DATA SOURCES FOR INSTITUTIONAL RESEARCH

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Objective

- Discuss data sources and use in institutional decision making
- General overview of NCES and NSF surveys
- Review data tools available
- Demonstration using Data Analysis System and Quick Stats
Background

- AIR/NCES/NSF Summer Data Policy Institute
NCES Surveys

- Integrated Postsecondary Education Data System (IPEDS)
- High School & Beyond (HS&B)
- Beginning Postsecondary Students (BPS)
- National Postsecondary Student Aid Study
- Baccalaureate & Beyond (B&B)
- National Study of Postsecondary Faculty
High School & Beyond

- **Data Collection**
  - Seniors & sophomores
  - High school → college → employment
  - 1980-1992

- **Variables**
  - Educational Attainment
  - Employment Outcomes & Experiences
  - Family Formation
  - Voting Behavior
  - Social Activities
Beginning Postsecondary Students

Data Collection
- First-time beginners of undergraduate studies

Variables
- Persistence and completion of first-time undergraduate students
- Relationship between work and education efforts
- Effect of college
- Relationship between financial aid and graduation
- Reasons for attrition
- Volunteer activities undertaken while in school
National Postsecondary Student Aid Study

- **Data collection**
  - Representative sample of undergraduates and graduate/first-professional students
  - Less-than-2-year, 2-year, and four-year public and private institutions
  - 1986-2008
  - Umbrella survey

- **Variables**
  - Demographic and enrollment data
  - Student financial aid from federal, state, and private sources
  - Retention related to financial aid
Baccalaureate & Beyond

Data Collection
- Students who complete their bachelor’s degree
- 2nd cohort – graduated in 2000, surveyed in 2001
- Future cohorts will alternate with BPS

Variables
- Participation and progress of recent baccalaureate recipients in the workforce
- Relationship of degree and employment
- Income and ability to repay school debt
- Graduate education entrance and completion
- Work patterns during graduate school
- Willingness to enter public service fields
- Teacher education programs and career movement
National Study of Postsecondary Faculty

- Nationally representative sample of full- and part-time faculty and instructional staff
- Public and private not-for-profit two-year and four-year institutions
- No plans to continue survey
National Study of Postsecondary Faculty

- **Institution Survey**
  - Counts of faculty, faculty hires and departures, tenure policies, retirement & other benefits

- **Department Chairperson Survey**
  - Departmental composition, tenure status of faculty, hiring practices, assessment of faculty performance, professional & developmental activities

- **Faculty Survey**
  - Socio-demographic characteristics, background, field of instruction, employment status, workload, publications, job satisfaction, career & retirement plans, employment benefits
NSF Surveys

- Survey of Earned Doctorates (SED)
  - Survey of Doctorate Recipients
- National Survey of Recent College Graduates (NSRCG)
- National Survey of College Graduates (NSCG)
- Survey of Graduate Students & Postdoctorates in Science & Engineering (GSS)
Survey of Earned Doctorates

- Annual census of all research doctorates awarded by US institutions
- Trends in US doctoral degree production by field, demographics & institution
- Gathers information about:
  - Educational history
  - Demographic characteristics
  - Future plans
  - Doctoral education
National Survey of Recent College Graduates

- Cross-sectional survey
- Bachelor’s or master’s degree recipients in SEH fields
- Provides information on the “flow” of new graduates with SEH bachelor’s and master’s degrees through the decade
National Survey of College Graduates

- Sample selected from decennial Census at beginning of each decade
- Identifies individuals educated or employed in S&E fields
- Provides the “stock” of scientists and engineers at the beginning of the decade
- Constitutes the bulk of cases in the SESTAT integrated database
Survey of Graduate Students & Postdocs in Science & Engineering

- Annual census of institutions awarding master’s or doctoral degrees in science, engineering & health fields
- Data on graduate enrollment, postdoctoral positions, and doctoral nonfaculty research staff by department
- Limited demographic information on graduate students and postdocs
- Trends in graduate enrollment in SHE fields
Data Tools

- NCES
  - IPEDS Data Center
    - [http://nces.ed.gov/ipeds/datacenter](http://nces.ed.gov/ipeds/datacenter)
  - Executive Peer Tool
    - [http://nces.ed.gov/ipedspas/expt](http://nces.ed.gov/ipedspas/expt)
  - QuickStats
    - [http://www.nces.ed.gov/datalab/quickstats](http://www.nces.ed.gov/datalab/quickstats)
  - Data Analysis System (DAS)
Data Tools

