

Defining and Measuring Successful Career Outcomes



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Overview



- 1. Common assumptions have shaped our approach to thinking about career outcomes and to defining career success.**
- 2. Are “deviant” PhD careers unsuccessful careers?**
- 3. Are PhDs working in areas outside of their doctoral education unsuccessful and dissatisfied with their employment? Are they using their scholarly skills?**

The context: CIRGE research



1. Research on outcome measures of doctoral education outcomes: **3 national career path studies of PhDs**
2. Action/evaluation research of innovative and international doctoral programs: **NSF IGERTs/ German Graduiertenkolleges**
3. Research/monitor international trends in doctoral education: **biannual international CIRGE conference, development of pilot programs on “international” leadership workshops for doctoral students**

Common (*incorrect*) US Assumptions about US PhDs



- 1. All PhD students want to become academics.**
- 2. The “best” PhD students do become academics.**
- 3. Science PhDs who pursue an academic career path reach this career goal at a relatively young age**

Common (*incorrect*) Assumptions about US PhDs



- 4. PhD recipients' career paths are linear and smooth.**
- 5. Everybody can take the best job offered.**
- 6. Children detract women from the pursuit of an academic career.**
- 7. Academics enjoy the highest job satisfaction.**

Empirical Findings from Three US *PhDs –10+ and 5 Years Later Studies*



1. **PhDs—Ten Years Later** (*surveyed 1997*) MELLON FOUNDATION AND NSF FUNDED

61 US universities, 6 disciplines

Survey population: 5,864 response rate: **66%**

- Biochemistry
- Computer Science
- Electrical Engin.
- English
- Mathematics
- Political Science

2. **PhDs in Art History – Over a Decade Later** (*surveyed in 2002*) GETTY GRANT FOUNDATION FUNDED

54 US universities, all art history PhD programs

survey population: 725 response rate: **70%**

3. Social Science PhDs – 6+ Years Out

(surveyed 2005/2006) FORD FOUNDATION FUNDED



64 universities, 6 disciplines, **50% response rate** (2,702)

- Anthropology
- Geography
- Political Science
- Communications
- History
- Sociology

Survey instrument:

- Career goals at start and end of PhD education
- Career paths and salary
- Job search and job satisfaction
- Evaluation of doctoral education
- Usefulness of doctoral education
- Family and Career

Common Assumption 1



All students who you pursue a PhD want to become professors.

Career Goal at PhD Completion and % Tenured or Tenure-Track 6+ Years Later



| Major Field | (1) % Want to be Professor | (2) % Tenure + TT of (1) | (3) % Tenure+ TT of <u>All</u> PhDs |
|---------------|-------------------------------------|--------------------------------|---|
| Anthropology | | | |
| Communication | | | |
| Geography | | | |
| History | | | |
| Political Sc. | | | |
| Sociology | | | |

PRELIMINARY RESULTS

Career Goal at PhD Completion and % Tenured or Tenure-Track 6+ Years Later



| Major Field | (1) % Want to be Professor | (2) % Tenure + TT of (1) | (3) % Tenure+ TT of <u>All</u> PhDs |
|---------------|-------------------------------------|--------------------------------|---|
| Anthropology | 72 | 60 | 48 |
| Communication | 75 | 77 | 63 |
| Geography | 64 | 70 | 48 |
| History | 84 | 71 | 60 |
| Political Sc. | 77 | 77 | 63 |
| Sociology | 75 | 77 | 60 |

PRELIMINARY RESULTS

Career Goal at PhD Completion and Tenured 10-14 Years Later



| | (1) % Wanted to Be Professor | (2) % Tenured of (1) | (3) % Tenured of All PhDs |
|-------------------|------------------------------------|----------------------------|---------------------------------|
| Bio-Chemistry | 32 | 34 | 19 (605) |
| Computer Sc. | 46 | 61 | 34 (282) |
| Electrical Engin. | 19 | 67 | 22 (328) |
| English | 81 | 64 | 55 (767) |
| Mathematics | 54 | 73 | 54 (522) |
| Political Sc. | 72 | 66 | 53 (455) |

Career Goal at PhD Completion and Tenured 10-14 Years Later- *Art History*



| | Women | Men |
|---|------------|------------|
| % wanted to be professor | 68% | 78% |
| % tenured of those who wanted to be professors | 58% | 86% |
| % tenured of all Art History PhDs | 37% | 63% |

Academic Discipline Abbreviation Key



AN Anthropology

CO Communication

GE Geography

HI History

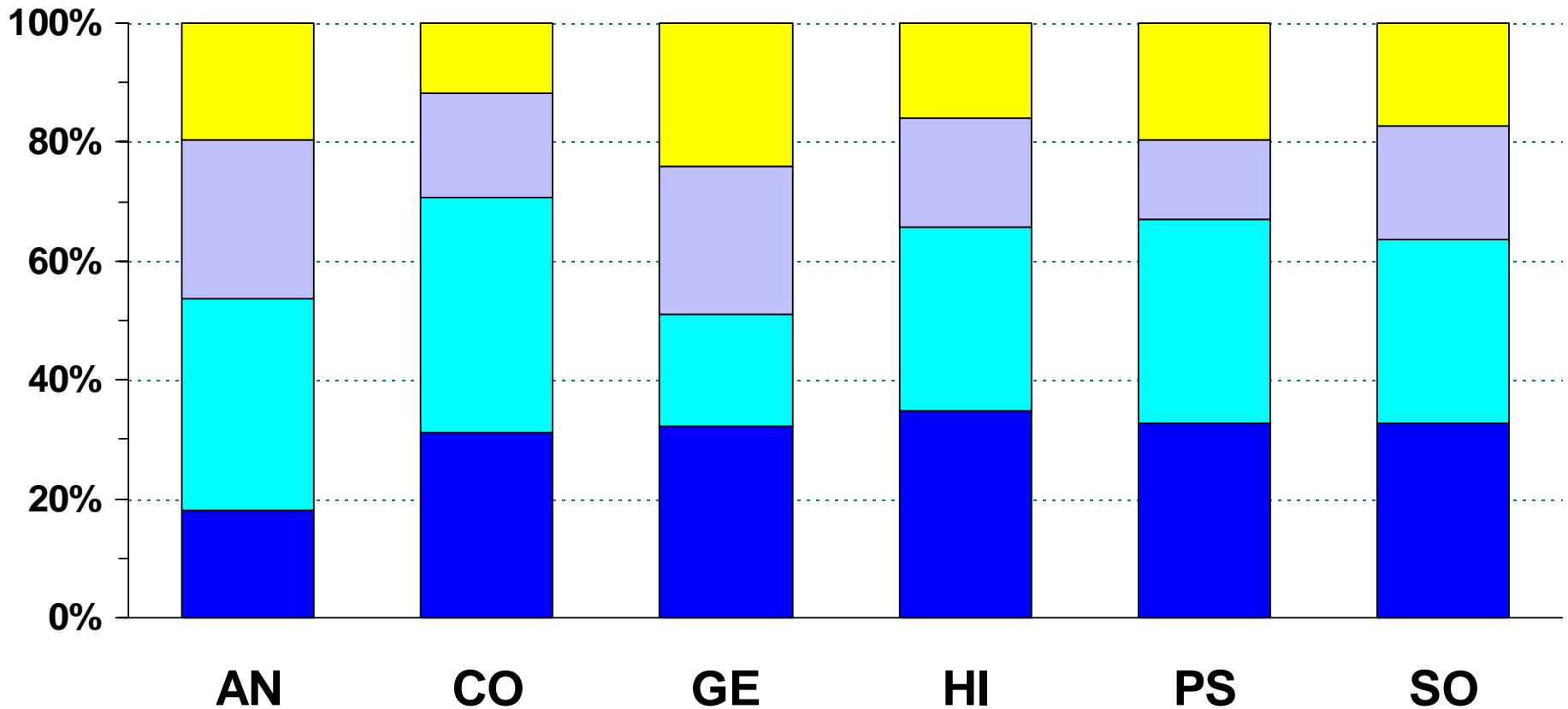
PS Political Science

SO Sociology

Employment at Time of Survey (2005/2006) 5+ Years after PhD (SS5)



