

# Getting Engaged: Does It Work?



Tongshan Chang   Chris Furgiuele   Xiaohui Zheng   Susannah McCormick

institutional research  
academic planning

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# Presentation Outline

- Research purpose
- Relevant previous research
- Research questions
- Data description, definitions, and population
- Results
- Conclusions

## Research Purpose

- Examine relationships between student academic and civic engagement and their employment patterns and outcomes
- Help students understand the full set of experiences they need to obtain at college
- Help institutions provide opportunities for students to develop their knowledge and skills required for success in career and life

## Relevant Previous Research

- Student academic engagement is important to their intellectual development and college success

*(Carini, Kuh, & Klein, 2004; Hughes & Pace, 2003; Shulman, 2002)*

- The value of non-cognitive attributes such as social support, community involvement, positive self-concept, and realistic self-appraisal are related to academic success and student development

*(Ancis & Sedlacek, 1997; Fuertes & Sedlacek, 1995; Sedlacek, 1989)*

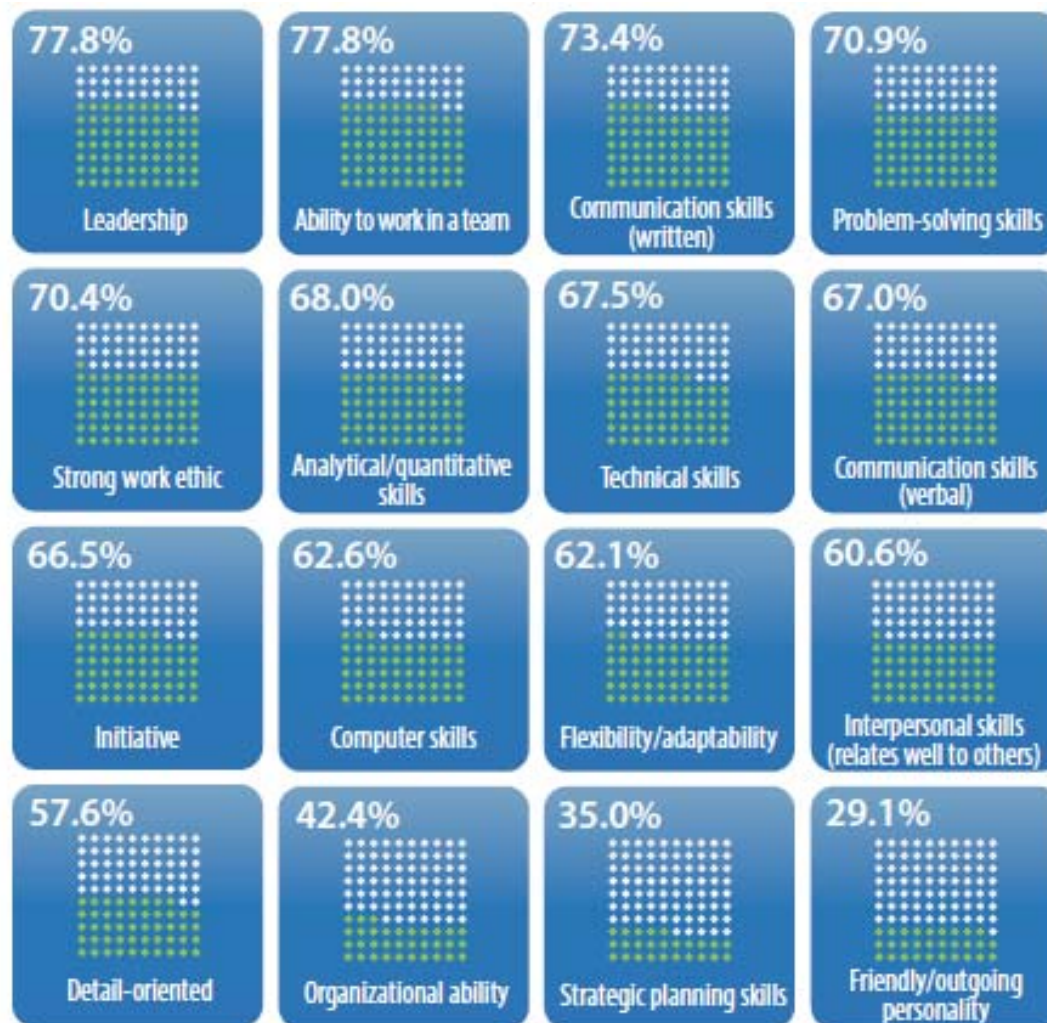
## Relevant Previous Research

- Student development is both a process and a holistic set of desired skills and outcomes, including communications, analysis, problem solving, valuing, social interaction, global perspective, effective citizenship, and so on  
*(Kuh et al, 2002)*
- Developing this set of skills requires an investment of time and effort by students, and engagement is the most important way to achieve these outcomes

## Relevant Previous Research

- Attributes employers seek on a candidate's resume in addition to looking at GPA

*(National Association of Colleges and Employers, 2015)*



## Relevant Previous Research

- Recent graduates' views on college experience:  
*(Gallup-Purdue Index 2015 Report)*
  - Supportive and motivating relationships with professors and mentors are crucial to undergraduates' college experience.
  - Universities should consider more ways to foster formal and informal mentoring relationships.
  - Quality relationships, rather than simple interactions, change graduates' perceptions of their college experiences.
  - Graduates' odds of being engaged at work doubles if they were positively engaged in college.

## Relevant Previous Research

- No research has been done to explore the effect of student engagement in college on employment patterns and outcomes after they graduate with a bachelor's degree.



## Research Questions

1. What are the different aspects of student engagement? Is there any significant difference by selected demographics?
2. What is work experience of UC undergraduate students while still enrolled in their degree programs? Do they work in fields related to their majors?
3. What are the employment patterns and outcomes of UC bachelor's degree recipients?
4. Does student engagement in academic and civic activities have any impact on their employment outcomes?

## Data Sources, Description, and Definitions

- **UC Undergraduate Experience Survey (UCUES)**
  - Biannual systemwide survey
  - UCUES 2008
  - Module design (Core + AE, CE, or SD)
  - Response rate (39%)

# Data Sources, Description, and Definitions

## ■ Sample Representativeness

Demographics	Respondents		Invited Participants	
	#	%	#	%
<b>Student Level</b>				
Freshman	12,188	19%	29,688	18%
Sophomore	13,315	21%	33,281	21%
Junior	16,614	26%	43,207	27%
Senior	21,411	34%	56,083	35%
<b>Ethnicity</b>				
African American	1,743	3%	5,072	3%
American Indian	352	1%	854	1%
Asian	24,417	38%	62,368	38%
Chicano/Latino	9,061	14%	24,193	15%
Whites	22,240	35%	54,756	34%
Other/Unknown	5,715	9%	15,016	9%
<b>Gender</b>				
Female	37,660	59%	87,533	54%
Male	25,792	41%	74,465	46%
Unknown/Missing	76	0%	261	0%
<b>Discipline</b>				
Art & Humanities	8,014	13%	20,644	13%
Eng & Comp Sci	6,815	11%	16,244	10%
Life Sci	11,595	18%	28,837	18%
Other/Unknown	20,833	33%	54,271	33%
Physical Sci	3,075	5%	7,340	5%
Social Sci	13,196	21%	34,923	22%

# Data Sources, Description, and Definitions

- **Student Engagement**

- 57 engagement items

- Factor analysis

- 7 factors (50 items, factor loading  $>0.40$ )

- Factor 1: Classroom participation and interactions with faculty
- Factor 2: Research involvement or paid employment
- Factor 3: Efforts toward academic work
- Factor 4: Coursework preparedness
- Factor 5: Participation in study abroad programs
- Factor 6: Participation in internship programs
- Factor 7: Civic engagement

