

In an Era of Enhanced Cybersecurity: The Effect of Confidentiality Pledges and Penalty Language on Survey Response

Cleo Redline, Ph.D., National Center for Education Statistics

and

Alfred D. Tuttle, U.S. Census Bureau

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Disclaimer

This presentation is intended to promote the exchange of ideas among researchers and policy makers. The views expressed are part of ongoing research and analysis and do not necessarily reflect the position of the U.S. Department of Education or the U.S. Census Bureau.

Background

New York Times

December 13, 2020



Russian Hackers Broke Into Federal Agencies, US Officials Suspect

In one of the most sophisticated and perhaps largest hacks...email systems were breached...

Cybersecurity Enhancement Act of 2015

Department of Homeland Security (DHS) may monitor data transmitted to, from, and stored, on Federal agency computers for viruses, malware, and other threats.



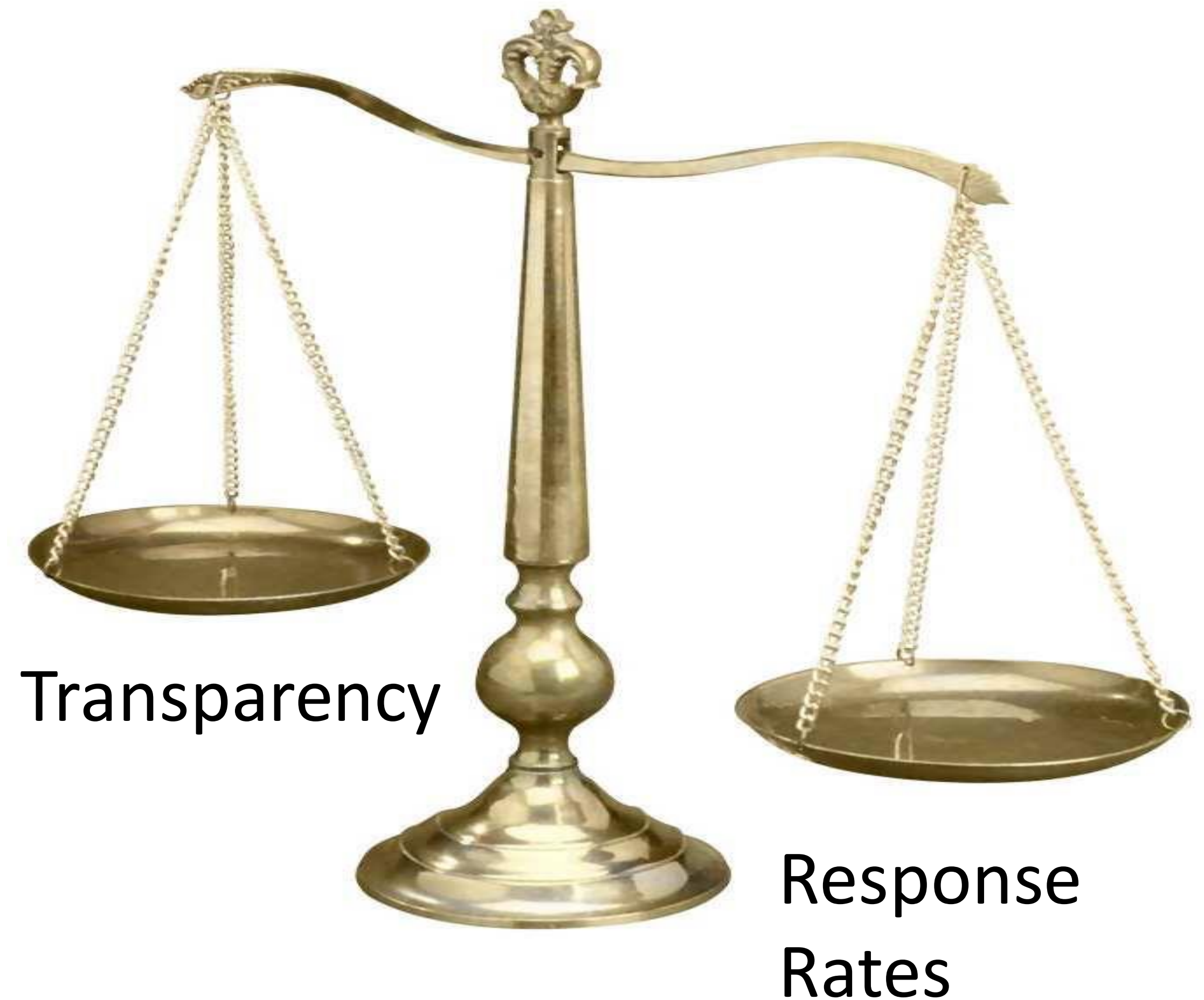
Education Sciences Reform Act (20 U.S.C. § 9573)

Part F, Sec. 183(d)(6) VIOLATIONS: Any person who uses any data provided by the Director, in conjunction with any other information or technique, to identify any individual student, teacher, administrator, or other individual who knowingly discloses, publishes, or uses such data for a purpose other than a statistical purpose, or who otherwise violates subparagraph (A) or (B) of subsection (c)(2), shall be found guilty of a Class E felony and imprisoned for not more than five years, or fined as specified in Section 3571 of title 18, United States Code, or both.



Confidentiality Pledges

- Explore how to convey this new law while maintaining transparency and survey response.
- Department of Homeland Security monitors are not bound by confidentiality pledges.



Previous Cognitive Research and Other Pretests

- Cognitive interviews
- Non-probability web survey results
- Analysis of paradata

SCOPE Confidentiality Pledge Revision Subcommittee



FINAL REPORT

August 12, 2016

Preliminary Evidence

- Informing respondents about the new law unlikely to affect response rates.
- Homeland Security version of pledge communicated intent of new law better.
- Penalty language was clear, straightforward, and favorable.