 NSF
  • Science & Engineering Statistical Data System (SESTAT)
    ○ https://sestat.nsf.gov/sestat/sestat.html
  
  • WebCASPAR
    ○ http://webcaspar.nsf.gov
The Data Center allows users to retrieve IPEDS data using the functions listed on the main menu to the left. As you mouse over each function, the function will be described in this bubble. Find the function you wish to use and click on the function to begin. Once inside the Data Center, use the Main Menu to switch between functions without losing the information you have already selected.

Shortcuts...
- Upload a previously saved session
- Create/Download a list of variables
- Create/Download an institution group

NCES Headlines
- High School Longitudinal Study of 2009
- The Children Born in 2001 at Kindergarten Entry
- Numbers and Types of Public Elementary and Secondary LEAs
Welcome to the ExPT

The Executive Peer Tool (ExPT) allows comparisons between a focus institution and peer institutions using all of the data available in the printed IPEDS Data Feedback Report (DFR) and additional variables from the latest collection year.

Start here...

Begin by selecting a focus institution that will be the basis for the comparison. Enter four or more characters to begin the search. A list of matching institutions will be shown as you type. Click “Select” to choose an institution as the focus institution and continue to the next page.

Focus Institution:

Features

The ExPT may be used to view printed IPEDS DFRs, create Custom DFRs, and create statistical reports on selected variables.

- Create and download a Custom DFR using different charts or a different comparison group than used in the printed report.
- Create and download a Statistical Analysis Report showing statistics, tables, and graphs for the selected variables.
- Create and save a custom comparison group that may be used again in the ExPT or other IPEDS Data Tools.
Welcome to Quickstats, NCES’s tool for creating simple tables quickly.

You can:
- Create a simple table quickly
- View your output as a chart or table
- Choose from many data sets each with about one hundred variables

Click an option below to see an example table or chart.
QuickStats

- Beginning college students
  - BPS Survey
- All undergraduates
  - NPSAS Survey
- Graduating college seniors
  - B & B Survey
- Graduate students
  - B & B Survey
  - NPSAS Survey
- Faculty
  - NSOPF Survey
QuickStats

Strengths
- Easy to use
- Visual representation of data
- Great for reports and websites
- Converts tables to charts

Weaknesses
- Only select two variables at a time
- Only descriptive statistics
- Limited Variables
DAS Online 2.0 BETA

GO TO . . .

- Overview
- Create Tables
- Estimate Covariance Analyses
- Batch Processor 2.0
- Power User Account required for some features

NOTE: The DAS will automatically replace old weight variables when you upload TPFs/CPFss or use the Batch Processor.

AVAILABLE STUDIES

- B&B:99/01
- B&B:93/03
- BPS:96/98/01
- BPS:90/92/94
- HS&B Sophomores
- IPEDS:2007
- IPEDS:2006
- IPEDS:2005
- IPEDS:2004
- IPEDS:2003

DAS Online 1.0

GO TO . . .

- Overview
- Create Tables
- Create Correlations
- Batch Processor 1.0
- Weight Converter

AVAILABLE STUDIES

- ECLS-Birth Cohort
- NHES
DAS

- B&B Survey
- BPS Survey
- HS&B Survey
- IPEDS
- NELS 88 Survey
- NHES 2005: Adult Education Survey
- NFSAS Survey
- NSOPF Survey
- PEELS Survey
- SASS Survey
DAS

Strengths
- Tremendous amount of data available without user license
- Excellent descriptions of variables
- Statistical analysis possible
- Great for research studies/student projects

Weaknesses
- Can only access one survey at a time
- Selecting variables and nesting tables can be complicated
- Sometimes difficult to find specific variables
## Integrated Survey Data, SESTAT PUBLIC 2006

Integrated Survey Data, SESTAT PUBLIC contains just over 105,000 records of persons with a science, engineering (S&E)-related degree and/or occupation, weighted to represent an estimated 1.4 million persons in the U.S. educated or working as scientists or engineers in the reference week of April 1, 2006. Data from three 2006 surveys: Doctorate Recipients, National Survey of College Graduates, and Survey of Recent College Graduates) were integrated into this common database to provide recent information about the employment, educational and demographic characteristics of scientists and engineers in the United States. This database contains variables that were created to protect the confidentiality of individuals.