## Data Sources, Description, and Definitions

- **Employment Data**

- In-college employment self-reported from UCUES
- Employment from CA EDD
  - Reflects earnings in CA only
  - 70-75% match rate – 50 to 55% after accounting for school enrollment
  - NAICS industry codes
  - No occupation information

## Data Sources, Description, and Definitions

- **Employment Patterns and Outcomes**

- In-college employment – relatedness to academic interests
- Post-college earnings growth over 4-6 years
- Annual earnings estimated from quarterly wages
- Median annual wages, inflation adjusted 2014 \$
- Industries from highly aggregated NAICS codes
- Industry of employment, and “match” with major

# Population

- Population 1: Relationship between engagement and employment status immediately after graduation

Exit Cohort (Calendar Year)	Employment Status							
	Yes	CR Module	CR + AE Module	CR + CE Module	No	CR Module	CR + AE Module	CR + CE Module
Spring 2008	3,706	3,641	1,250	684	727	718	249	140
Spring 2009	3,435	3,372	1,193	646	1,036	1,018	361	172
Spring 2010	2,359	2,288	792	421	919	900	322	165

## Population

- Population 2: Relationship between engagement and post-college employment trajectory

Exit Cohort (Calendar Year)	Continuously Employed After Graduation			
	#	CR Module	CR + AE Module	CR + CE Module
Spring 2008	1,710	1,685	580	315
Spring 2009	1,929	1,907	703	353
Spring 2010	2,089	2,054	732	362
All Cohorts	5,728	5,646	2,015	1,030



# Results

## 1. Undergraduate student engagement at UC

### ■ Overall Engagement

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	% students at least "somewhat often" participated
<b>Factor 1: Participation (1=Never, 2=Rarely, 3=Occasionally, 4=Somewhat often, 5=Often, 6=Very often)</b>	
Asked an insightful question in class	36%
Brought up ideas or concepts from different courses during class discussions	38%
Contributed to a class discussion	53%
Interacted with faculty during lecture class sessions	31%
Had a class in which the professor knew	47%
Found a course so interesting that you did more work than was required	30%
Talked with the instructor outside of class	30%
Communicated with a faculty member by email or in person	52%
Made a class presentation	29%
<b>Factor 2: Research (1=Yes, 0=No)</b>	<b>% students participated</b>
Independent study	18%
Student research program course	24%
Assisted faculty in research	26%
Project with faculty	23%

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# Results

## 1. Undergraduate student engagement

### ■ Overall Engagement

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<b>Factor 3: Efforts (1=Never, 2=Rarely, 3=Occasionally, 4=Somewhat often, 5=Often, 6=Very often)</b>	<b>% students at least "somewhat often" participated</b>
Worked with group of students outside of class	49%
Helped classmate understand material better	54%
Sought academic help from instructor or tutor	45%
Extensively revised a paper at least once before	59%
Raised standard for acceptable effort due to	57%

	<b>% students at least "somewhat often" participated</b>
<b>F4: Preparedness (1=Never, 2=Rarely, 3=Occasionally,</b>	
Came to class prepared	71%
Completed assignment	51%
Did not skip class	81%
Turned in a course assignment on time	96%

<b>F5: Study Aboard (1=Yes, 0=No)</b>	<b>% students participated</b>
Other affiliated education abroad	4%
Any UC EAP	11%
Other unaffiliated education abroad	5%

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# Results

## 1. Undergraduate student engagement

### ■ Overall Engagement

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<b>F6: Internship (1=Yes, 0=No)</b>	<b>% students participated</b>
Internship with faculty	12%
Other internship	26%

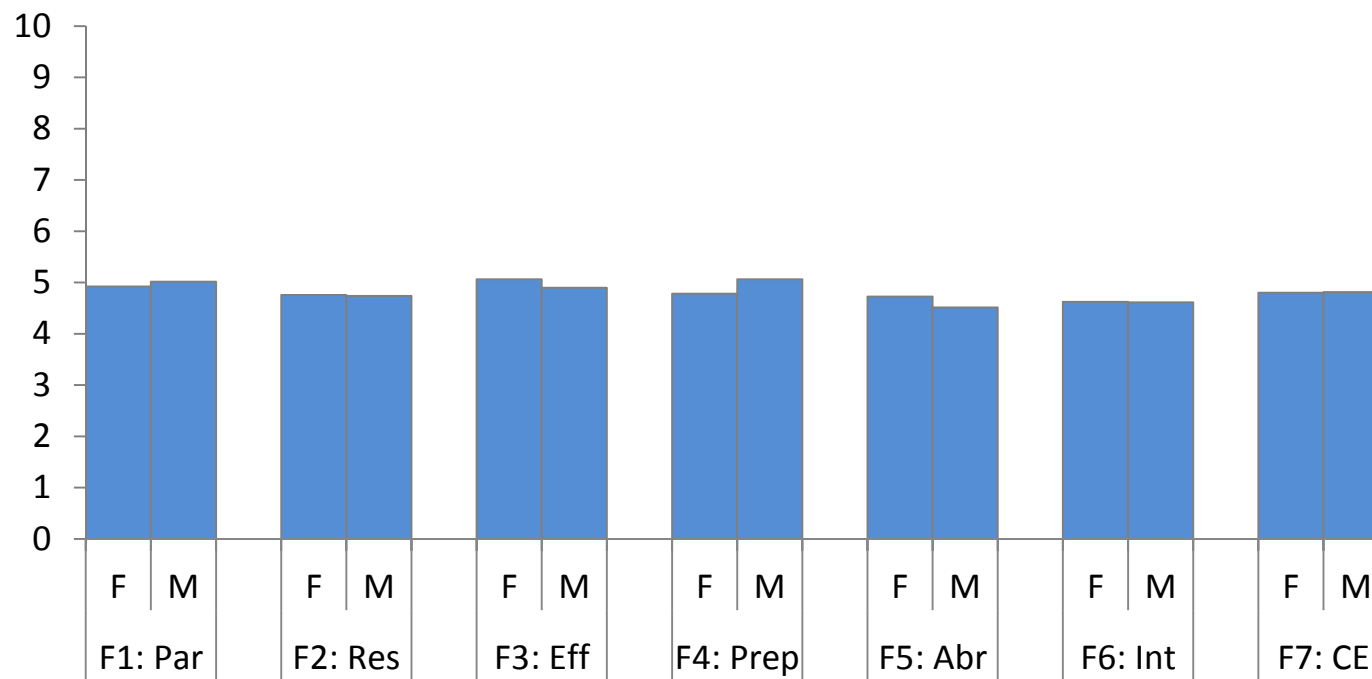
<b>F7: Civic Engagement (1=Yes, 0=No)</b>	<b>% students participated</b>
Political groups	6%
Advocacy groups	8%
Varsity sports	4%
Governing bodies	9%
Service groups	13%
Campus media	6%
Recreational groups	12%
Honor society	16%
Performing groups	9%
Other campus-based groups	28%
Religious groups	13%
Club sports	14%
Academic groups	18%
Off-campus club or organization	25%
Fraternity or sorority	13%