SCOPE Confidentiality Pledge Revision Subcommittee



FINAL REPORT
August 12, 2016

Limitations

- Small and volunteer samples
- Procedures and content varied across agencies
- Considerable technological and political change in the world

SCOPE Confidentiality Pledge Revision Subcommittee



FINAL REPORT

August 12, 2016

Pledge Placement

All of the information you provide may be used only for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. §9573 and 6 U.S.C. §151).



National Teacher and Principal Survey
NTPS Respondent Portal
2017-18 School Year

Acting as Collection Agent
United States
Census Bureau
Measuring America

Welcome to the 2017-18 National Teacher and Principal Survey (NTPS) Respondent Portal

→ Enter the 8-digit User ID provided in the e-mail and letter that we sent you.

User ID: -

Login

If you have questions
E-mail us: ntps@census.gov
Call us: 1-888-595-1338

The National Center for Education Statistics (NCES), within the U.S. Department of Education, is authorized to conduct this survey by the Education Sciences Reform Act of 2002 (ESRA 2002, 20 U.S.C. §9543). All of the information you provide may be used only for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. §9573 and 6 U.S.C. §151).

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this voluntary information collection is 1850-0598. The time required to complete this information collection is estimated to average between 5 and 30 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate, suggestions for improving this collection, or comments or concerns about the contents or the status of your individual submission of this questionnaire, please e-mail: ntps@census.gov, or write directly to: National Teacher and Principal Survey (NTPS), National Center for Education Statistics, Potomac Center Plaza, 550 12th Street SW, Room #4014, Washington, DC 20202.

**** WARNING ****

You have accessed a UNITED STATES GOVERNMENT computer. Use of this computer without authorization or for purposes for which authorization has not been extended is a violation of Federal law and can be punished with fines or imprisonment (PUBLIC LAW 99-474). System usage may be monitored, recorded, and subject to audit. Any information you enter into this system may be used by the Census Bureau for statistical purposes, including but not limited to improving the efficiency of our data collection programs. Use of this system indicates consent to the collection, monitoring, recording, and use of information provided inside this system.

OMB NO.: 1850-0598
APPROVAL EXPIRES: 06/30/2020

[ACCESSIBILITY](#) | [SECURITY](#)

Previous Experimental Research

Alternative Pledge Wordings

- Control
- Homeland Security & Penalty
- Federal Staff & Penalty

Alternative Pledge Placements

- Login Screen
- Separate Screen



SOURCE: Redline et al., 2018

Control

All of the information you provide may be used for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. §9573 and 6 U.S.C. §151).

} **Legal Citations**

SOURCE: Redline et al., 2018

Homeland Security & Penalty

All of the information you provide may be used for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. §9573). **By law, any NCES employee or NCES contractor who willfully discloses any identifiable information about you or your school is subject to a jail term of up to 5 years, a fine of up to \$250,000 or both.** Electronic transmission of your information will be monitored for viruses, malware, and other threats by Homeland Security in accordance with the Cybersecurity Enhancement Act of 2015.

**Penalty
Language**

SOURCE: Redline et al., 2018

Homeland Security & Penalty

All of the information you provide may be used for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. §9573). By law, any NCES employee or NCES contractor who willfully discloses any identifiable information about you or your school is subject to a jail term of up to 5 years, a fine of up to \$250,000 or both.

Electronic transmission of your information will be monitored for viruses, malware, and other threats by Homeland Security in accordance with the Cybersecurity Enhancement Act of 2015.

