

# Optimizing a Web Survey Instrument using Paradata Measures

Renee Reeves, Rachel Horwitz, Jordan Misra, Adriana Hernandez-Viver

U.S. Census Bureau

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*This presentation is released to inform interested parties of ongoing research and to encourage discussion of work in progress. The views expressed are those of the author and not necessarily those of the U.S. Census Bureau.*

# Paradata

- Data about a respondent's interactions with the web instrument that are collected during the response process
- Captures each action the respondent makes
- Measures
  - Completion times, breakoffs, error messages, previous clicks, and changed answers

# Research Background

- Conducted research using paradata in prior survey cycles and provided recommendations
- Subset of the recommendations were implemented in 2017

# Research Question/Methodology

Did the changes to the web instrument successfully resolve the issues identified from the 2015 paradata analysis?

- Method: Nominally compare the problematic measures in 2015 to 2017 for screens with changes


# The National Survey of College Graduates (NSCG)

- Longitudinal, biennial survey
- Two cohorts: new and returning
- Sponsored by the National Center for Science and Engineering Statistics within the National Science Foundation
- Data collection conducted by the U.S. Census Bureau
- Provides data about the characteristics of the college-educated workforce

# Changes Implemented

- Removed introduction screen
- Eliminated follow-up screens for “Other” selection
- Simplified complex “Select all that apply” question
- Reduced the amount of contact information requested

# Login/Introduction – 2015





**Please enter your username and password:**

Login ID:  -   
Password:

For questions regarding this survey, contact:  
[nscg@census.gov](mailto:nscg@census.gov)  
Phone: 1-888-262-5935


The **National Survey of College Graduates (NSCG)** is a study by the National Science Foundation (NSF), an independent agency of the U.S. government. The U.S. Census Bureau collects and processes the survey data for NSF. The NSCG has been conducted since the early 1970s and provides important information about the education and career paths of the country's college graduates.



**\*\* 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. For information regarding the use of this system, and how your privacy is protected, visit our online privacy webpage at <http://www.census.gov/privacy/>. Use of this system indicates consent to the collection, monitoring, recording, and use of information provided inside this system.

**High Breakoff  
Rate**



### INTRODUCTION

The U.S. Census Bureau is conducting this survey to help the National Science Foundation (NSF) collect information relating to the Nation's college-educated population. This information is solicited under the authority of the NSF Act of 1950, as amended. On the average, the survey will take about 30 minutes to complete and is voluntary. The NSF and the U.S. Census Bureau will use the information you provide for statistical purposes only. We will protect the confidentiality of the information in accordance with Title 13, Section 9 of the United States Code or the Confidentiality Information Protection and Statistical Efficiency Act of 2002. Title 13, Section 8 of the United States Code authorizes the U.S. Census Bureau to conduct this survey on the behalf of the NSF.

If you have questions about the National Survey of College Graduates (NSCG), please refer to the links located at the bottom of the screen. If you have any further questions or need assistance, please call us toll-free at 1-888-262-5935 or email us at [nscg@census.gov](mailto:nscg@census.gov).

Thank you for participating in the National Survey of College Graduates!

# Login/Introduction – 2017

## NATIONAL SURVEY OF COLLEGE GRADUATES

Welcome to the **2017 National Survey of College Graduates**

The U.S. Census Bureau is conducting this survey to help the National Science Foundation (NSF) collect information relating to the Nation's college-educated population. On average, the survey will take about 30 minutes to complete and is voluntary.

You will need the log-in materials we mailed to you in order to start. All of the information that you provide will remain confidential.

Thank you for your participation!

Enter the Login ID found on the letter we mailed to you.

Login ID:  -

Password:

Login

**\*\* 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. For information regarding the use of this system, and how your privacy is protected, visit our online privacy webpage at <http://www.census.gov/privacy/>. Use of this system indicates consent to the collection, monitoring, recording, and use of information provided inside this system.