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# Results

## 1. Undergraduate student engagement

### ■ Engagement by Gender



# Results

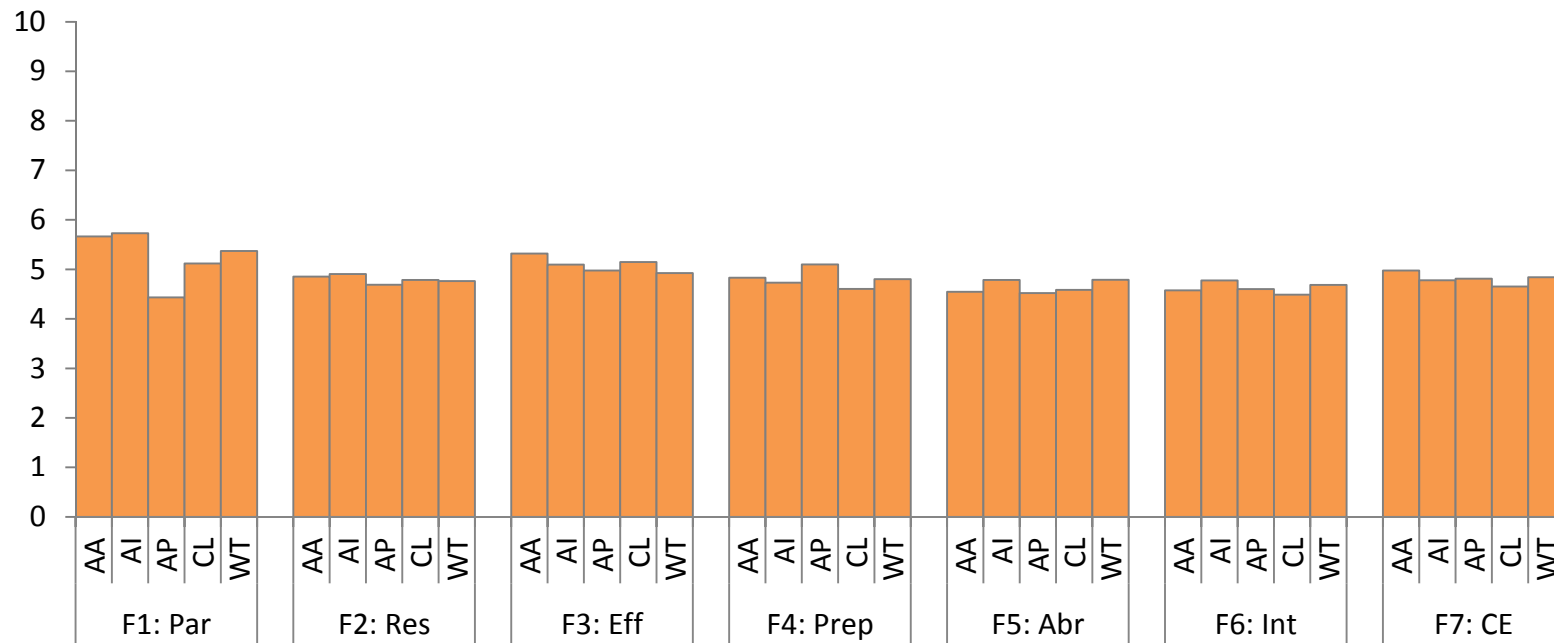
1. Undergraduate student engagement
  - Engagement by Gender

Factor	Female	Male	Diff	Pooled std	ttest p-value	Effect Size
F1: Participation	4.92	5.02	-0.09	1.96	<.0001	0.05
F2: Research	4.76	4.74	0.02	1.49	0.12	0.01
F3: Efforts	5.06	4.90	0.17	1.96	<.0001	0.09
F4: Preparedness	4.78	5.06	-0.28	1.85	<.0001	0.15
F5: Study Aboard	4.73	4.51	0.21	1.08	<.0001	0.20
F6: Internship	4.62	4.61	0.01	1.41	0.61	0.01
F7: Civic Engagement	4.80	4.81	-0.01	1.28	0.63	0.01

# Results

## 1. Undergraduate student engagement

### ■ Engagement by Ethnicity



# Results

## 1. Undergraduate student engagement

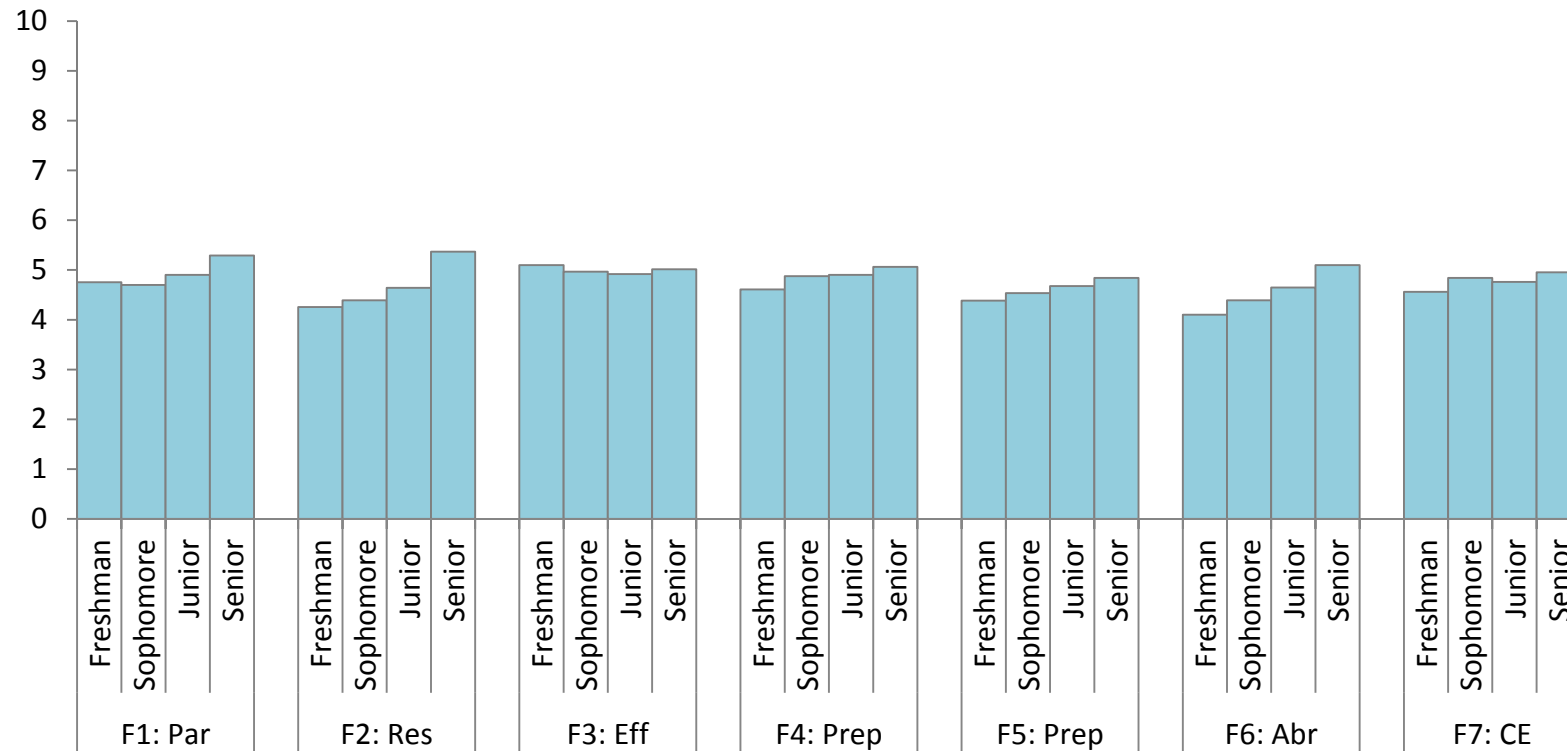
### ■ Engagement by Ethnicity

Factor	AA	AI	AP	CL	WT	Effect SS	Total SS	ANOVA p-value	Effect Size
F1: Participation	5.67	5.73	4.43	5.12	5.37	11526.92	215652.38	<.0001	0.05
F2: Research	4.85	4.90	4.69	4.79	4.76	123.15	121306.20	<.0001	0.00
F3: Efforts	5.32	5.09	4.98	5.15	4.93	499.15	216104.95	<.0001	0.00
F4: Preparedness	4.83	4.73	5.10	4.61	4.80	1916.73	190570.78	<.0002	0.01
F5: Study Aboard	4.55	4.79	4.52	4.59	4.79	296.39	23099.43	<.0003	0.01
F6: Internship	4.57	4.78	4.60	4.49	4.68	93.21	38626.04	<.0004	0.00
F7: Civic Engagement	4.98	4.78	4.81	4.65	4.84	51.20	16744.48	<.0005	0.00