■ Tenured
 ■ Tenure Track
 ■ Acad. Other
 ■ BGN

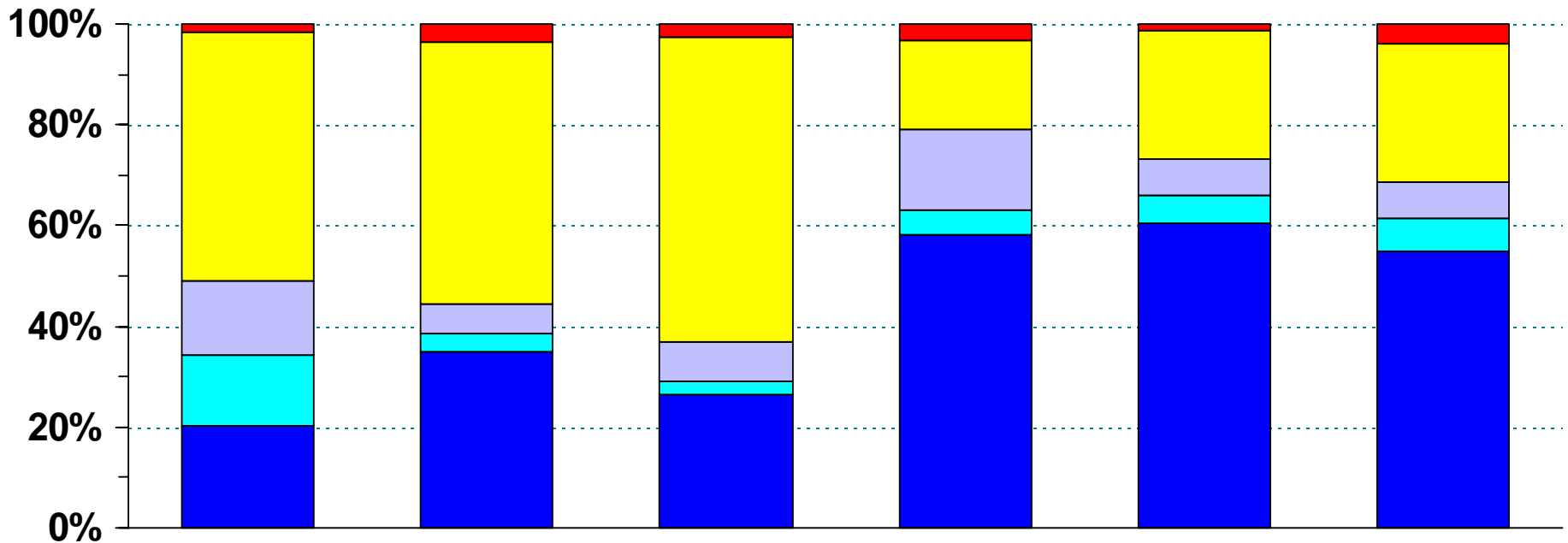


PRELIMINARY RESULTS

Employment at Survey, 1996/97 10+ Years after PhD



■ Tenured
 ■ Tenure Track
 ■ NTT/Acad.Other
 ■ BGN *
 ■ Both Sectors



Biochem.

Comp.
Sci.

Elec.
Eng.

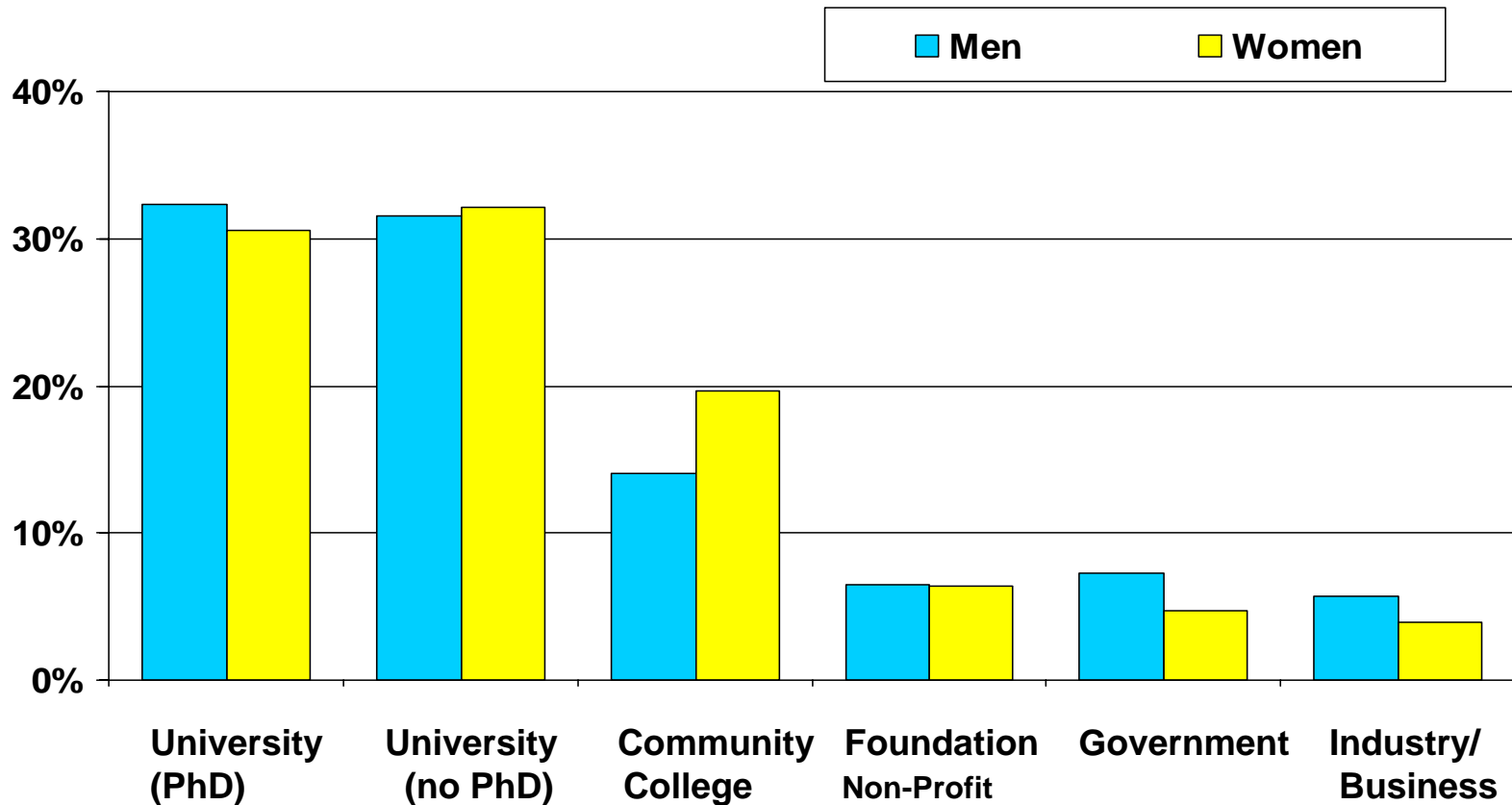
English

Math.