**Cybersecurity
language**

SOURCE: Redline et al., 2018

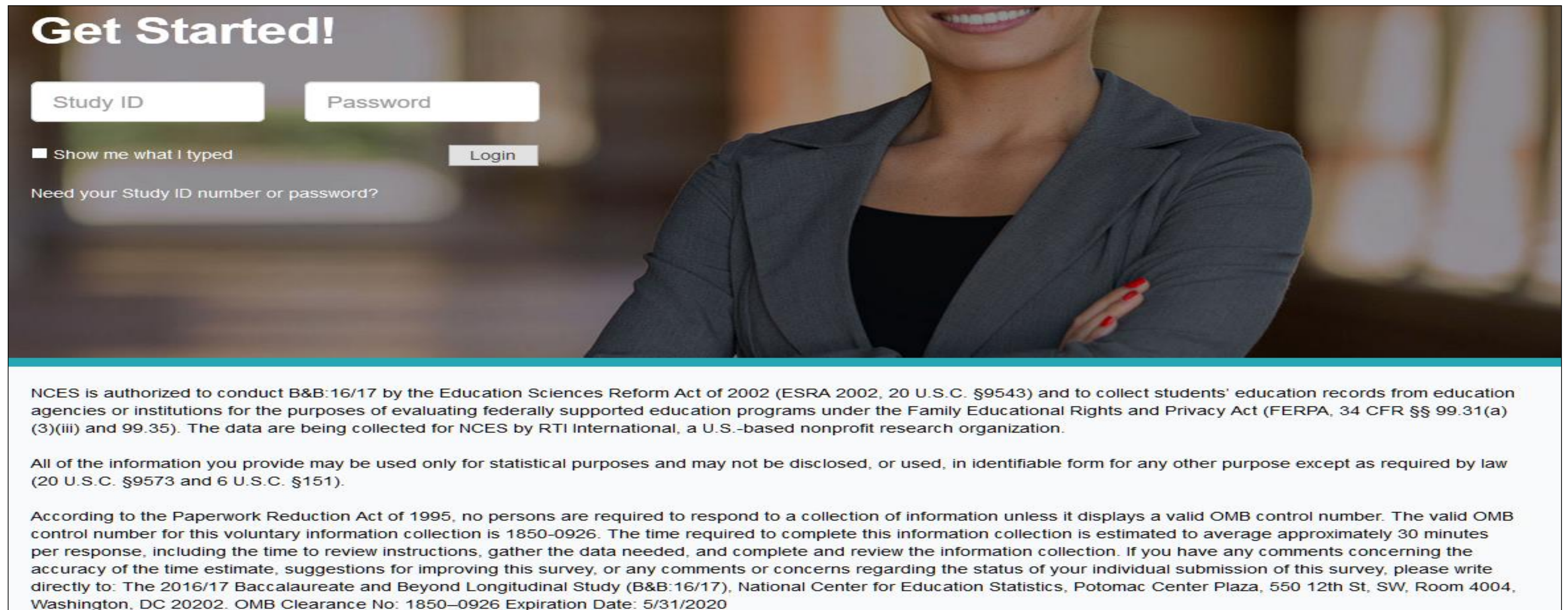
Federal Staff & Penalty

All of the information you provide may be used for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. §9573). By law, any NCES employee or NCES contractor who willfully discloses any identifiable information about you or your school is subject to a jail term of up to 5 years, a fine of up to \$250,000 or both. **Electronic transmission of your information will be monitored for viruses, malware, and other threats by Federal Employees and contractors in accordance with the Cybersecurity Enhancement Act of 2015.**

Cybersecurity language

SOURCE: Redline et al., 2018

Placement: Login Screen



Get Started!

Study ID Password

Show me what I typed Login

Need your Study ID number or password?

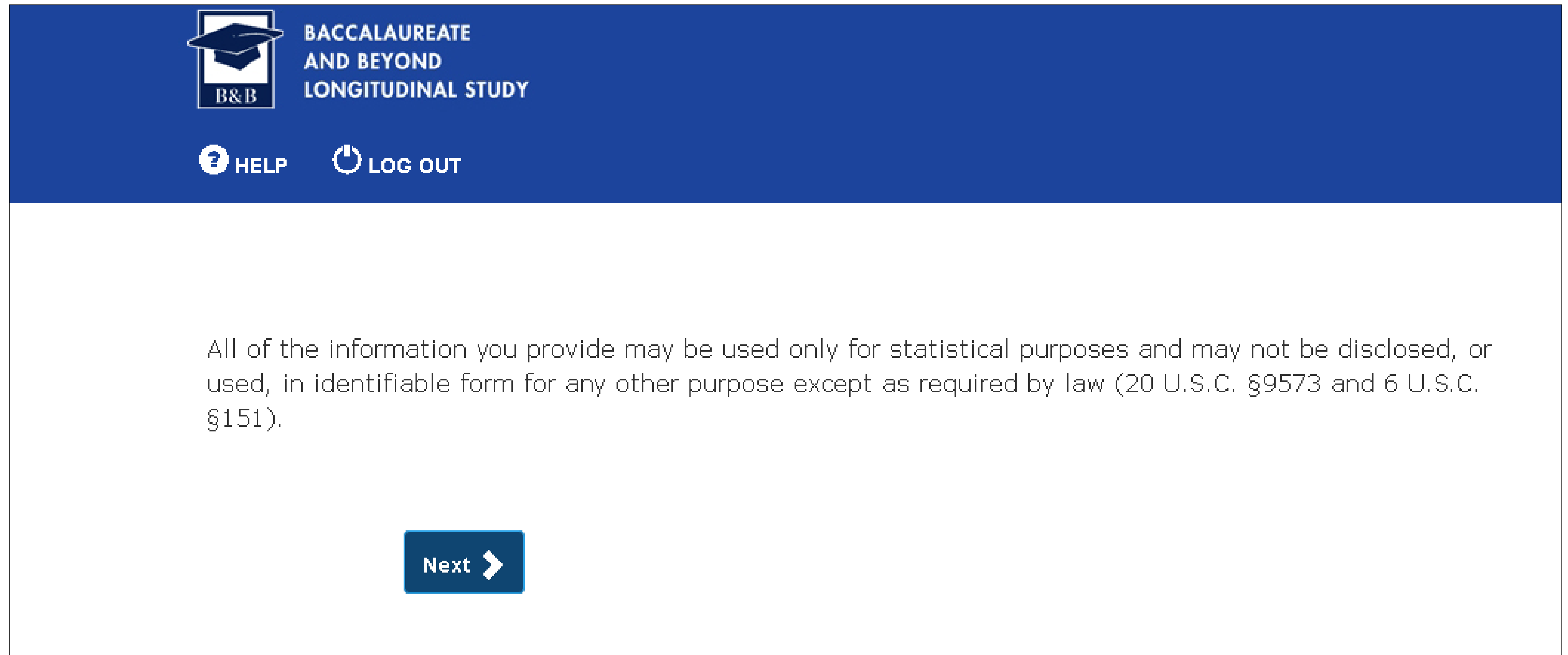
NCES is authorized to conduct B&B:16/17 by the Education Sciences Reform Act of 2002 (ESRA 2002, 20 U.S.C. §9543) and to collect students' education records from education agencies or institutions for the purposes of evaluating federally supported education programs under the Family Educational Rights and Privacy Act (FERPA, 34 CFR §§ 99.31(a)(3)(iii) and 99.35). The data are being collected for NCES by RTI International, a U.S.-based nonprofit research organization.

All of the information you provide may be used only for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. §9573 and 6 U.S.C. §151).

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this voluntary information collection is 1850-0926. The time required to complete this information collection is estimated to average approximately 30 minutes per response, including the time to review instructions, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate, suggestions for improving this survey, or any comments or concerns regarding the status of your individual submission of this survey, please write directly to: The 2016/17 Baccalaureate and Beyond Longitudinal Study (B&B:16/17), National Center for Education Statistics, Potomac Center Plaza, 550 12th St, SW, Room 4004, Washington, DC 20202. OMB Clearance No: 1850-0926 Expiration Date: 5/31/2020

SOURCE: Redline et al., 2018

Placement: Separate Screen



BACCALAUREATE
AND BEYOND
LONGITUDINAL STUDY

HELP LOG OUT

All of the information you provide may be used only for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. §9573 and 6 U.S.C. §151).