# Results

## 1. Undergraduate student engagement

### ■ Engagement by Student Level





# Results

## 1. Undergraduate student engagement

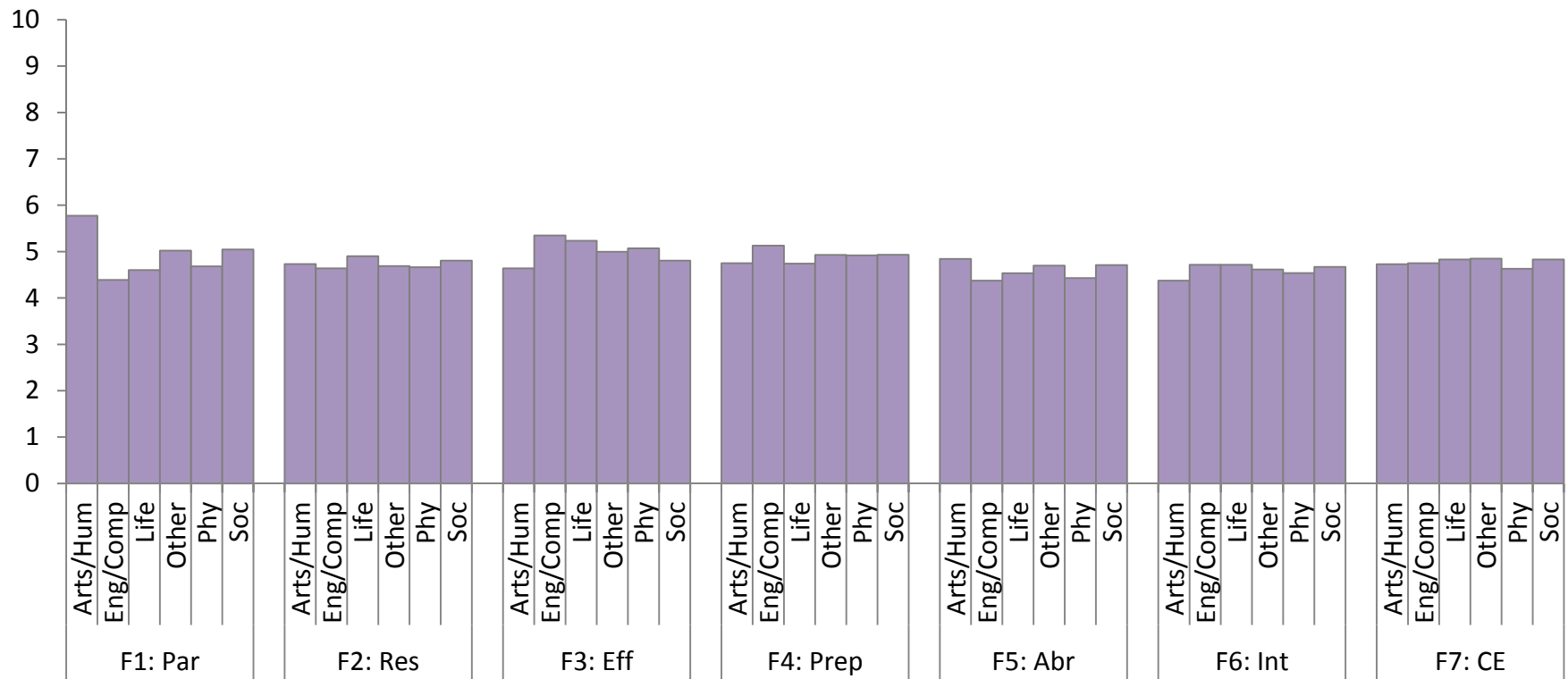
### ■ Engagement by Student Level

Factor	Freshman	Sophomore	Junior	Senior	Effect SS	Total SS	ANOVA p-value	Effect Size
F1: Participation	4.75	4.70	4.90	5.29	3715.70	237585.95	<.0001	0.02
F2: Research	4.25	4.39	4.64	5.37	12322.65	134397.29	<.0001	0.09
F3: Efforts	5.10	4.97	4.92	5.01	243.45	238321.86	<.0001	0.00
F4: Preparedness	4.61	4.88	4.90	5.06	1557.94	210991.33	<.0001	0.01
F5: Study Aboard	4.38	4.54	4.68	4.84	622.82	25536.17	<.0001	0.02
F6: Internship	4.10	4.39	4.65	5.10	2972.86	42438.65	<.0001	0.07
F7: Civic Engagement	4.56	4.84	4.76	4.95	224.21	18653.68	<.0001	0.01