Poli.
Sci.

* B = Business
 G = Government
 N = Non-profits

Selected Employer at Time of Survey (2005/2006) **Social Science**



Excluded: Not in the Workforce (55)

PRELIMINARY RESULTS

Common Assumption 2



**The “best” PhD students do
become professors**

**measures: short time-to-degree
many publications**

Common Assumption 2

The “best” become professors

Short time-to-doctoral degree and number of publications only mattered significantly for **English** and **political science PhDs**.

These factors did NOT matter for **biochemists, electrical engineerings,** and **mathematicians**. Time-to-degree mattered for computer scientists (logistic regression analysis).

Common Assumption 2

Mentoring is the key to success



Mentoring had influence on being a tenure-track faculty at the first job only for **biochemists** and **mathematicians**.

(logistic regression analysis)

Common Assumptions the “best” and mentoring



What mattered most is the **RANK** of PhD-granting program.

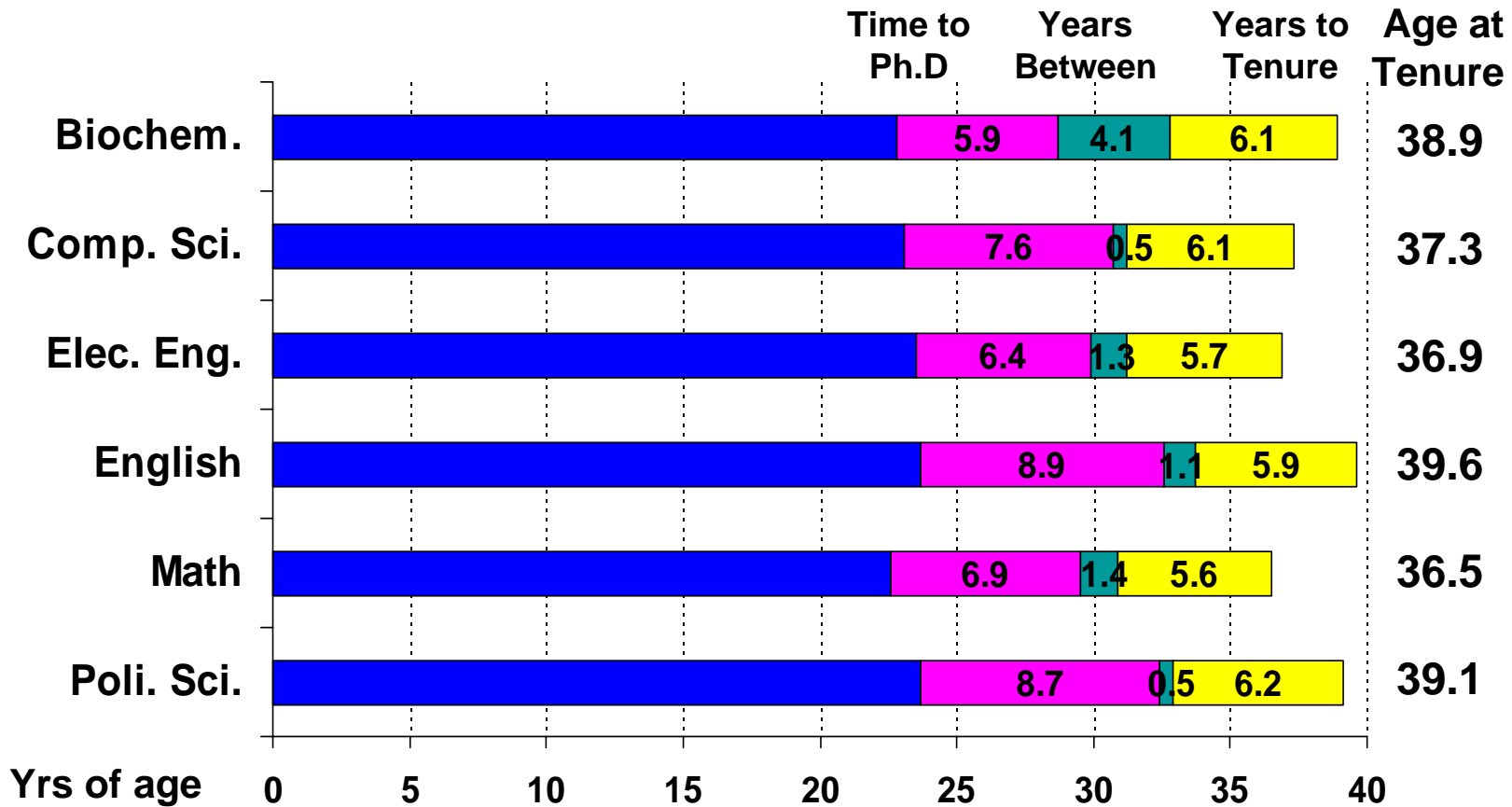
However in fields with an **attractive job market outside academia, computer science and electrical engineering, RANK did NOT matter significantly.**

Common Assumption 3



Science PhDs reach the professoriate at a relatively young age

Age at Tenure by Field



Postdoctoral Appointments



| Major Field | Postdocs | Mean Years |
|--------------------------|-----------------|-------------------|
| Anthropology | 15% | 2.3 |
| Communication | 1% | 1.8 |
| Geography | 10% | 2.1 |
| History | 7% | 1.4 |
| Political Science | 17% | 1.4 |
| Sociology | 17% | 1.9 |

PRELIMINARY RESULTS

Postdoctoral Appointments



| Major Field | % Doing Postdoc | Median Years |
|----------------------|------------------------|---------------------|
| Biochemistry | 86 | 3.8 |
| Computer Sc. | 7 | 1.6 |
| Elec. Eng. | 9 | 1.6 |
| English | 8 | 2.0 |
| Mathematics | 31 | 2.5 |
| Political Sc. | 9 | 1.5 |