# Results - Overall

## Percentage of Respondents who Broke-off

	New Cohort	Old Cohort
2015	7.7%	4.2%
2017	0.5%	1.0%
Change	-7.2%	-3.2%

# Results – First Screen

Percentage of All  
Breakoffs on the First Screen

	New Cohort	Old Cohort
2015 (Intro)	13.7%	15.0%
2017 (VerifyName)	1.4%	2.9%
Change	-12.3%	-12.1%

# Other, Specify – 2015

A22. Did any of the following factors influence your decision to work in an area outside the field of your highest degree?

Please refer to the work in the principal job you held during the week of February 1, 2015.

Select Yes or No for each item.

	Yes	No
1. Pay, promotion opportunities	<input type="radio"/>	<input type="radio"/>
2. Working conditions (e.g., hours, equipment, working environment)	<input type="radio"/>	<input type="radio"/>
3. Job location	<input type="radio"/>	<input type="radio"/>
4. Change in career or professional interests	<input type="radio"/>	<input type="radio"/>
5. Family-related reasons (e.g., children, spouse's job moved)	<input type="radio"/>	<input type="radio"/>
6. Job in highest degree field not available	<input type="radio"/>	<input type="radio"/>
7. Some other factor	<input type="radio"/>	<input type="radio"/>

High

- Previous Clicks
- Completion Time

← Previous

Next →

## Part A - Principal Employer

A22a. Please specify the reason that influenced your decision to work in an area outside the field of your highest degree.

Please refer to the work in the principal job you held during the week of February 1, 2015.

← Previous

Next →

# Other, Specify - 2017

## Part A - Principal Job

**A22. Did any of the following factors influence your decision to work in an area outside the field of your highest degree?**

*Please refer to the work in the principal job you held during the week of February 1, 2017.*

*Select Yes or No for each item.*

	Yes	No
Pay, promotion opportunities	<input type="radio"/>	<input type="radio"/>
Working conditions (e.g., hours, equipment, working environment)	<input type="radio"/>	<input type="radio"/>
Job location	<input type="radio"/>	<input type="radio"/>
Change in career or professional interests	<input type="radio"/>	<input type="radio"/>
Family-related reasons (e.g., children, spouse's job moved)	<input type="radio"/>	<input type="radio"/>
Job in highest degree field not available	<input type="radio"/>	<input type="radio"/>
Some other factor, <i>Specify</i>	<input type="radio"/>	<input type="radio"/>
<input type="text"/>		