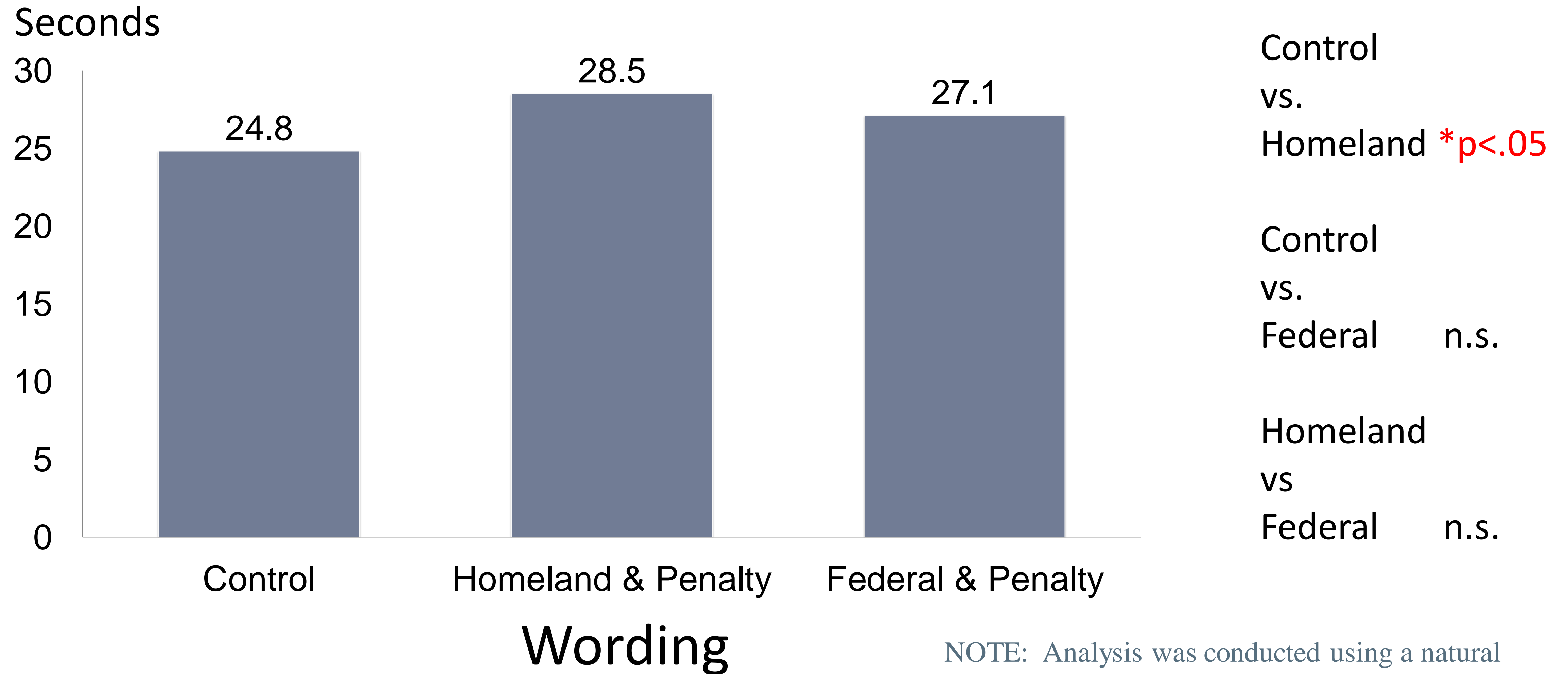
Next >

SOURCE: Redline et al., 2018

B & B Response Rates (Base Weighted), by Wording and Placement



B & B Time in Seconds (Base Weighted), by Wording



Summary of Background Findings

- Informing respondents about the new law unlikely to affect response rates.
- Homeland Security version of pledge communicated intent of new law better.
- Penalty language was clear, straightforward, and favorable.
- Evidence that respondents skim (or read) the pledges, paying a little more attention to the Homeland Security & Penalty Pledge.

Methodology

Modified National Teacher and Principal Survey (NTPS)

To Minimize Impact and Cost:

- Principal Questionnaire
2017-18 School Year

Selected Because:

- Potential for confidentiality concerns
- Requests personal information



Two-Factor Experiment

Alternative Cybersecurity Wordings


- Control
- Homeland Security
- Federal Staff

Alternative Penalty Language


- Absence
- Presence



Front and Back of Cover Letter

 U.S. DEPARTMENT OF EDUCATION
INSTITUTE OF EDUCATION SCIENCES

NATIONAL CENTER FOR EDUCATION STATISTICS
January 18, 2018

600000000318 16 01


SEQ0001-00001
SCHOOL PRINCIPAL/ADMINISTRATOR
[SCHOOL NAME]
[STREET ADDRESS]
[CITY / STATE / ZIP]

Dear School Principal/Administrator:

You have been selected to complete the 2017–18 National Teacher and Principal Survey (NTPS) Principal Questionnaire. The NTPS is a primary source of information about teachers and principals in K–12 schools across the United States. The NTPS data are used by policymakers and researchers to understand the professional background, workload, and working conditions of teachers and principals in the United States.


Your participation in this important survey helps provide an accurate view of principals' experiences as school administrators. Each response is vital to ensure reliable, nationally representative data. The NTPS is administered by the National Center for Education Statistics (NCES), the statistical agency within the U.S. Department of Education. The center serves as the primary source for education statistics in the United States.

Please complete the questionnaire within one week and return it to the U.S. Census Bureau using the enclosed postage-paid envelope.