### Select Survey Data

<table>
<thead>
<tr>
<th>Integrated Survey Data</th>
<th>Survey &amp; Year: Integrated Survey Data, SESTAT PUBLIC 2006</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated Survey Data, SESTAT PUBLIC</td>
<td>2006</td>
<td>Integrated Survey Data, SESTAT PUBLIC contains just over 105,000 records of persons with a science, engineering (S&amp;E)-related degree and/or occupation, weighted to represent an estimated 1.4 million persons in the U.S. educated or working as scientists or engineers in the reference week of April 1, 2006. Data from three 2006 surveys: Doctorate Recipients, National Survey of College Graduates, and Survey of Recent College Graduates) were integrated into this common database to provide recent information about the employment, educational and demographic characteristics of scientists and engineers in the United States. This database contains variables that were created to protect the confidentiality of individuals.</td>
</tr>
<tr>
<td>Survey of Doctorate Recipients, SDR PUBLIC</td>
<td>2003</td>
<td></td>
</tr>
<tr>
<td>Recent College Graduates, NSRCG PUBLIC</td>
<td>1999</td>
<td></td>
</tr>
<tr>
<td>National Survey of College Graduates, NSCG</td>
<td>1997</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1995</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1993</td>
<td></td>
</tr>
</tbody>
</table>
SESTAT

- National Survey of College Graduates (NSCG)
- National Survey of Recent College Graduates (RCG)
- Survey of Doctorate Recipients (SDR)
- Integrated Survey Data
SESTAT

Strengths
- Ability to generate customized tables
- Employment and salary trends by SHE degree field
- Ability to select multiple variables and create cross-tab reports

Weaknesses
- Disciplines included as S&E
- Limited to S&E fields
WebCASPAR
Integrated Science and Engineering Resources Data System

The WebCASPAR database provides easy access to a large body of statistical data resources for science and engineering (S&E) at U.S. academic institutions. WebCASPAR emphasizes S&E, but its data resources also provide information on non-S&E fields and higher education in general.

To begin creating a table, check one or more boxes beside the desired data source name(s) below, then click Select Data Source(s).

**National Science Foundation (NSF) Data Sources**
- NSF Survey of Federal Funds for Research and Development  [Info](Years Available:1951-2008)
- NSF Survey of R&D Expenditures at Universities and Colleges  [Info](Years Available:1972-2008)
- NSF-NIH Survey of Graduate Students & Postdoctorates in S&E  [Info](Years Available:1972-2007)
- NSF Survey of Science and Engineering Research Facilities (Not Weighted or Imputed)  [Info](Years Available:2003)
- NSF Survey of Science and Engineering Research Facilities (Weighted and Imputed)  [Info](Years Available:2003)

**National Center for Education Statistics (NCES) Data Sources**
- IPEDS Completions Survey  [Info](Years Available:1966-2007)
- IPEDS Completions Survey by Race  [Info](Years Available:1966-2007)
- IPEDS Enrollment Survey  [Info](Years Available:1967-2007)
- IPEDS Institutional Characteristics Survey Tuition Data  [Info](Years Available:1969-2001)

**Saved Tables:** View predefined tables and tables that you have saved

**Frequently Requested Tables:**
WebCASPAR

- NSF Data Sources
  - Survey of Earned Doctorates
  - Survey of Federal Funds for R&D
  - Survey of Federal S&E Support
  - Survey of R&D Expenditures
  - Survey of Graduate Students & Postdocs in S&E
  - Survey of S&E Research Facilities
WebCASPAR

- NCES Data Sources
  - IPEDS Completion Survey
  - IPEDS Completion Survey by Race
  - IPEDS Enrollment Survey
  - IPEDS Institutional Characteristics Survey
  - Tuition Data
  - IPEDS Salaries, Tenure, and Fringe Benefits Survey
WebCASPAR

Strengths

- Easy access to large body of data resources for science and engineering at US institutions
- Provides information beyond S&E disciplines
- Create tables from single or multiple data sources
- Frequently requested tables (pre-saved)
Practical Examples

- **QuickStats**
  - [http://www.nces.ed.gov/datalab/quickstats](http://www.nces.ed.gov/datalab/quickstats)

- **Data Analysis System (DAS)**