# Results

## 1. Undergraduate student engagement

### ■ Engagement by Discipline



# Results

## 1. Undergraduate student engagement

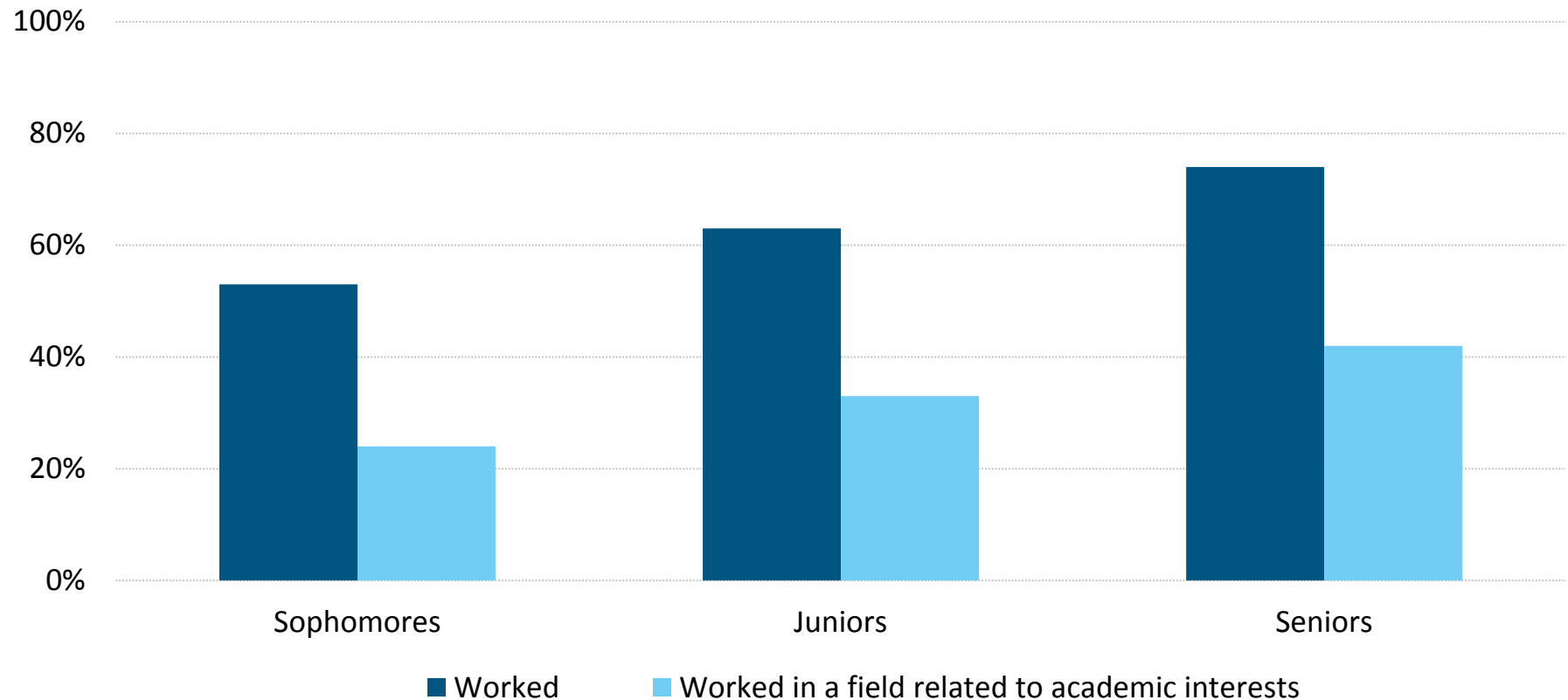
### ■ Engagement by Discipline

Factor	Arts & Hum	Eng & Comp Sci	Life Sci	Other	Phy Sci	Soc Sci	Effect SS	Total SS	ANOVA p-value	Effect Size
F1: Participation	5.77	4.39	4.60	5.02	4.68	5.05	9182.50	237585.95	<.0001	0.04
F2: Research	4.73	4.64	4.90	4.69	4.66	4.81	458.09	134397.29	<.0001	0.00
F3: Efforts	4.64	5.35	5.23	5.00	5.07	4.80	2967.80	238321.86	<.0001	0.01
F4: Preparedness	4.75	5.13	4.74	4.93	4.92	4.93	830.76	210991.33	<.0001	0.00
F5: Study Aboard	4.84	4.37	4.53	4.70	4.43	4.71	411.33	25536.17	<.0001	0.02
F6: Internship	4.37	4.71	4.72	4.61	4.54	4.67	242.36	42438.65	<.0001	0.01
F7: Civic Engagement	4.73	4.75	4.83	4.85	4.63	4.83	38.54	18653.68	0.003	0.00

## Results

### 2. Undergraduate work experience while still enrolled in their degree programs

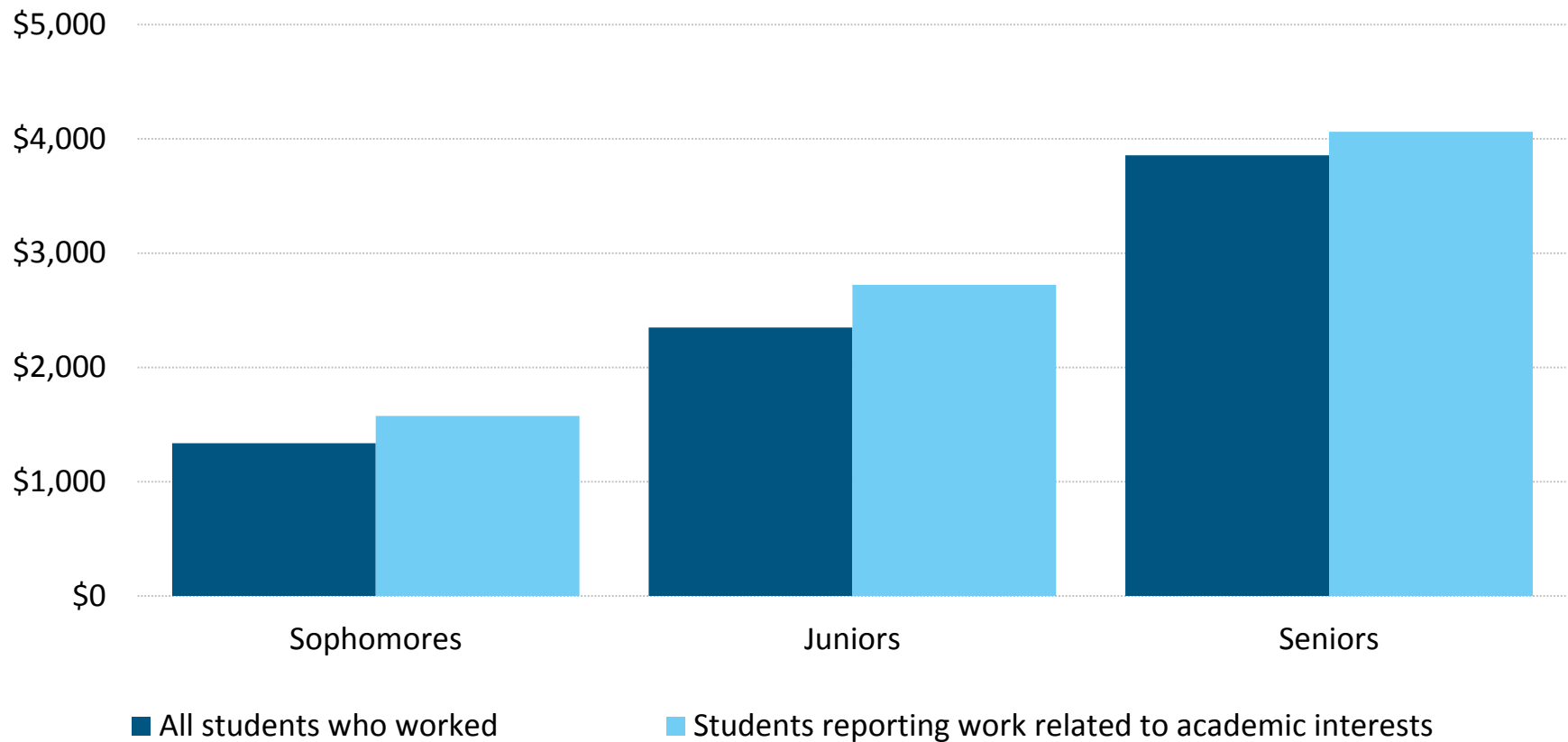
Percentage of Students Reporting Paid Work in Academic Year 2007-08