Previous

Next

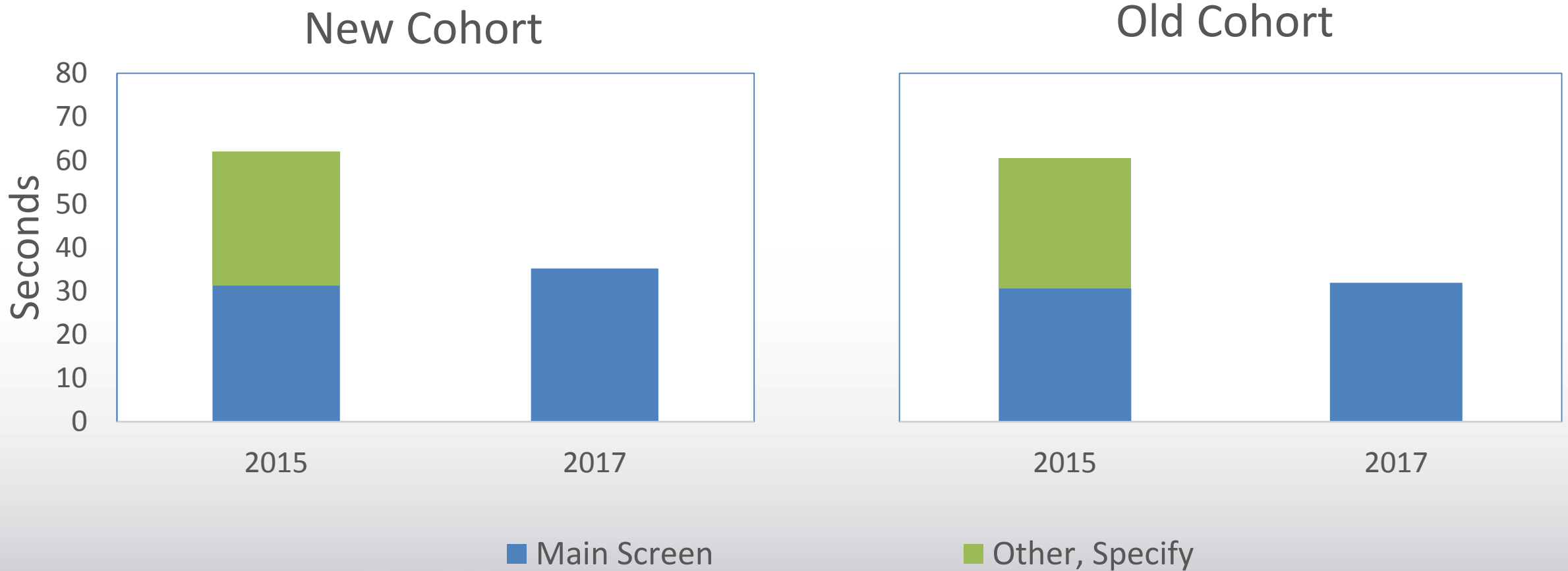
# Results - Overall

Percentage of Respondents who Clicked Previous

	New Cohort	Old Cohort
2015	68.2%	64.5%
2017	61.4%	52.4%
Change	-6.8%	-12.1%

# Results – Other, Specify

## Median Completion Times



# Select all that apply in each column - 2015

## Part D - Education Experiences

D8. How did you finance any undergraduate or graduate degrees you completed before February 1, 2015?

*When answering this question, please consider the financing for the cost of tuition, room and board, fees, books, and supplies. If you have more than one graduate degree, please consider the financing for all of the graduate degrees earned.*

*Select all that apply in each column.*

	Undergraduate	Graduate
Did not earn a degree at this level	<input type="checkbox"/>	<input type="checkbox"/>
Financial support from parents, spouse, other relatives, <u>not to be repaid</u>	<input type="checkbox"/>	<input type="checkbox"/>
Financial assistance from your employer	<input type="checkbox"/>	<input type="checkbox"/>
Financial assistance from the Veterans Educational Assistance Act (i.e., the G.I. Bill)	<input type="checkbox"/>	<input type="checkbox"/>
Loans from parents or other relatives, <u>to be repaid</u>	<input type="checkbox"/>	<input type="checkbox"/>
Loans from the school you attended, banks, federal or state government	<input type="checkbox"/>	<input type="checkbox"/>
Tuition waivers, fellowships, grants, scholarships	<input type="checkbox"/>	<input type="checkbox"/>
Assistantships or work study	<input type="checkbox"/>	<input type="checkbox"/>
Earnings from employment	<input type="checkbox"/>	<input type="checkbox"/>
Personal savings	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>

**High**

- **Completion Time**
- **Changed Answers**

# Select all that apply - 2017

## Part D - Education Background

### D8. How did you finance any UNDERGRADUATE degrees you completed before February 1, 2017?

*When answering this question, please consider the financing for the cost of tuition, room and board, fees, books, and supplies. If you have more than one undergraduate degree, please consider the financing for all of the undergraduate degrees earned.*

*Select all that apply.*

- Did not earn a degree at this level
- Financial assistance from parents, spouse, other relatives, not to be repaid
- Financial assistance from your employer
- Financial assistance from the Veterans Educational Assistance Act (i.e., the G.I. Bill)
- Loans from parents or other relatives, to be repaid
- Loans from the school you attended, banks, federal or state government
- Tuition waivers, fellowships, grants, scholarships
- Assistantships or work study
- Earnings from employment
- Personal savings
- Other, *Specify*

Previous

Next



# Select all that apply - 2017

## Part D - Education Background

### D8a. How did you finance any GRADUATE degrees you completed before February 1, 2017?

*When answering this question, please consider the financing for the cost of tuition, room and board, fees, books, and supplies. If you have more than one graduate degree, please consider the financing for all of the graduate degrees earned.*