Please be assured that both the U.S. Department of Education and the U.S. Census Bureau, the agency that collects data on behalf of NCES, follow strict procedures to protect the confidentiality of survey participants. All of the information you provide may be used only for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. §9573). By law, any NCES employee or NCES contractor who willfully discloses any identifiable information about you or your school is subject to a jail term of up to 5 years, a fine of up to \$250,000, or both. Electronic transmission of your information will be monitored for viruses, malware, and other threats by Federal employees and contractors in accordance with the Cybersecurity Enhancement Act of 2015.

Your participation is voluntary, but your responses are necessary to make the results of this survey accurate and timely.

Thank you in advance for your participation in this important survey.

Sincerely,

Peggy G. Carr, Ph.D.
Acting Commissioner
National Center for Education Statistics (NCES)
U.S. Department of Education

NTPX-16L (12-2017) WASHINGTON, DC 20208-5652

Frequently Asked Questions

What is the purpose of the NTPS?

The purpose of the National Teacher and Principal Survey (NTPS) is to provide policymakers and researchers with relevant and timely data on the characteristics and conditions of America's public, charter, and private schools and the professionals who work in them. The data collected permit detailed analyses of the characteristics of schools, principals, teachers, and students. The data also link the NTPS components, which enables researchers to examine the relationships among these elements of the education system. For example, researchers can study teacher attrition using information not only provided by teachers, but also from their principals.

The NTPS has been designed with input from state and local education agencies, school administrators, teachers, education policymakers, and researchers through the numerous organizations representing these various data providers and data users. For more information about the NTPS, please visit our website at <http://nces.ed.gov/surveys/ntp>.

How are the NTPS data used?

The data from the NTPS are used by Congress, the U.S. Department of Education, state education agencies, public school districts, and education research organizations to:

1. Evaluate the effects of school workplace conditions, salaries, and training opportunities on the educational workforce;
2. Assess school staffing practices and personnel policies; and
3. Aid in the Department of Education's program planning in the areas of teacher shortage incentives, teaching policies, and teacher education.

Why is my school's participation important?

This survey is one of the primary sources for information about K–12 schools in the U.S. Only a small percentage of schools are selected to participate; therefore, your participation is important for the success of the survey.

How long does it take to complete the NTPS Principal Questionnaire?

We estimate that the questionnaire will take approximately 25 minutes to complete.

Will my data remain confidential?

Please be assured that both the U.S. Department of Education and the U.S. Census Bureau follow strict procedures to protect the confidentiality of study participants. All of the information you provide may be used only for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. §9573). By law, any NCES employee or NCES contractor who willfully discloses any identifiable information about you or your school is subject to a jail term of up to 5 years, a fine of up to \$250,000, or both. Electronic transmission of your information will be monitored for viruses, malware, and other threats by Federal employees and contractors in accordance with the Cybersecurity Enhancement Act of 2015.

Your participation is voluntary, but your responses are necessary to make the results of this study accurate and timely.

Who authorizes this survey?

The National Center for Education Statistics (NCES), within the U.S. Department of Education, is authorized to conduct this survey by the Education Sciences Reform Act of 2002 (ESRA 2002, 20 U.S.C. §9543). The U.S. Census Bureau will administer this survey on behalf of NCES. The Office of Management and Budget (OMB) approved this survey. The OMB control number is 1850-0803 and the approval expiration date is 7/31/2019.

NTPX-16L (12-2017)

Beginning and End of Questionnaire

14648026

- What is the average student-teacher ratio in the United States?
- What is the average salary of a beginning principal?
- Have teachers' views of their autonomy in the classroom changed over time?
- Have the characteristics of the principal and teacher workforces in the United States changed over time?

The answers to these questions help school districts and policy makers at the state, federal, and local levels set education policy and improve teacher and principal working conditions.

Since 1988, the National Teacher and Principal Survey and its precursor, the Schools and Staffing Survey, have provided the answers to these and other important education questions from the perspective of Principals and Teachers.

By selecting a statistically representative sample of schools, and teachers in those schools, we are able to provide representative data for the United States without going to every school.

Your school has been selected to participate in the 2017-18 National Teacher and Principal Survey. You will represent thousands of other principals, so it is important that you respond to this survey.

All of the information you provide may be used only for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. §9573). By law, any NCES employee or NCES contractor who willfully discloses any identifiable information about you or your school is subject to a jail term of up to 5 years, a fine of up to \$250,000, or both. Electronic transmission of your information will be monitored for viruses, malware, and other threats by Homeland Security in accordance with the Cybersecurity Enhancement Act of 2015.

More information can be found on our website: <http://nces.ed.gov/surveys/ntps>

Paperwork Burden Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this voluntary information collection is 1850-0803. The time required to complete this information collection is estimated to average 25 minutes per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate, suggestions for improving this collection, or comments or concerns about the contents or the status of your individual submission of this questionnaire, please e-mail: ntps@census.gov, or write directly to: National Teacher and Principal Survey (NTPS), National Center for Education Statistics, Potomac Center Plaza, 550 12th Street, SW, Room 4065, Washington, DC 20202.