Common Assumption 4

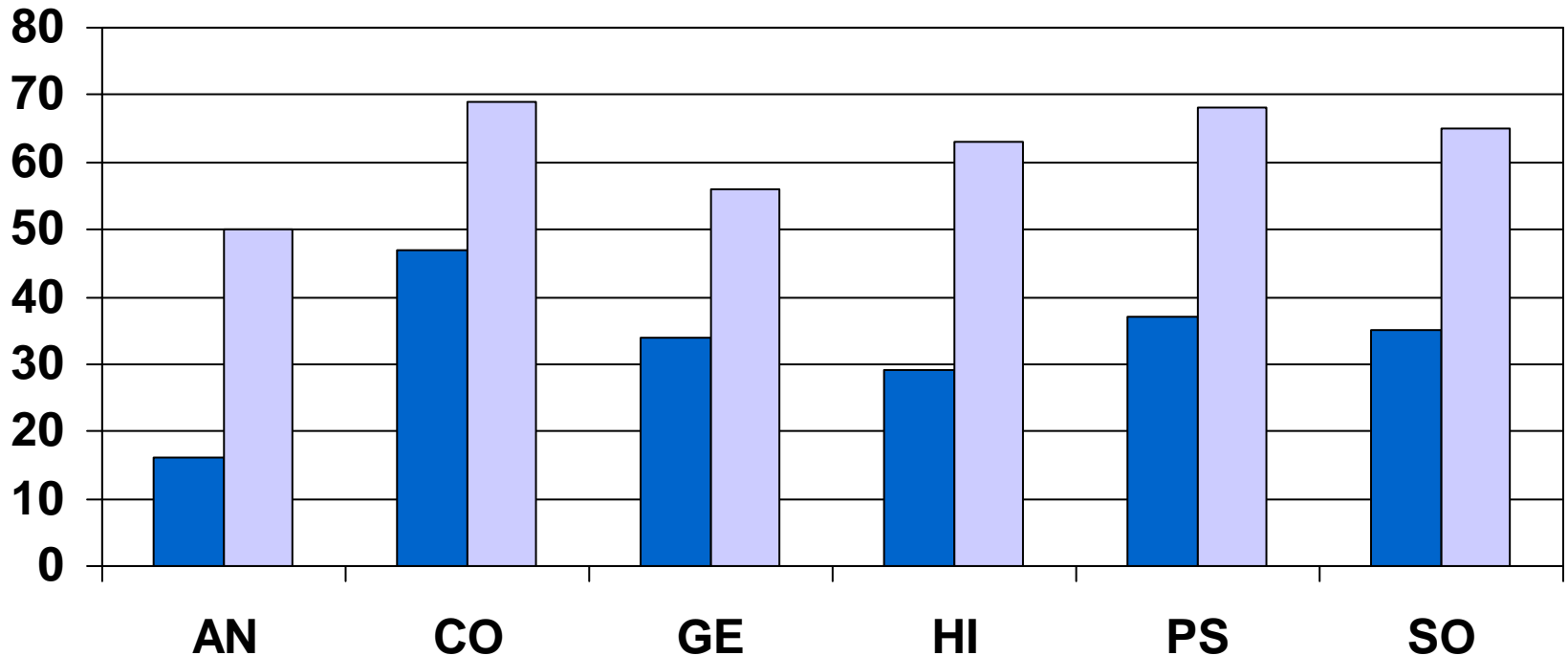


**PhD recipients' career paths
are linear and smooth**

% Whose First Job was Tenure Track, and % Ever Tenured/Tenure Track, by Field

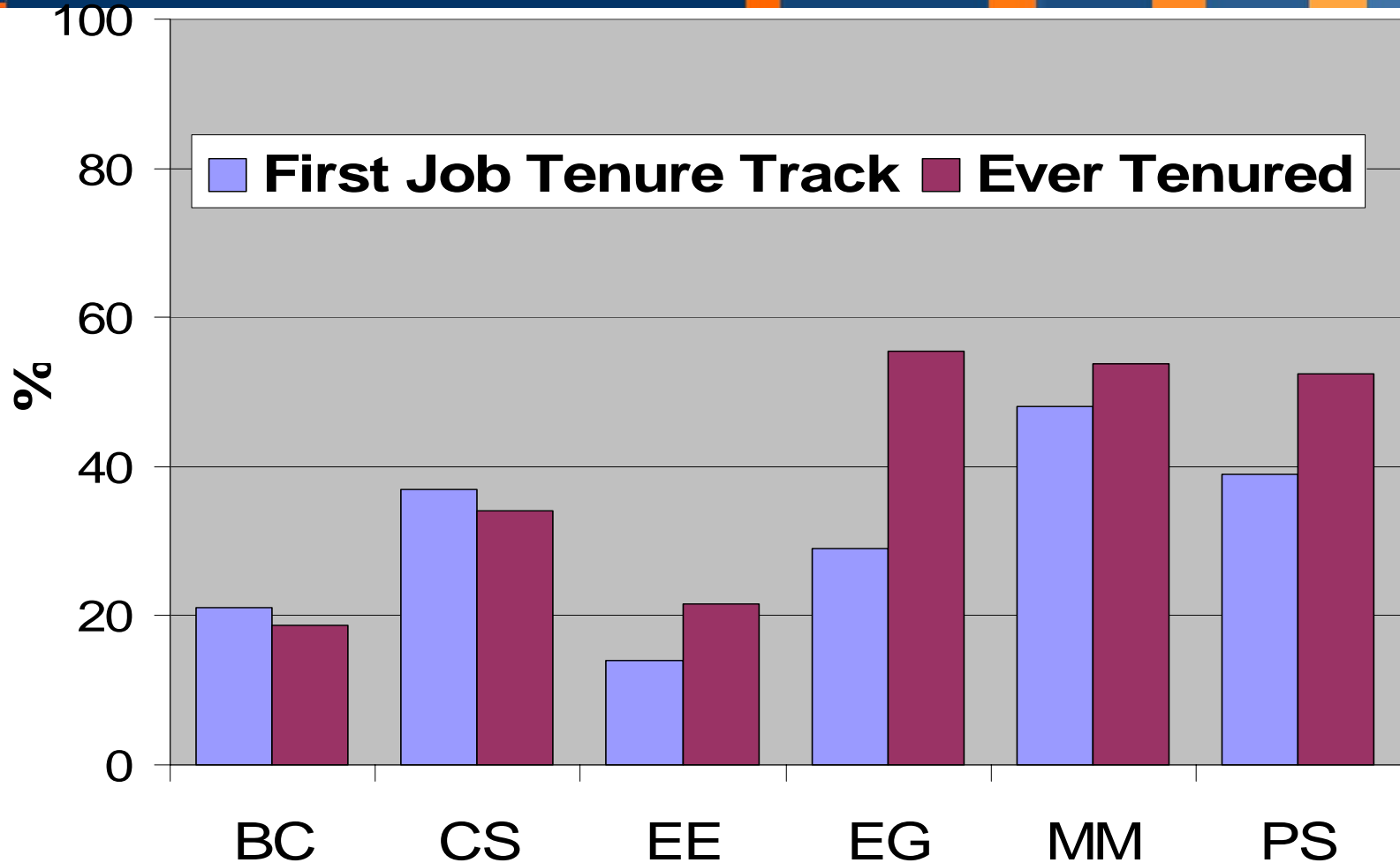


■ First Job Tenure track ■ Ever Tenured/Tenure Track



PRELIMINARY RESULTS

% PhDs First Job Assistant Professor and Ever Tenured



Common Assumption 5



**Everybody can take the best
job offered**

Educational Level of Spouse At Time of Survey by Gender (all social science fields)