*Select all that apply.*

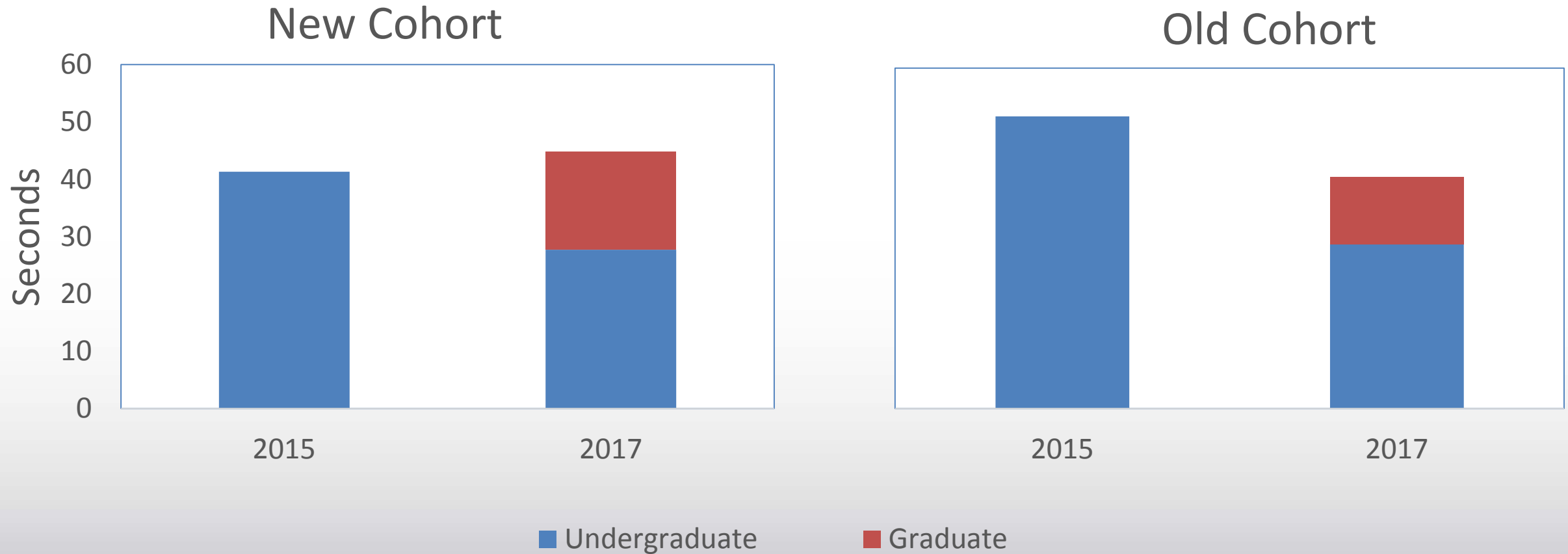
- Did not earn a degree at this level
- Financial support from parents, spouse, other relatives, not to be repaid
- Financial assistance from your employer
- Financial assistance from the Veterans Educational Assistance Act (i.e., the G.I. Bill)
- Loans from parents or other relatives, to be repaid
- Loans from the school you attended, banks, federal or state government
- Tuition waivers, fellowships, grants, scholarships
- Assistantships or work study
- Earnings from employment
- Personal savings
- Other, *Specify*

Previous

Next

# Results – Select all that apply

## Median Completion Times



## Results – Select all that apply

Percent of Respondent Visits  
with a Changed Answer - 2017

Screen	New Cohort	Old Cohort
Undergraduate	11.6%	13.0%
Graduate	8.5%	6.5%

# Contact Information – 2015

**Part E - Demographic Information**

**E26. In case we need to clarify some of the information you have provided, please provide phone numbers and an e-mail address where you can be reached.**

Home Phone Number:

Work Phone Number:

Cell Phone Number:

Email Address:

Retype Email:

Second Email Address:

Retype Email:

Street Address:

City/Town:

State:

Zip Code:

Country:

