

Final SESTAT Virtual Tour (2.0) Webinar Script

Introductory Slide

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Welcome to the Scientists and Engineers Statistical Data System, also known as “SESTAT”.

This presentation is intended to introduce you to the elements of SESTAT, including the surveys involved, publications and other products available, and the SESTAT Data Tool.

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The main SESTAT web page resides on the National Science Foundation website, under the Division of Science Resources Statistics, or SRS.

The SESTAT homepage contains six main sections:

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Data and Tools

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Publications

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Information about new releases

Slide 6

A direct link to the SESTAT data tool

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General links to SRS

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Common NSF website navigation features

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The first link under “Data and Tools” is “About SESTAT”; it takes you to an overview of the system.

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SESTAT is a system of information about employment, educational and demographic characteristics of scientists and engineers in the United States.

The information contained in SESTAT comes from three surveys: the National Survey of College Graduates; the National Survey of Recent College Graduates; and the Survey of Doctorate Recipients.

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The Division of Science Resources Statistics fulfills the legislative mandate of the National Science Foundation Act of 1950. The SESTAT surveys contribute greatly to this mandate.

SRS accomplishes this by providing a central clearinghouse for the collection, interpretation, and analysis of data on scientific and engineering resources.

It also provides a source of information for policy formulation by other agencies of the Federal Government.

SESTAT data is used by a variety of parties, including policy makers, researchers, and employers.

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The Frequently Asked Questions, or FAQ section, provides answers to a variety of questions about SESTAT, from general survey questions, to methodology and data analysis. Including:

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“Who is included in the definition of "scientist" and "engineer" for SESTAT?”

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“How were SESTAT data collected?”

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“Which analysis weight should I use when analyzing SESTAT data?”

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Contact information for the survey managers can be found at “How do I contact SESTAT staff?” under “About SESTAT.”

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Now, let’s look at some of the more detailed technical information available on the site.

Detailed information for all the variables in each of the surveys can be found here. Variables are cross-referenced by topic, keyword, and survey.

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...keyword, and survey.

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Under “Variables by Topic,” a data user will find all the topics covered in SESTAT by its three main themes: “Employment,” “Education”, and “Demographics.” Each SESTAT topic is found under one of these themes.

For example, by clicking on “Principal Job Activities and Related Data,” you’ll find a list of all the variables related to this broad topic.

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... you’ll find a list of all the variables related to this broad topic.

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If you are interested in finding out which variables might cross-referenced by keyword, just click on “Variables by Keyword”.

For example, to see a listing of the variables associated with “Academic rank”, just click on “Academic Rank”.

All variables relating to “Academic Rank” will now be listed, with links for more detailed information about each variable.

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All variables relating to “Academic Rank” will now be listed, with additional links for more detailed information about each variable.

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... more detailed information about each variable.

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In some instances, you may want to search for variables based on a particular survey.

To see which variables are contained within each survey one would select “Variables by Survey and Question Number”.

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Here, a list of the SESTAT surveys, by year, can be found...

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...with detailed variable lists

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...for each.

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All of the variables in the SESTAT system have a long variable name – the SESTAT Name – and a shorter name – the SAS name.

The SESTAT names are used to look for variables in online resources.

The SAS names, which are shorter, are more useful for both the public and restricted microdata files.

On the “Variable Crosswalk” Page, you will find a simple crosswalk for these variable names, with direct links to the documentation pages for each variable.

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The SESTAT website also provides a more interactive version of all of the variable documentation through the Metadata Explorer. “Metadata” is information about the data.

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The Metadata Explorer provides you with a convenient and flexible way with which to examine SESTAT variables.

There are two views: Variable View, and...

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...Survey View.

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Variable View allows you to select a variable, see which survey files it appears on, and find out all of its related information.

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For example:

In Variable View:

Select Main Topic "Education"

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Then select Sub Topic "Most Recent Degree"

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Then choose "M_ED_MR_DEGREE_TYPE" ("Most Recent Degree Type")

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In the box below, you'll see all of the surveys in which this variable occurs.

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Selecting "Integrated Data Base, 2006" will show you the item tallies...

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... Item tallies in that survey file for this variable.

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The Survey View allows you to select a specific survey file first, and then variables associated with that survey.

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Let's look at an example:

Select Survey "SDR03." This displays all of the variables available for the 2003 Survey of Doctorate Recipients.

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Go to the Variable Name window, and type the letter "U." This will immediately move you down the variable name list to all the variables with SESTAT names starting with "U".

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Clicking on "U_DEM_GENDER" provides item tallies for the gender variable in the 2003 SDR survey file,...

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...as well as other detailed information on this data element.

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Now let's go back to the SESTAT home page and look at "Technical Information". This section provides everything you always wanted to know about "SESTAT Survey Design and Methodology", as well as sampling errors.

Under design and methodology, we address the following topics:

- * Target Population and Coverage
- * Component Surveys
- * Sample Designs
- * Data Collection
- * Editing Guidelines and Procedures
- * Missing Data Imputation
- * Weighting Strategy

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Under "Sampling Errors for SESTAT", a brief primer on understanding sampling errors is included, as well as technical sections on generalized variance functions and calculating standard errors. Providing in-depth instructions for performing these actions is beyond the scope of this presentation, but detailed examples and instructions are included in each of these sections on the website.

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Links to PDF versions of the questionnaires are, of course, found under “Survey Questionnaires”. For each of the SESTAT surveys, copies of the mail questionnaires dating back through 1993 can be found here.

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A variety of Detailed Statistical Tables, or DSTs, are produced for each survey.

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Additionally, “InfoBriefs” are written to provide summary information about the surveys.

DSTs, InfoBriefs and other data products can be found under “Publications”.

For example, clicking on “Characteristics of Scientists and Engineers in the United States” will display the various publications available related to the SESTAT Integrated Database.

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The “New Releases” box highlights just that—links to the most recent products that use SESTAT data.

You can also click on the “See All” link that will show you a complete list of all SRS publications that have used the SESTAT data.

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So far, we’ve shown you information about the surveys and data, and now we would like to show you how to access the microdata.

You have two options to view the microdata.

You can download the public-use data, or you can directly log in to the SESTAT Data Tool which will allow you to create custom tables using survey data online.

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This is the main screen for the SESTAT data tool. The data tool allows users to generate customized tables from the SEATAT databases. NSF has developed a separate Webinar that focuses on the details of the new interface and the particulars of the data tool itself. Please view that recording for more detailed information about the data tool.

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As we near the end of the SESTAT tour, we would like to go back to the home page to point out some general navigation links.

The Division of Science Resources Statistics [PN: box appears] houses the SESTAT surveys, as well as numerous other activities. SRS designs, supports, and directs periodic surveys as well as a variety of other data collections and research projects. These activities yield the materials for SRS staff to compile, analyze, and disseminate information about domestic and international resources devoted to science, engineering, and technology. Each year, SRS produces publications which can be divided into the following categories:

- * InfoBriefs;
- * Detailed Statistical Tables;
- * Periodic "overview" reports, such as Science and Engineering Indicators; and
- * Special reports.

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To learn more about the National Science Foundation, use the navigation links found near the top of the page.

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From the NSF homepage, you can learn about the history and current activities of the Foundation, or research funding opportunities.

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We hope that the SESTAT overview has been helpful to you!

Please explore the features of the website, and make use of the publications.

Also please experiment with the data tool to create your own tables and do some custom data analyses.

And for more information about the SESTAT surveys, don't forget the "Contacts" page!

Thank you for visiting the Division of Science Resources Statistics at the National Science Foundation!

This concludes the SESTAT Webinar.

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