## Results

### 2. Undergraduate work experience while still enrolled in their degree programs

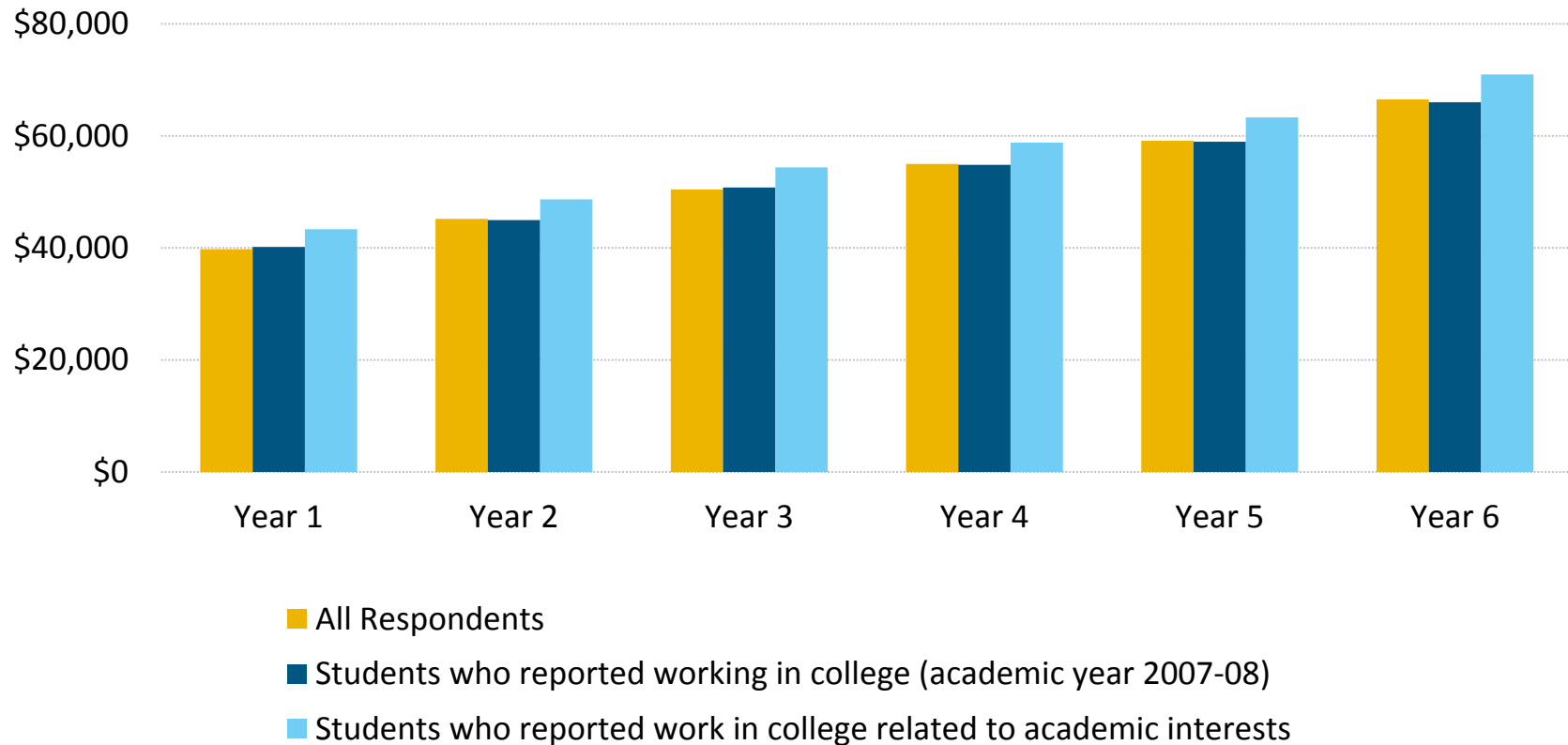
Median Earnings of Students During Academic Year 2007-08



# Results

## 3. Earnings of UCUES Respondents

**Median Annual Earnings of Bachelor's Degree Recipients,  
2008, 2009, and 2010 Exit Cohorts**



# Results

## 3. Median Earnings by Major and Initial Industry

<b>Field of Study</b>	<b>% of Population</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>
Arts & Humanities	17%	\$28,691	\$34,496	\$38,359	\$42,264	\$44,414	\$47,076
Business	11%	\$51,046	\$54,039	\$59,790	\$64,810	\$71,668	\$81,084
Engineering & Computer Science	17%	\$64,270	\$69,437	\$74,579	\$80,401	\$87,005	\$90,096
Life Sciences	11%	\$35,671	\$39,478	\$42,469	\$46,979	\$51,288	\$59,440
Physical Sciences	4%	\$43,300	\$50,160	\$55,164	\$59,672	\$66,086	\$70,464
Social Sciences	28%	\$36,134	\$40,394	\$45,583	\$48,813	\$52,065	\$58,512
All Other Disciplines	12%	\$38,678	\$43,814	\$48,073	\$53,213	\$58,782	\$67,106

<b>Industry of Employment - Year 1</b>	<b>% of Population</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>
Arts/Ent/Media	7%	\$32,755	\$39,544	\$43,315	\$48,512	\$50,904	\$58,432
Business Services	28%	\$45,198	\$50,324	\$56,757	\$62,976	\$66,635	\$75,500
Education & Social Service	17%	\$33,340	\$38,401	\$42,929	\$46,064	\$50,084	\$55,072
Engr/Arch/Hi Tech	22%	\$55,699	\$61,866	\$66,398	\$70,178	\$75,084	\$79,976
Health Care	4%	\$34,254	\$37,303	\$39,904	\$44,148	\$48,000	\$52,112
Retail/Accommodation/Food Service	17%	\$28,431	\$35,675	\$39,683	\$43,753	\$46,437	\$48,384
Other Industries	6%	\$35,462	\$37,282	\$41,518	\$44,961	\$52,908	\$54,532

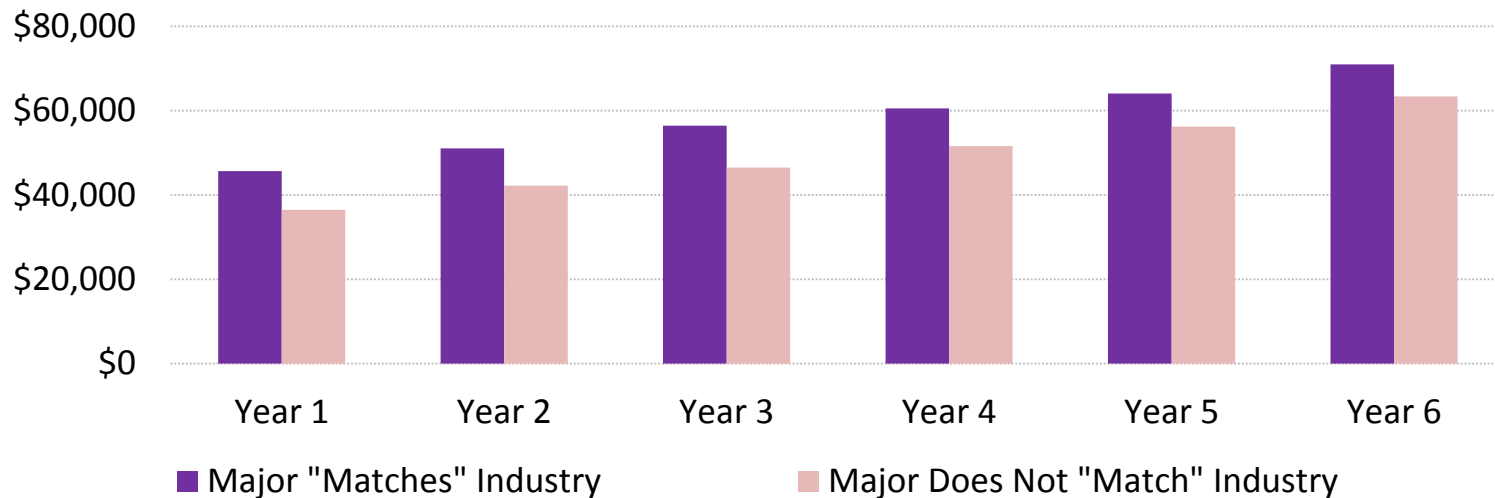
# Results

## 3. Employment pattern– Industries – Major “Match”

Percentage of Alumni Working in an Industry Similar to Their Undergraduate Major

	Years After Graduation					
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
All Respondents	43%	43%	43%	44%	43%	44%
Students Who Reported Working in Academic Year 2007-08	43%	43%	43%	44%	43%	43%
Students Who Reported Work Related to Academic Interests	<b>48%</b>	<b>47%</b>	<b>47%</b>	<b>47%</b>	<b>47%</b>	46%

### Median Earnings





# Results

## 4.1. Earnings by Engagement in Classroom Activities and Discipline

Discipline	Classroom participation and interactions with faculty	Average Earnings in Year 1	Average Total Earnings in Years 1 - 3	Average Total Earnings in Years 1 - 6
Engineering & Computer Science	Bottom 1/3	65,655	215,219	484,396
	Middle 1/3	66,633	218,268	476,876
	Top 1/3	67,133	229,706	528,177
Science	Bottom 1/3	39,863	131,163	289,269
	Middle 1/3	40,785	136,915	290,072
	Top 1/3	42,253	146,031	307,509
Business	Bottom 1/3	47,865	164,003	378,309
	Middle 1/3	52,005	174,368	386,226
	Top 1/3	54,757	180,756	392,514
Humanities, Education, Social Science, and Others	Bottom 1/3	35,955	123,330	267,928
	Middle 1/3	37,234	127,825	277,174
	Top 1/3	37,225	126,661	283,150