## High

- Completion Times
- Error Messages

# Contact Information – 2017

## Part E - Demographic Information

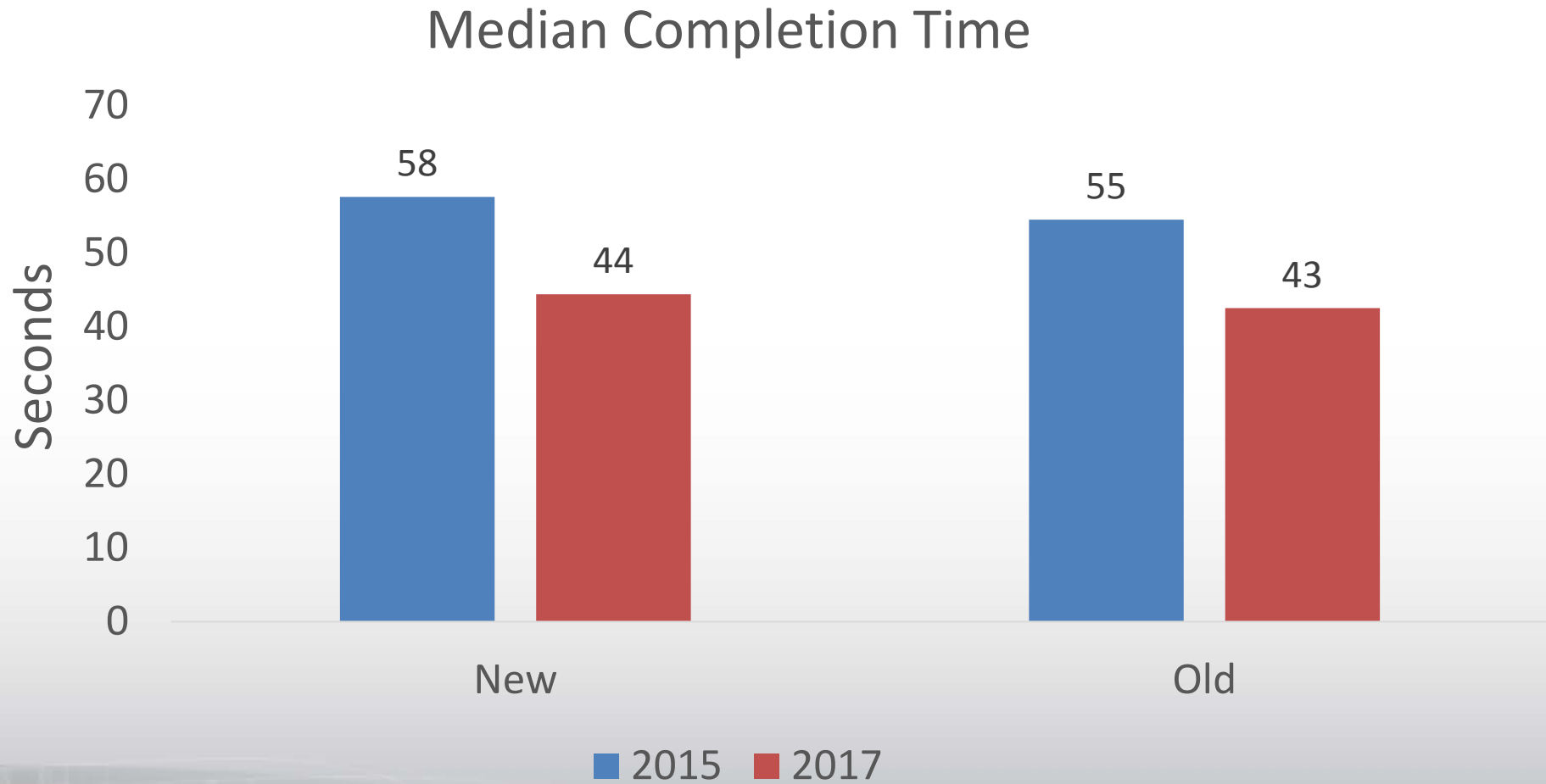
**E28. Because we are interested in how education and employment change over time, we may be contacting you in 2019. To help us contact you, please list a phone number, email and address where you can be reached.**

Home Phone Number	<input type="text"/>
Cell Phone Number	<input type="text"/>
Email Address	<input type="text"/>
Retype Email	<input type="text"/>
Street Address	<input type="text"/>
City/Town	<input type="text"/>
State	<input type="text" value="Please select one"/>
Zip Code	<input type="text"/>
Country	<input type="text" value="United States"/>

