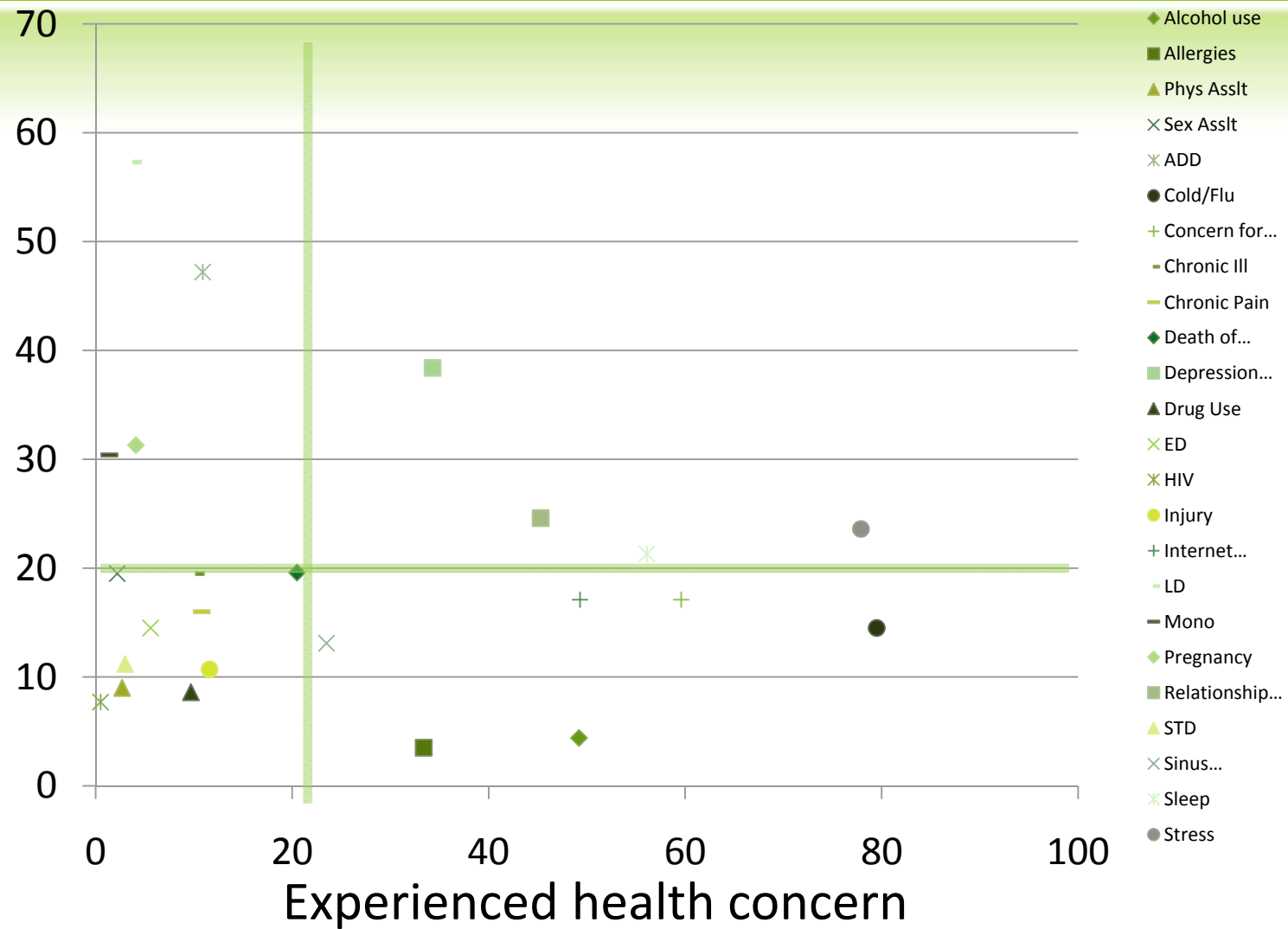
CU UNDERGRADUATES EXPERIENCE VS. IMPACT

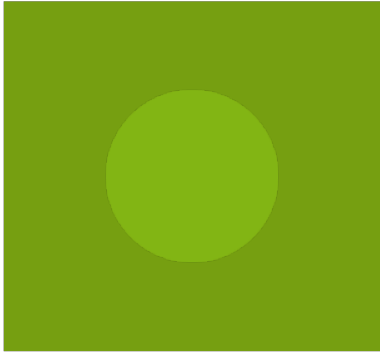
Of those experiencing health concern, experienced impact



CU GRADUATE STUDENTS EXPERIENCE VS. IMPACT

Of those experiencing health concern, experienced impact





Top 10 health concern for both undergraduate and graduate students.

*Statistically significant difference between groups at $p \leq .01$

**Statistically significant difference between groups at $p \leq .001$

^a Academic impact is defined as getting a lower grade on an exam or project, getting a lower grade in a course, or receiving an incomplete or dropping a course.

	Of those who experienced health concern, % who had an academic impact ^a as a result	
	<i>CU Undergrds</i>	<i>CU Grads</i>
Alcohol Use**	10.0	4.4
Allergies**	10.7	3.5
Attention Deficit Disorder**	59.4	47.2
Cold/Flu/Sore throat**	35.9	14.5
Concern for a troubled friend or family member**	29.5	17.1
Chronic illness*	29.4	19.5
Death of friend or family member**	33.5	19.6
Depression/Anxiety Disorder/Seasonal Affective Disorder**	55.2	38.4
Drug Use*	15.1	8.6
Eating Disorder/Problem*	23.9	14.5
Internet Use/ Computer Games**	34.2	17.1
Relationship Difficulty**	35.3	24.6
Sinus Infection/Ear Infection/Bronchitis/ Strep Throat**	27.7	13.1
Sleep Difficulties**	41.7	21.3
Stress**	40.1	23.6

RESULTS

- ⊙ No significant difference in experience, significant difference in impact (improved coping skills?)
 - ⊙ Allergies
 - ⊙ Death of a family member or friend

- ⊙ Significant difference in experience, no significant difference in impact (persistence?)
 - ⊙ Chronic pain
 - ⊙ Injury
 - ⊙ Learning disability
 - ⊙ Mononucleosis
 - ⊙ **Pregnancy**



DISCUSSION: LIMITATIONS

- ⊙ Single-campus scope of the research
- ⊙ Self-report nature of the study
- ⊙ Potential content validity issues with the survey
 - ⊙ Alcohol
- ⊙ While most students in this study report academic impacts due to health conditions, over 90% of CU students report an overall grade of a B average or higher. This suggests that while students may think their academics are being impacted, their grades may not be suffering.
- ⊙ No qualitative data to describe the nature of the difference between undergrads and grads

DISCUSSION: IMPLICATIONS

- ◎ Cost benefit analyses of service provision should be undertaken to determine the best places to invest resources.
 - ◎ Examples: allergies & stress
- ◎ Data is needed to understand how health can actually improve academic performance, rather than just those things that hinder it.
- ◎ Data suggest that both undergraduate and graduate students could benefit from prevention services and skill development related to relationships, sleep, stress and coping, and communicable illnesses, and support services related to violence (secondary trauma), mental health, learning disabilities, and illnesses, as these issues appear to result in a higher likelihood of reported academic impacts.



Melissa Kenzig, MSPH, CHES

Director, Alice! Health Promotion Program

Health Services at Columbia University

mk2422@columbia.edu

www.alice.columbia.edu

(Presentation will be posted in Downloads section.)