2

FORM NTPX-4



14648273

11. CONTACT INFORMATION

11-1. Please PRINT your name, your home address, your work, cell, and home telephone numbers, and your work and home e-mail addresses. This information would only be used in the event that we need to contact you for follow-up. All of the information you provide may be used only for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. §9573). By law, any NCES employee or NCES contractor who willfully discloses any identifiable information about you or your school is subject to a jail term of up to 5 years, a fine of up to \$250,000, or both. Electronic transmission of your information will be monitored for viruses, malware, and other threats by Homeland Security in accordance with the Cybersecurity Enhancement Act of 2015.

a. First name

Middle name

Last name

Suffix

b. Street address

c. City

d. State

e. ZIP Code

f. Work phone number

Area code Number

g. Cell phone number

Area code Number

h. Home phone number

Area code Number

i. Work e-mail address

j. Home e-mail address

FORM NTPX-4



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Data Collection & Sample

- Collection ran from 1/19/2018 to 3/9/2018
- 2017-18 Public School Universe served as frame
- 4134 schools selected and randomly assigned to treatments
- Equal allocation between treatment groups (689 each)



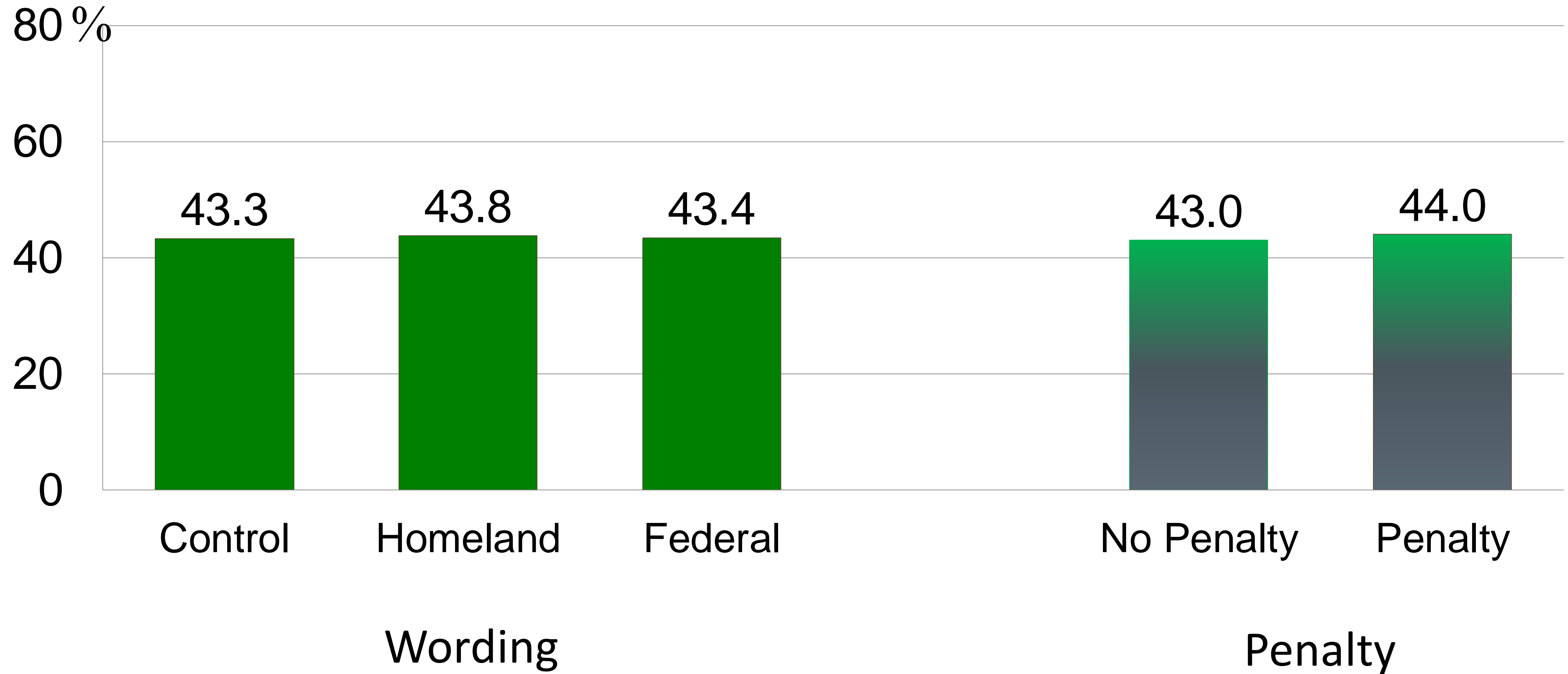
Analysis and Results

Analysis

- Response Rates are the number of complete and partial interviews divided by the number of eligible units (AAPOR RR2)
- Fully saturated two-way logit model fit to the response data