# Results

## 4.2. Earnings by Research Involvement and Discipline

Discipline	Research involvement	Average Earnings in Year 1	Average Total Earnings in Years 1-3	Average Total Earnings in Years 1-6
Engineering & Computer Science	Bottom 1/3	62,531	210,989	471,432
	Middle 1/3	67,077	222,542	481,384
	Top 1/3	68,903	229,744	529,672
Science	Bottom 1/3	36,440	127,173	269,500
	Middle 1/3	44,076	145,739	302,359
	Top 1/3	43,120	144,188	315,132
Business	Bottom 1/3	48,857	166,616	377,791
	Middle 1/3	52,152	178,018	388,936
	Top 1/3	54,373	177,528	395,328
Humanities, Education, Social Science, and Others	Bottom 1/3	36,359	124,221	263,476
	Middle 1/3	36,837	126,739	283,519
	Top 1/3	36,490	125,466	280,343

# Results

## 4.3. Earnings by Efforts Made to Academic Work and Discipline

Discipline	Efforts toward academic work	Average Earnings in Year 1	Average Total Earnings in Years 1-3	Average Total Earnings in Years 1-6
Engineering & Computer Science	Bottom 1/3	65,834	217,864	485,007
	Middle 1/3	64,186	220,802	483,921
	Top 1/3	69,526	226,532	524,489
Science	Bottom 1/3	40,681	134,593	295,271
	Middle 1/3	40,343	137,551	294,141
	Top 1/3	42,084	143,407	302,174
Business	Bottom 1/3	50,019	167,464	392,023
	Middle 1/3	51,149	170,732	374,903
	Top 1/3	53,385	180,473	391,919
Humanities, Education, Social Science, and Others	Bottom 1/3	34,961	121,333	260,291
	Middle 1/3	37,344	127,407	281,542
	Top 1/3	38,088	129,021	287,009

# Results

## 4.4. Earnings by Course Preparedness and Discipline

Discipline	Coursework preparedness	Average Earnings in Year 1	Average Total Earnings in Years 1-3	Average Total Earnings in Years 1-6
Engineering & Computer Science	Bottom 1/3	66,669	217,385	467,719
	Middle 1/3	66,086	221,010	505,758
	Top 1/3	66,719	222,967	486,385
Science	Bottom 1/3	38,246	131,217	287,789
	Middle 1/3	43,633	144,622	297,116
	Top 1/3	41,190	139,790	307,224
Business	Bottom 1/3	52,715	173,446	386,586
	Middle 1/3	48,459	166,350	368,750
	Top 1/3	53,109	178,876	403,074
Humanities, Education, Social Science, and Others	Bottom 1/3	36,001	122,729	270,483
	Middle 1/3	36,719	127,430	278,019
	Top 1/3	37,610	127,677	280,576

# Results

## 4.5. Earnings by Participation in Study Abroad Programs and Discipline

Discipline	Participation in study abroad programs	Average Earnings in Year 1	Average Total Earnings in Years 1-3	Average Total Earnings in Years 1-6
Engineering & Computer Science	Bottom Half	63,123	214,560	496,206
	Top Half	69,703	209,902	485,580
Science	Bottom Half	39,817	131,791	282,046
	Top Half	36,179	142,118	291,220
Business	Bottom Half	52,312	178,381	394,470
	Top Half	49,050	180,293	378,043
Humanities, Education, Social Science, and Others	Bottom Half	35,648	120,209	259,502
	Top Half	37,387	127,189	283,949

# Results

## 4.6. Earnings by Participation in Internship Programs and Discipline

Discipline	Participation in Internships	Average Earnings in Year 1	Average Total Earnings in Years 1-3	Average Total Earnings in Years 1-6
Engineering & Computer Science	Bottom Half	59,169	204,179	469,973
	Top Half	69,134	228,982	523,749
Science	Bottom Half	38,767	127,051	260,306
	Top Half	41,004	140,726	298,708
Business	Bottom Half	44,246	144,535	308,229
	Top Half	61,417	221,680	483,667
Humanities, Education, Social Science, and Others	Bottom Half	33,778	112,415	240,651
	Top Half	39,455	136,505	303,986

# Results

## 4.7. Earnings by Civic Engagement and Discipline

Discipline	Civic Engagement	Average Earnings in Year 1	Average Total Earnings in Years 1-3	Average Total Earnings in Years 1-6
Engineering & Computer Science	Bottom 1/3	64,258	221,165	528,845
	Middle 1/3	64,712	213,923	482,807
	Top 1/3	63,227	213,361	465,132
Science	Bottom 1/3	41,144	124,910	260,831
	Middle 1/3	45,249	165,160	326,481
	Top 1/3	47,077	167,034	336,225
Business	Bottom 1/3	42,758	145,148	316,013
	Middle 1/3	51,149	154,917	366,016
	Top 1/3	60,924	192,963	458,409
Humanities, Education, Social Science, and Others	Bottom 1/3	33,260	117,240	255,511
	Middle 1/3	35,381	126,728	269,492
	Top 1/3	38,150	129,895	286,819

## Results 4.8. Engagement and Earnings (regression models)

	Model on Year 1 Earnings		Model on Year 1-3 Earnings		Model on Year 1-6 Earnings	
	Estimate	<i>p</i> value	Estimate	<i>p</i> value	Estimate	<i>p</i> value
Intercept	-681	0.8875	-1605	0.9128	-18317	0.5808
Classroom participation and interactions with faculty	-335	0.2210	-851	0.3079	-1405	0.4568
Research involvement or paid employment	67	0.8316	30	0.9754	3600	0.0978
Efforts toward academic work	1071	<b>&lt;.0001</b>	3842	<b>&lt;.0001</b>	8298	<b>&lt;.0001</b>
Coursework preparedness	365	0.1548	2053	<b>0.0085</b>	6230	<b>0.0004</b>
Graduation GPA	8425	<b>&lt;.0001</b>	32156	<b>&lt;.0001</b>	76035	<b>&lt;.0001</b>
Female	-4497	<b>&lt;.0001</b>	-19576	<b>&lt;.0001</b>	-44631	<b>&lt;.0001</b>
First Generation	-1992	<b>0.0317</b>	-6834	<b>0.0155</b>	-16469	<b>0.0099</b>
Freshman	3173	<b>0.0029</b>	5268	0.1047	2251	0.7592
Engineering & Computer Science	25419	<b>&lt;.0001</b>	82529	<b>&lt;.0001</b>	174420	<b>&lt;.0001</b>
Life Science/Physical Science	4572	<b>0.0004</b>	14761	<b>0.0002</b>	29142	<b>0.0011</b>
Business	10460	<b>&lt;.0001</b>	37040	<b>&lt;.0001</b>	80995	<b>&lt;.0001</b>
Employment before Graduation	4437	<b>0.0112</b>	8100	0.1284	-9819	0.4153
Match between Discipline and Industry	4961	<b>&lt;.0001</b>	11670	<b>&lt;.0001</b>	23355	<b>0.0002</b>
	<i>N</i> =3,806		<i>N</i> =3,806		<i>N</i> =3,806	
	<i>Adj. R Square</i> =0.18		<i>Adj. R Square</i> =0.21		<i>Adj. R Square</i> =0.19	