Women in Our Survey

Married to PhD/JD/MD: **34%**

Men in Our Survey

Married to PhD/JD/MD: **19%**

PRELIMINARY RESULTS

Educational Level of Spouse by Gender and Field



**Women/ men ENGLISH PhDs in our survey
had spouses with PhD/JD/MD (1997):**

57% / 33%

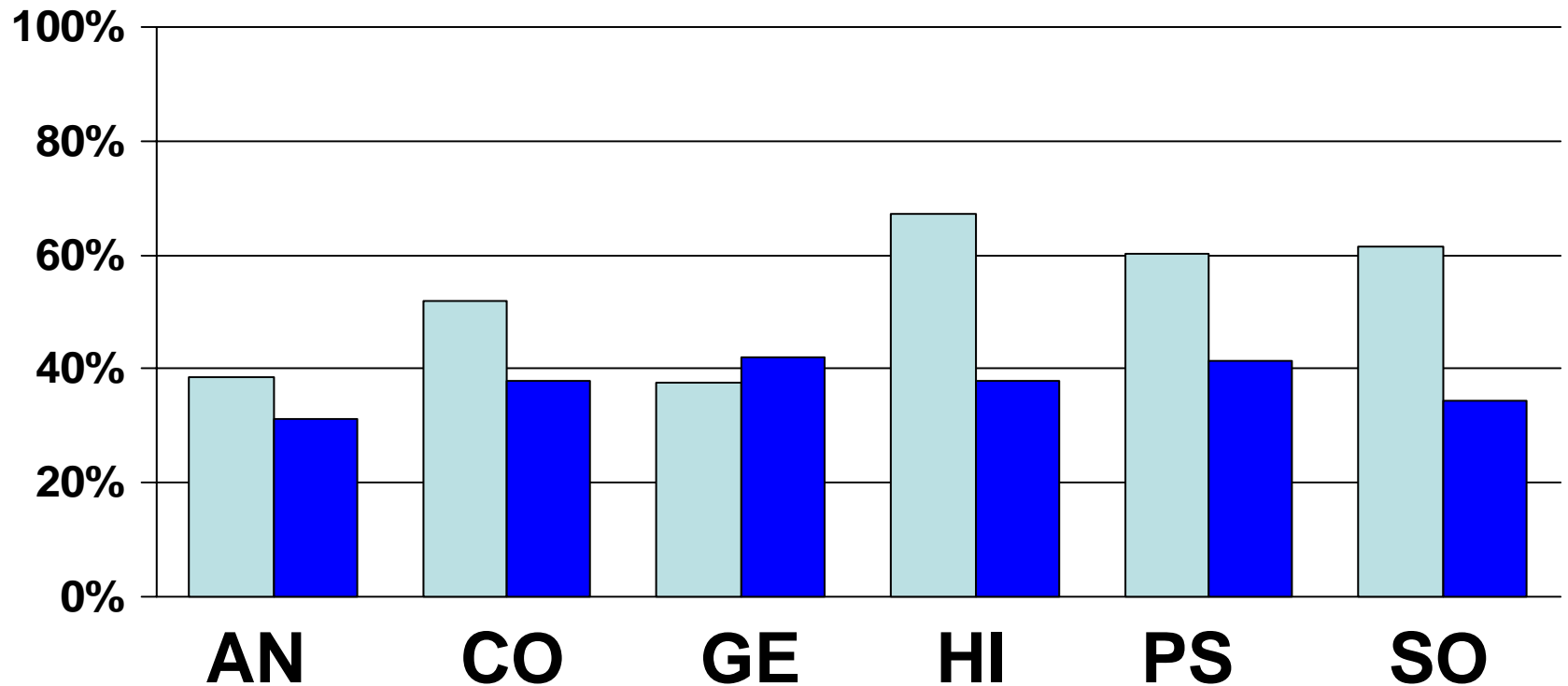
**Women/ men ART HISTORY PhDs in our
survey had spouses with PhD/JD/MD (2002):**

47% / 33%

% Who Said “Good Opportunities for My Spouse” was Very Important in First Job Choice



Married Women Married Men

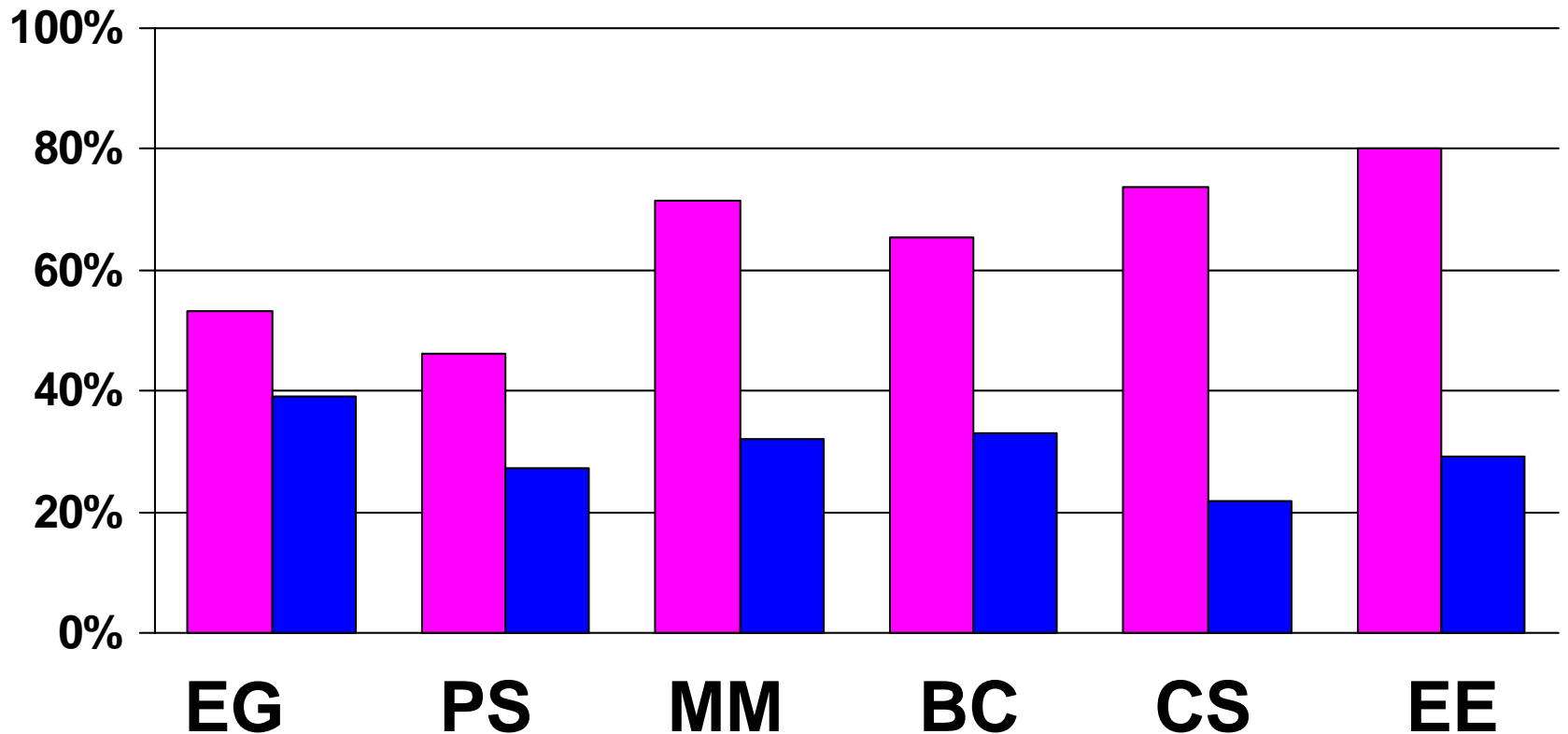


PRELIMINARY RESULTS

% "Good Opportunities for My Partner" Very Important in First Job Choice



Married Women Married Men



Common Assumption 6



**Children detract women from
the pursuit of a faculty career**

Who Influenced the Career Path?