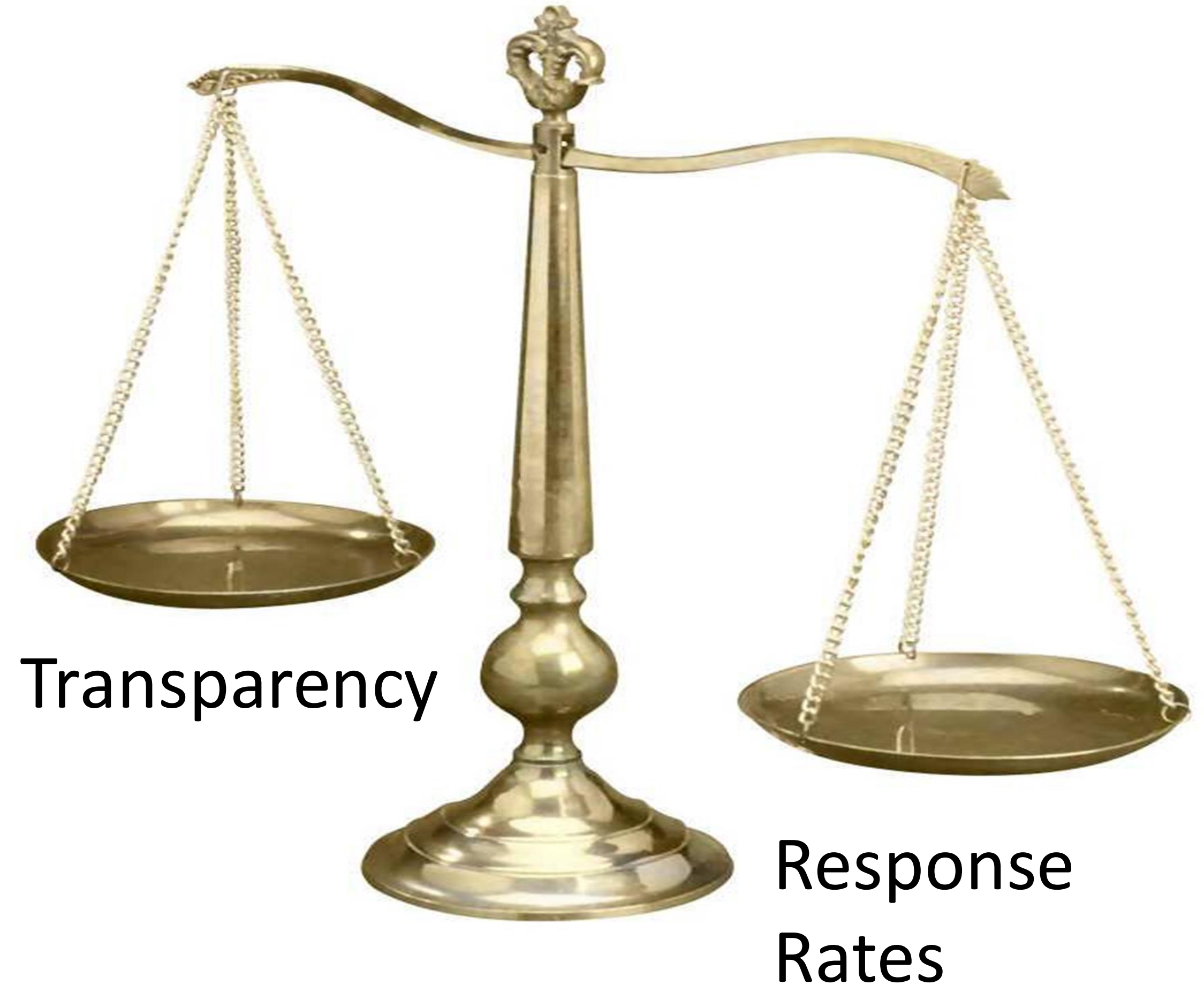
NTPS Response Rates, by Wording and Penalty Language



Conclusions and Future Research

Dual Objectives

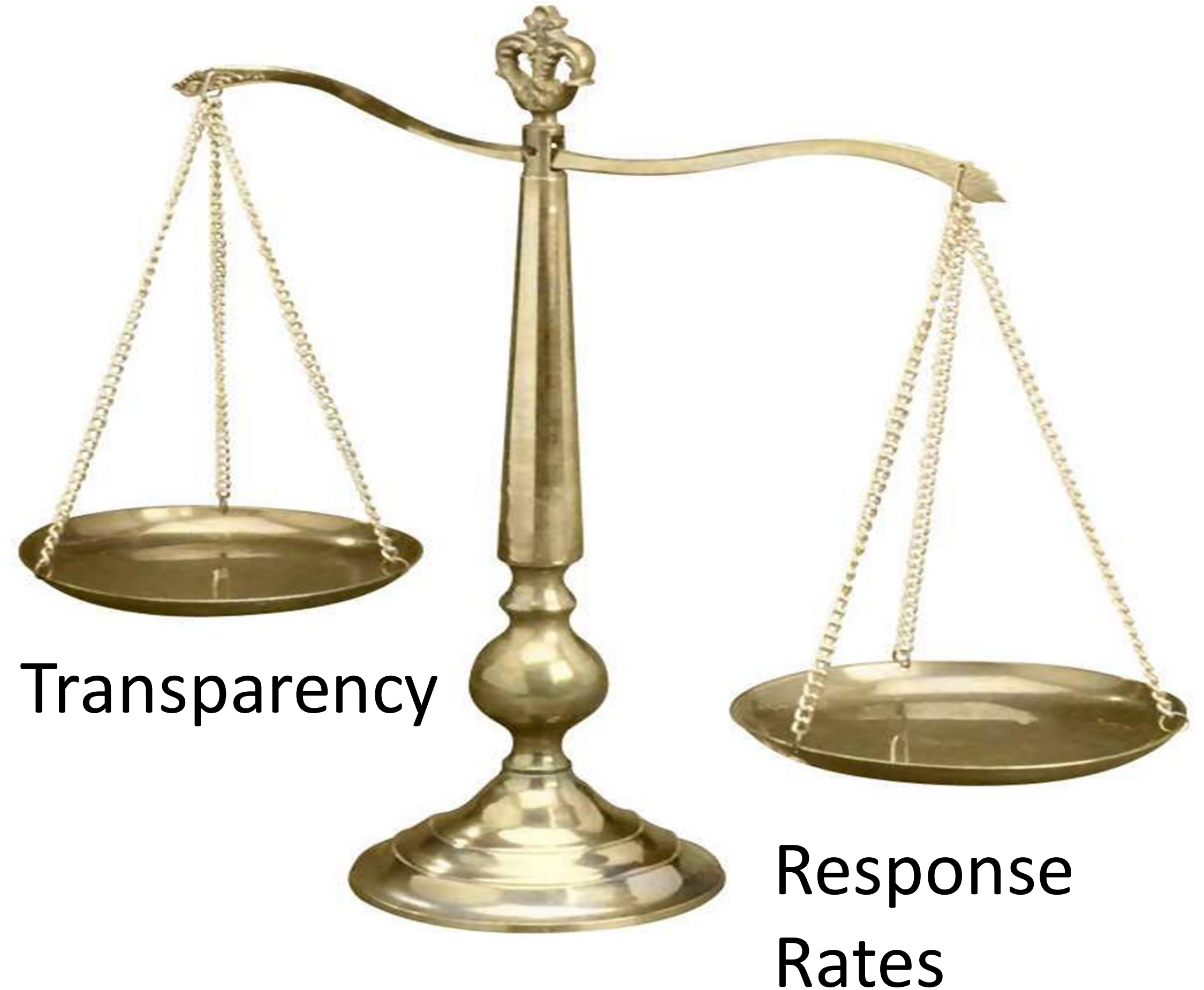
- Disseminate the highest quality data for evidence-based policy making (Commission on Evidence-Based Policymaking 2017).
- Give respondents meaningful control over their own information (Groves et al. 2004).