# Results

## 4.9. Engagement and Earnings (regression model)

	Model on Year 1 Earnings		Model on Year 1-3 Earnings		Model on Year 1-6 Earnings	
	Estimate	<i>p</i> value	Estimate	<i>p</i> value	Estimate	<i>p</i> value
Intercept	-281	0.9736	9738	0.7235	-20129	0.7665
Classroom participation and interactions with faculty	-702	0.1409	-1558	0.3137	-3663	0.3361
Research involvement or paid employment	-726	0.2248	-3705	0.0565	-7765	0.1044
Efforts toward academic work	1352	<b>0.0023</b>	6265	<b>&lt;.0001</b>	15660	<b>&lt;.0001</b>
Coursework preparedness	-224	0.6089	373	0.793	3483	0.3198
Study Abroad	-956	0.191	-367	0.8772	3174	0.5867
Internship Programs	2085	<b>0.0001</b>	6778	<b>0.0001</b>	20041	<b>&lt;.0001</b>
Graduation GPA	9323	<b>&lt;.0001</b>	32453	<b>&lt;.0001</b>	74954	<b>&lt;.0001</b>
Female	-3372	<b>0.0473</b>	-19081	<b>0.0006</b>	-45856	<b>0.0007</b>
First Generation	-3440	<b>0.0348</b>	-11879	<b>0.0247</b>	-17629	0.1755
Freshman	1244	0.4986	-6902	0.247	-29234	<b>0.0466</b>
Engineering & Computer Science	23551	<b>&lt;.0001</b>	82863	<b>&lt;.0001</b>	179172	<b>&lt;.0001</b>
Life Science/Physical Science	3168	0.1729	11715	0.1202	13654	0.4619
Business	10965	<b>&lt;.0001</b>	48018	<b>&lt;.0001</b>	89122	<b>&lt;.0001</b>
Employment before Graduation	2854	0.3479	-13835	0.1608	-64515	<b>0.008</b>
Match between Discipline and Industry	6220	<b>0.0001</b>	15365	<b>0.0034</b>	33596	<b>0.0093</b>
	<i>N</i> =1,271		<i>N</i> =1,271		<i>N</i> =1,271	
	Adj. <i>R</i> Square=0.19		Adj. <i>R</i> Square=0.22		Adj. <i>R</i> Square=0.19	

## Results 4.10. Engagement and Earnings (regression model)

	Model on Year 1 Earnings		Model on Year 1-3 Earnings		Model on Year 1-6 Earnings	
	Estimate	<i>p</i> value	Estimate	<i>p</i> value	Estimate	<i>p</i> value
Intercept	-5342	0.6696	-42763	0.2122	-62527	0.3838
Classroom participation and interactions with faculty	-681	0.3383	-4007	<b>0.0399</b>	-4018	0.3248
Research involvement or paid employment	531	0.5017	3245	0.1337	8641	0.0568
Efforts toward academic work	846	0.2142	4059	<b>0.0297</b>	6824	0.0809
Coursework preparedness	615	0.3574	4153	<b>0.0235</b>	9979	<b>0.0094</b>
<b>Civic Engagement</b>	1749	<b>0.0449</b>	3712	0.1197	6670	0.1819
Graduation GPA	6899	<b>0.0153</b>	31822	<b>&lt;.0001</b>	63192	<b>0.0001</b>
Female	-5785	<b>0.0164</b>	-21185	<b>0.0013</b>	-41514	<b>0.0027</b>
First Generation	-2625	0.2511	-3533	0.5724	-17517	0.1818
Freshman	1282	0.6425	3857	0.6098	1272	0.936
Engineering & Computer Science	21169	<b>&lt;.0001</b>	64221	<b>&lt;.0001</b>	157751	<b>&lt;.0001</b>
Life Science/Physical Science	7116	<b>0.0394</b>	18169	<b>0.0546</b>	28616	0.1482
Business	9617	<b>0.0084</b>	20733	<b>0.0377</b>	72170	<b>0.0006</b>
Employment before Graduation	6835	0.1131	24867	<b>0.0354</b>	25279	0.3067
Match between Discipline and Industry	6261	<b>0.0063</b>	12455	<b>0.047</b>	18590	0.1568
	<i>N</i> =695		<i>N</i> =695		<i>N</i> =695	
	Adj. <i>R</i> Square=0.14		Adj. <i>R</i> Square=0.18		Adj. <i>R</i> Square=0.20	

## Conclusions

- Student Engagement
  - Engagement takes on many forms - academic, internship programs, paid employment, research participation, and civic activities
  - Engagement varies little across demographic groups, but increases with class level (i.e. frosh, senior, etc.)

## Conclusions

- Employment
  - In-college employment increases with class level, as does the likelihood of it being related to students' academic interests
  - In-college earnings varies little with work being related to academic interests
  - In-college employment related to academic interests is associated with higher post-college earnings and stronger “match” with industry

## Conclusions

- Relationship between Engagement and Employment
  - There is a relationship between engagement and employment outcomes. In general, the more engaged in academic activities students are, the more they earn after graduation.
  - Among all engagement factors, efforts toward academic work, internship participation, and coursework preparation are the strongest predictors of post-college earnings, both in the short and long term.

Thanks! Questions?



Explore the UC story through data at UC Information Center!

<http://www.universityofcalifornia.edu/infocenter>

## Results [BACKUP SLIDE]

### 3. Employment pattern– Industries All UC Graduates and UCUES Respondents

<b>All UC Graduates</b>	<b>Years After Graduation</b>					
	<b><u>Year 1</u></b>	<b><u>Year 2</u></b>	<b><u>Year 3</u></b>	<b><u>Year 4</u></b>	<b><u>Year 5</u></b>	<b><u>Year 6</u></b>
<b><u>Broad Industry</u></b>						
Arts/Ent/Media	7%	7%	7%	7%	7%	7%
Business Services	29%	28%	27%	26%	25%	25%
Education & Social Service	15%	14%	14%	15%	15%	16%
Engr/Arch/Hi Tech	20%	22%	24%	26%	27%	27%
Health Care	4%	5%	5%	4%	4%	4%
Other Industries	6%	5%	5%	5%	5%	6%
Retail/Accommodation/Food Service	20%	18%	17%	17%	16%	16%

<b>Difference Between UCUES and UC Distribution of Industries</b>	<b>Years After Graduation</b>					
	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>
<b>Broad Industry</b>						
Arts/Ent/Media	0%	0%	0%	0%	0%	1%
Business Services	0%	0%	0%	0%	0%	-1%
Education & Social Service	2%	2%	1%	1%	1%	1%
Engr/Arch/Hi Tech	2%	2%	3%	2%	2%	2%
Health Care	-1%	-1%	0%	0%	0%	0%
Other Industries	0%	0%	0%	0%	0%	0%
Retail/Accommodation/Food Service	-3%	-3%	-3%	-3%	-2%	-3%

# Results

## 3. Employment pattern– Industries – Major “Match”

All UC Graduates 2007 to 2009	Years After Graduation					
	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
<u>All Industries</u>	37%	37%	37%	37%	38%	38%
Arts/Ent/Media	43%	42%	40%	41%	41%	40%
Business Services	33%	34%	33%	33%	32%	33%
Education & Social Service	75%	77%	77%	77%	77%	77%
Engr/Arch/Hi Tech	45%	43%	41%	40%	40%	41%
Health Care	30%	30%	31%	32%	30%	30%
Retail/Accomodation/Food Service	17%	17%	18%	18%	19%	19%
<u>All Majors</u>	41%	41%	41%	41%	41%	42%
Arts & Humanities	30%	30%	30%	31%	33%	33%
Business	73%	71%	67%	65%	62%	63%
Engineering & CS	59%	63%	64%	65%	66%	66%
Life Sciences	30%	29%	29%	29%	30%	29%
Physical Sciences	45%	49%	51%	53%	54%	54%
Social Sciences	32%	31%	31%	31%	31%	32%
<b>All UCUES Respondents</b>	41%	41%	41%	42%	41%	42%



# Results

## 3. Employment pattern – hours worked in college