Art History



| | Women | Men |
|---------------------------------|------------|------------|
| Partner | 44% | 26% |
| Children | 38% | 13% |
| Taking Care of Relatives | 13% | 4% |

Ever Tenured by Family Trajectories and Gender: *Art History*



| | Women | Men |
|---|------------|------------|
| Single w/o Children | 53% | 54% |
| Stable Relationship w/o Children | 52% | 76% |
| Stable Relationship w/ Children | 38% | 81% |

Common Assumption 7



Faculty enjoy the highest job satisfaction

Satisfaction with Current Job

Social Sciences



| Major Field | | Overall Satisfaction |
|--------------------------------|---|----------------------|
| Academic Ladder | 3 | 81% |
| Academic Other | 4 | 78% |
| Foundation/Social (non) Profit | 1 | 83% |
| Government | 3 | 81% |
| Industry | 2 | 82% |

Factor analysis results: Job Satisfaction



- **Intrinsic Factors:**

- Intellectual challenge of work
- Level of responsibility
- Use of doctoral education

- Autonomy of work
- Contribution to society
- Good fit for abilities/interests

- **Status & Benefits:**

- Career growth opportunities
- Prestige of organization & job
- Salary

- Recognition for my work
- Job security and stability
- Availability of resources

- **Quality of Life:**

- Able to balance work/life
- Proximity to extended family -
- Geographic location

- Support/of all types of people
- Opportunities for partner
- Flexibility of work

Satisfaction with Current Job

Social Sciences



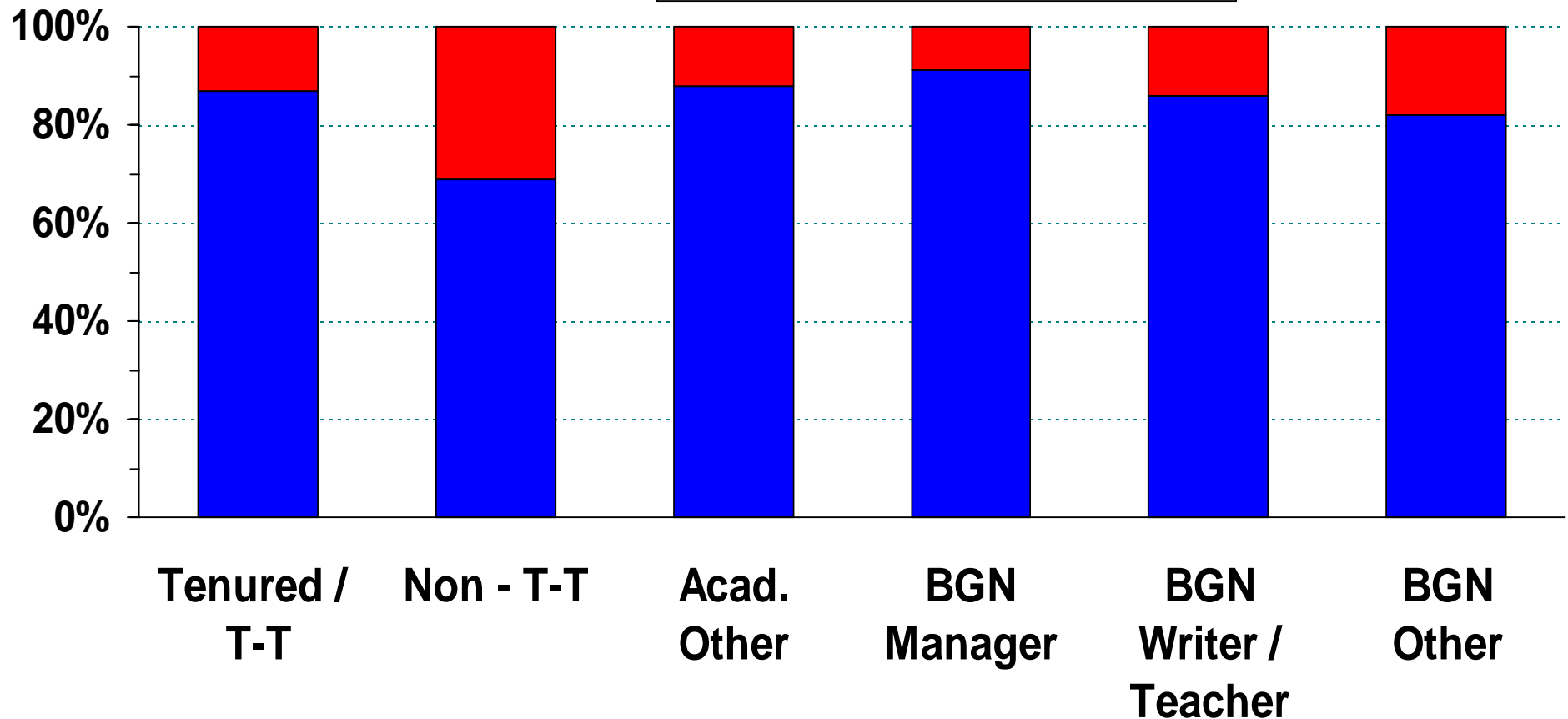
| Major Field | Intrinsic Rewards | Status & Benefits | Quality of Life | Overall |
|--------------------------------|-------------------|-------------------|-----------------|---------|
| Academic Ladder | 91% | 74% | 78% | 81% |
| Academic Other | 85% | 66% | 84% | 78% |
| Foundation/Social (non) Profit | 87% | 78% | 85% | 83% |
| Government | 82% | 80% | 81% | 81% |
| Industry | 79% | 81% | 85% | 82% |

Are “deviant” PhD careers unsuccessful careers?