Previous

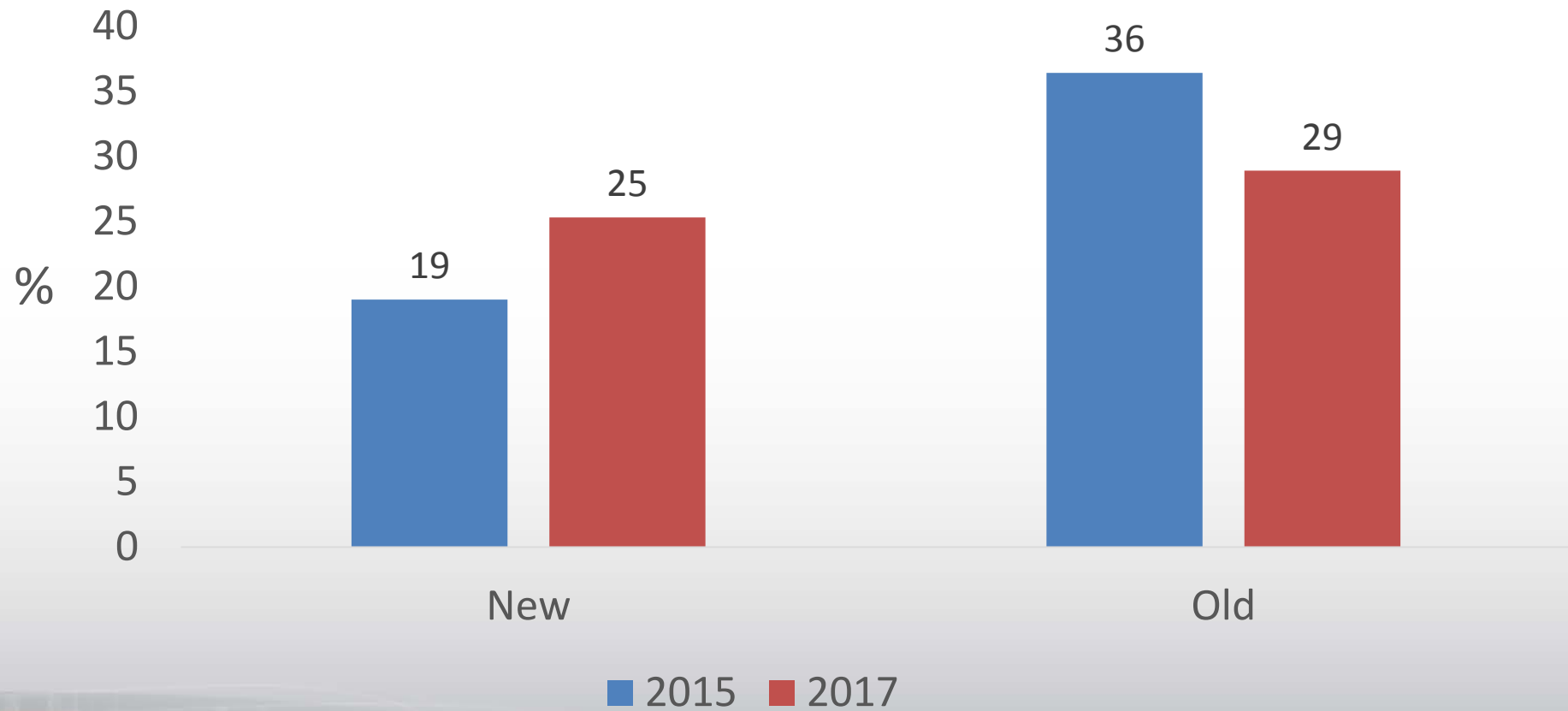
Next

# Results – Contact Information



# Results – Contact Information

Percent of All Error Messages



# Takeaways/Further Research

- Overall reduction in completion times, previous clicks and breakoff rates
- Further Research:
  - Complete remaining analysis of page-level measures for other screens with and without changes in 2017
  - Analysis of overall error rates and changed answer rates
  - Monitor future cycles to evaluate instrument changes and identify additional issues



# Thank You!

Renee Reeves

Survey Methodology

Demographic Statistical Methods Division

U.S. Census Bureau

[renee.reeves@census.gov](mailto:renee.reeves@census.gov)

301-763-4679