Decision-making Criteria

If informing respondents leads to a decrease in response rates, then must balance competing objectives.

If not, the decision seems clear: respondents should be given the most informative confidentiality pledge.



Recommend Homeland Security Version

- Informing respondents rather than simply noting the cybersecurity law's legal citation had no statistically significant effect on response rates.
- Does not matter whether cybersecurity monitors are referred to as “Homeland Security” or as “Federal employees and contractors.”
- Of three pledges studied, the Homeland Security version allows for informed decisions, with no measurable deleterious effect on response rates.

Include Penalty Language

- Favorable reactions to the penalty language from the cognitive interviews were not realized in this experiment.
- Still, the penalty language does provide more transparency regarding what occurs with respondents' data and should be added to the pledge, since this language was not shown to have a deleterious effect.

Future Research

- Explicate how respondents navigate survey materials and how this affects their reading of and reaction to confidentiality pledges
- Sensitive data
- Analyze respondents' answers, especially contact information

Thank you!
cleo.redline@ed.gov

SUPPLEMENTAL SLIDES

Timing Measure in B & B

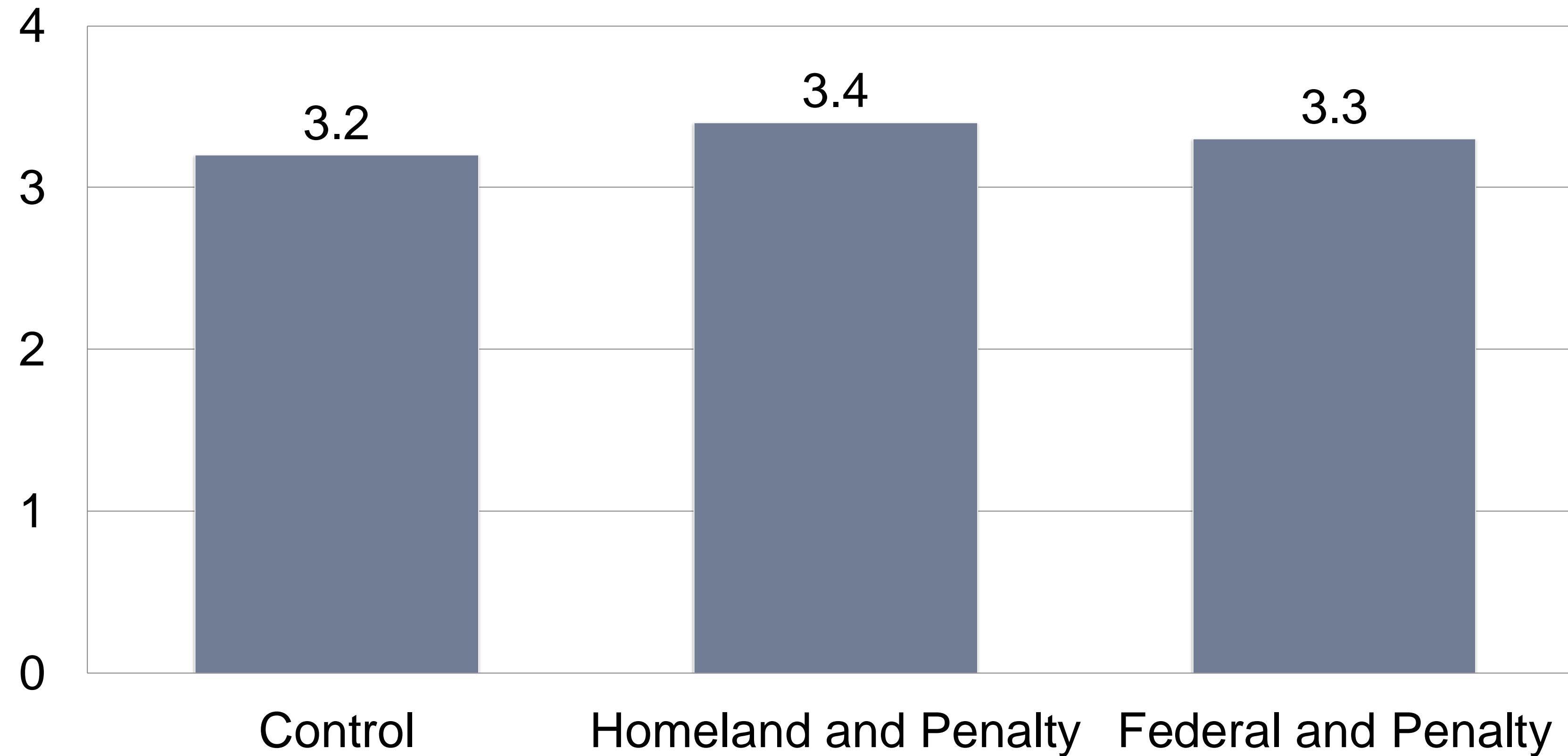
Proxy measure

- Could not capture time on login screen
- Could not capture time on separate screen only
- So captured time after logging in to end of security question

Time (in seconds)

- Limited to respondents who started online
- Trimmed and took log

B & B Log of Time in Seconds (Base Weighted), by Wording



Control
vs.
Homeland * $p < .05$

Control
vs.
Federal n.s.

Homeland
vs
Federal n.s.