Overall Satisfaction with Current Job: English



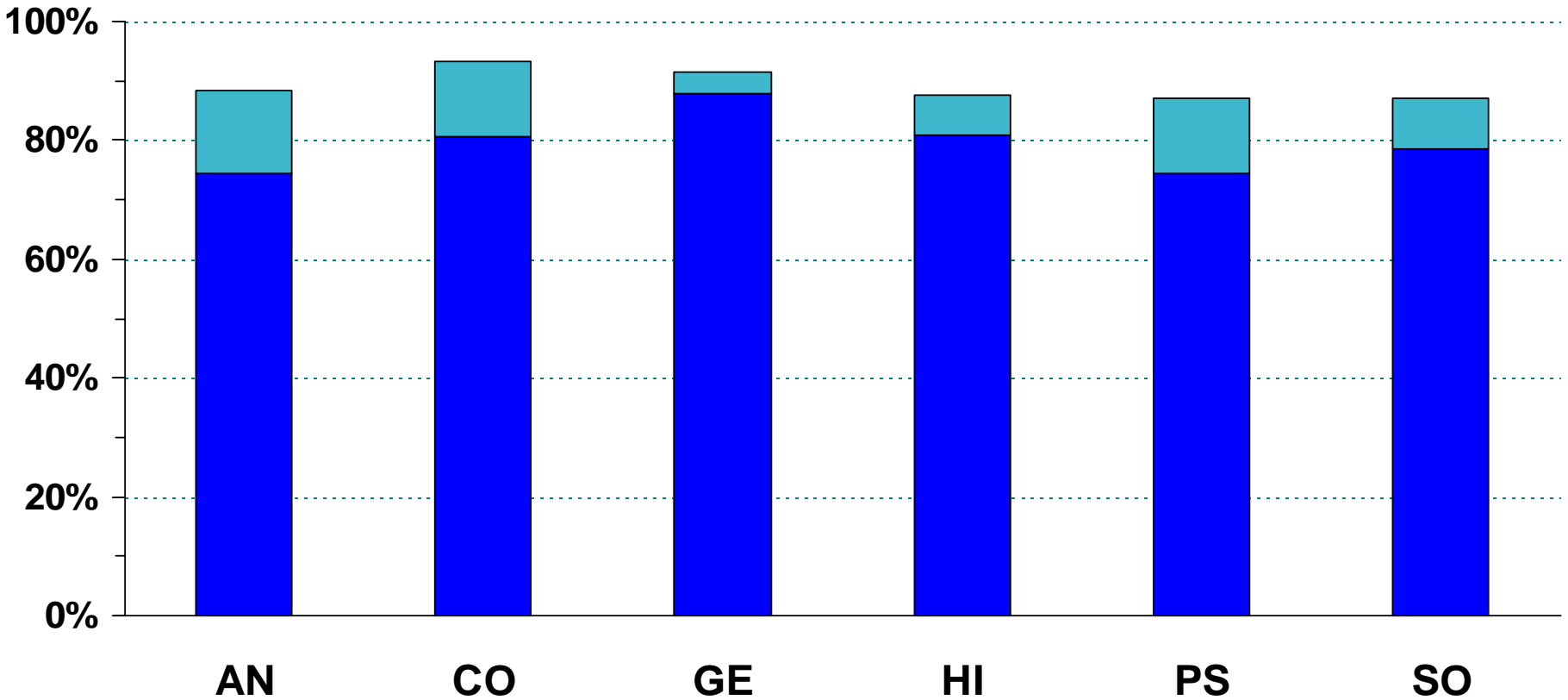
■ Satisfied ■ Not Satisfied



Would You Do the PhD Again in Same Field or Different Field?



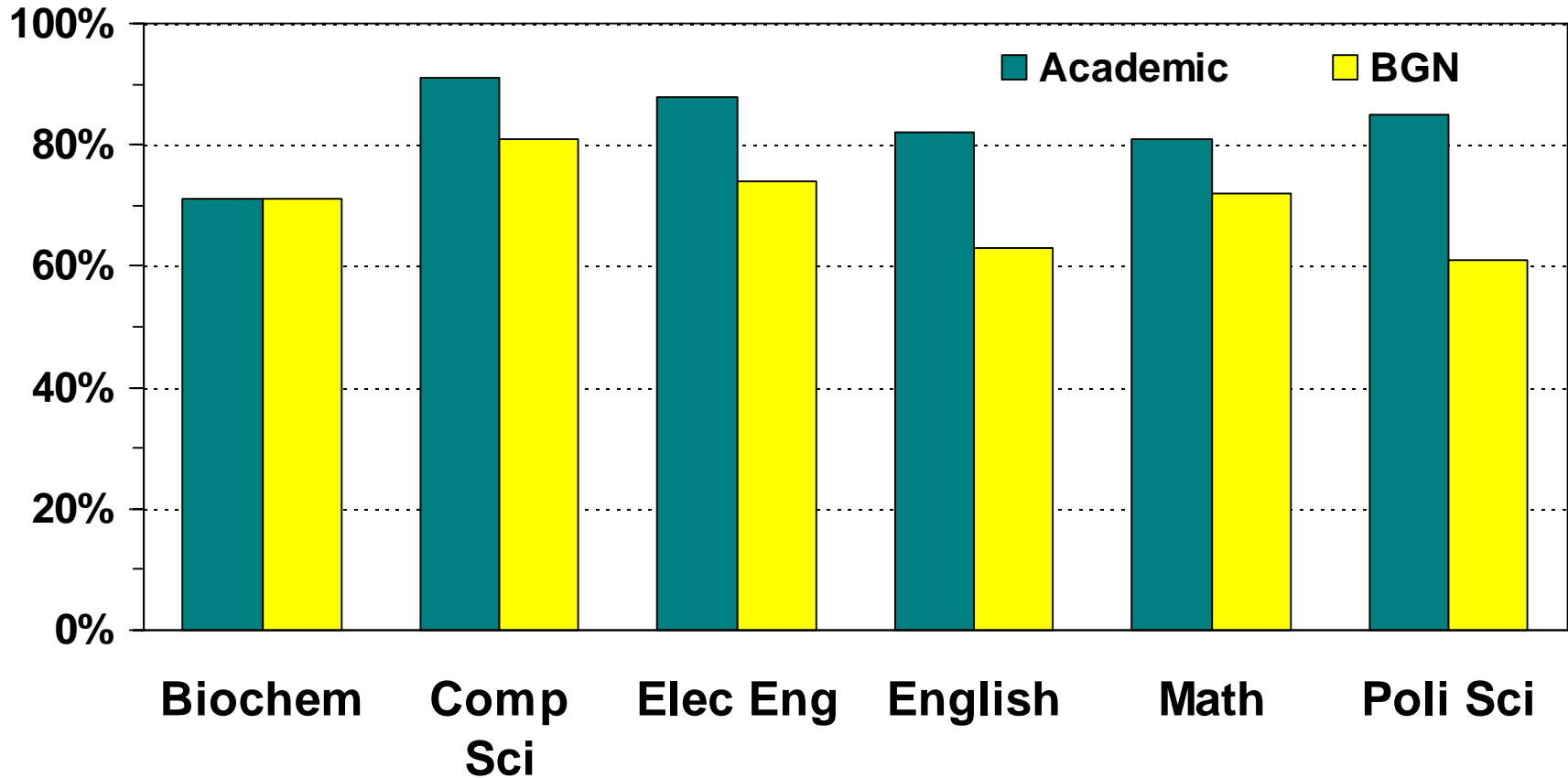
■ Yes, Same Field
 ■ Yes, Different Field



PRELIMINARY RESULTS

Would you do the Ph.D. again?

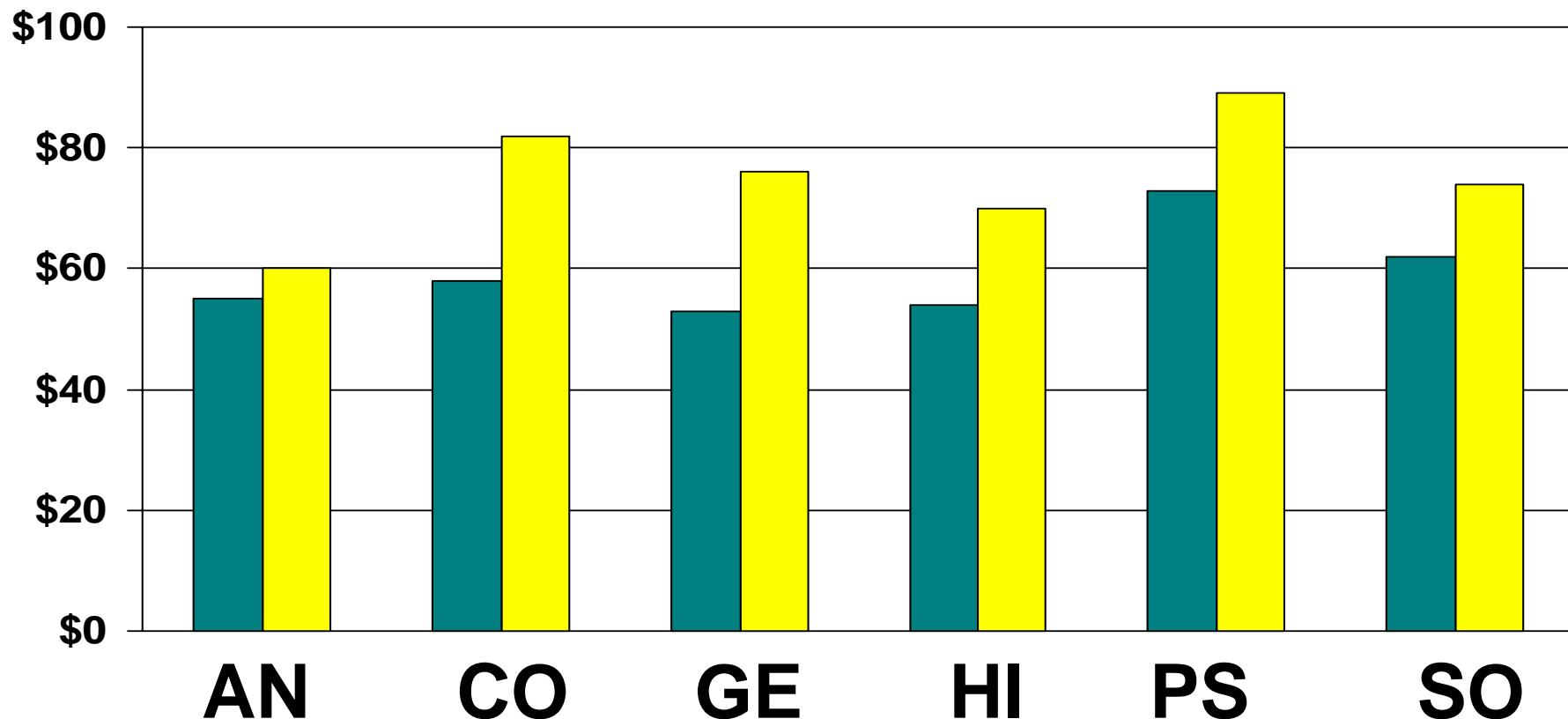
Yes: In the Same Field.



Median Salary at Time of Survey (2005/2006) among Full-time and Self-employed PhDs: Social Sciences



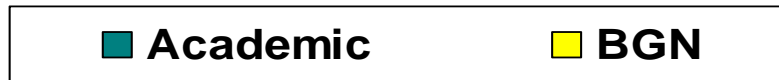
Thousands



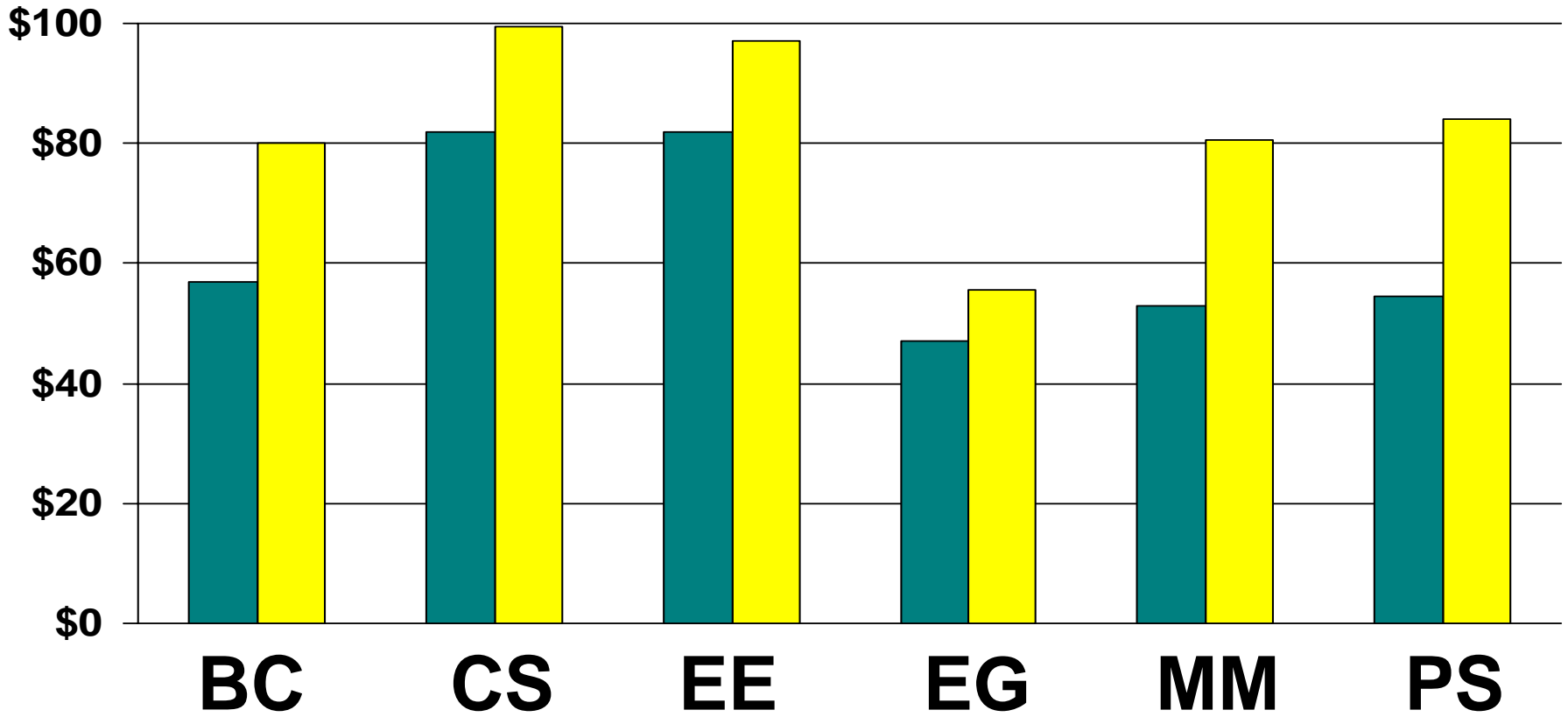
Excluded: Not in the workforce, part time, working outside US.

PRELIMINARY RESULTS

Total Median 1995 Salary



Thousands



Excluded: Not in the workforce, part time, working outside US.

What are Criteria for Measuring Program Effectiveness?



Traditional Criteria

1. % national fellowship holders
2. Selective admission
3. Recruitment of diverse student body
4. Reasonable time-to-degree
5. Low attrition rate
6. Student satisfaction
7. Placement

Further Measurement criteria



- 1. Job search experience**
- 2. Current job satisfaction**
- 3. Retrospective analyses of the quality of the doctoral education**
- 4. PhD recipients' opinions of the usefulness of their doctoral education**
- 5. Recommendations for current students and current programs.**

Thank you!



CIRGE website

www.cirge.washington.edu