

Efficacy Testing a Game to Educate and Collect Census Data

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What is the issue?

Census nonresponse rates are rising, and evidence shows that the increase has averaged around 0.5 percentage points each year since the mid-1990s.¹

Hard to Persuade: People who are not motivated to complete the census, often for a variety of reasons including:

- Distrust of the government
- Believe there is no value in the census results impacting their community
- Confusion on how to answer the questions being asked

Systems of inequality for communities of color and people living in poverty engender attitudes of suspicion in some communities towards government projects such as the decennial census.²

Why use a Game?

- Effective education tools
 - In-game education can alleviate issues with **distrust** and **value**
 - Game tutorial style inputs can aid alleviate **confusion**

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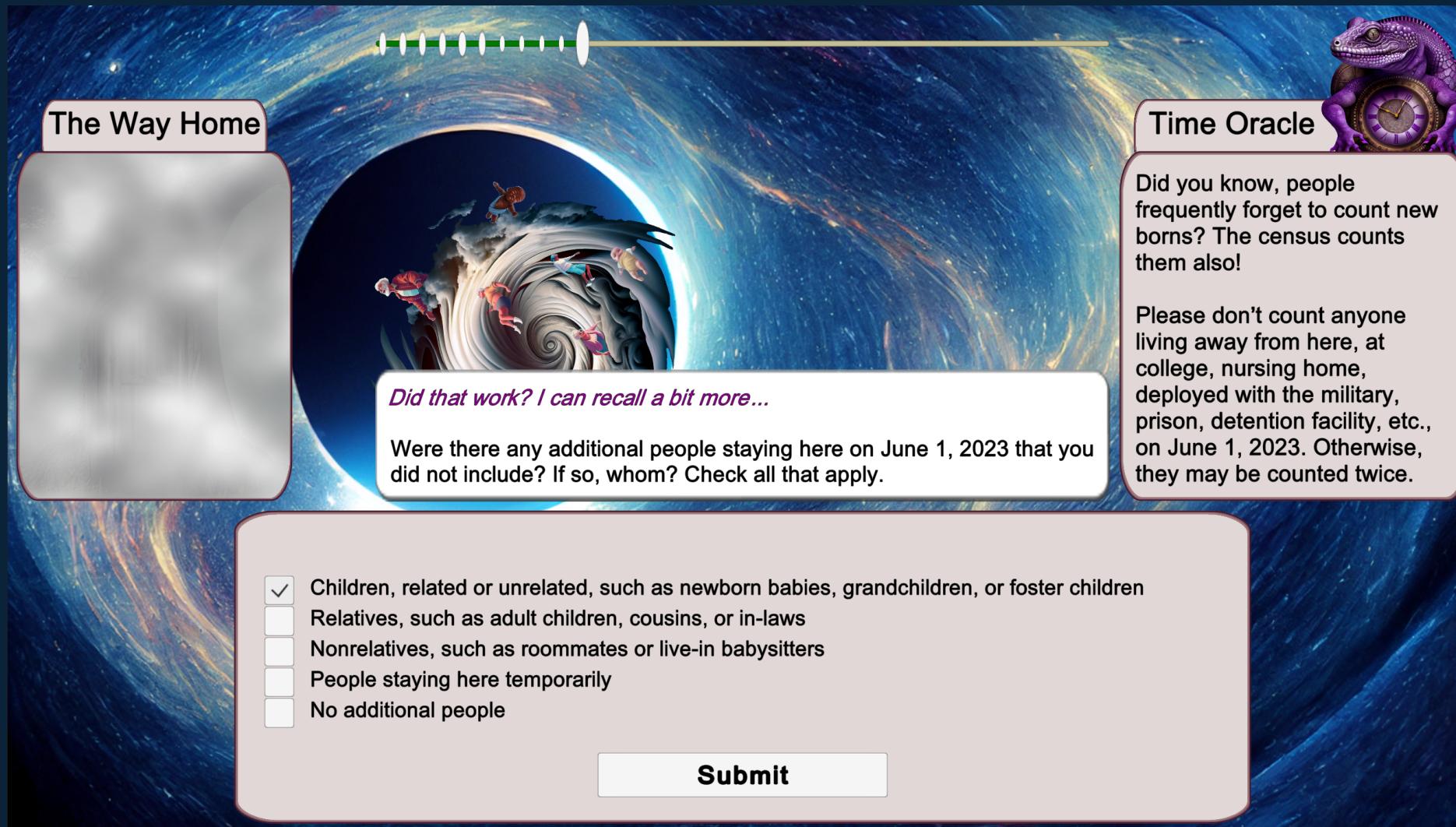
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- Motivation
 - In-game goals can motivate completion

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- Reduce stress & anxiety
- Motivation
 - In-game goals can motivate completion
- Immersion
 - Keep participants focused on task

What did the experiment look like?



The Way Home



Did that work? I can recall a bit more...

Were there any additional people staying here on June 1, 2023 that you did not include? If so, whom? Check all that apply.

- Children, related or unrelated, such as newborn babies, grandchildren, or foster children
- Relatives, such as adult children, cousins, or in-laws
- Nonrelatives, such as roommates or live-in babysitters
- People staying here temporarily
- No additional people

Submit

Did you know, people frequently forget to count new borns? The census counts them also!

Please don't count anyone living away from here, at college, nursing home, deployed with the military, prison, detention facility, etc., on June 1, 2023. Otherwise, they may be counted twice.

What did the experiment look like?

This is NOT an official government questionnaire. This questionnaire has been created for the explicit purpose of supporting this study.

Household Questions People Questions Final Questions

Where there any additional people staying here on June 1, 2023 that you did not include? If so, whom? Check all that apply.

For more information on who to include, hover your mouse here.

Children, related or unrelated, such as newborn babies, grandchildren, or foster children
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How did we conduct the study?

- Hard-to-count neighborhoods were identified in Northern Virginia, Washington DC, and Baltimore using the 2020 census map.³
- Guerilla recruiting of participants in community centers
 - Fluent in English, 18 or older
 - \$10 gift card for participation
- Randomly assigned to one of the two treatments
- Resulting PII was scored and wiped

Encoding	Description	Examples
Valid	Responses that resembles real data	Full names, 10-digit phone numbers
Partial	Incomplete data	Surname missing, 9-digit phone numbers
Suspect	Repeated responses or apparent pseudonyms	Micky Mouse
Invalid	Blank or inaccurate entries	"aaaaa", "77777", phone numbers with letters

What were the results?

Valid information provided
on the home

	Game		Survey		<i>p</i> -value of set
	Valid	Samples	Valid	Samples	
% reported number of people	100%	46	90%	31	
% responded about additional people	100%	46	35%	31	
% responded about type of residence	98%	46	61%	31	< .001

What were the results?

Valid information provided
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% responded about additional people	100%	46	35%	31	
% responded about type of residence	98%	46	61%	31	< .001

Valid information provided
on self

	Game					Survey					p -value
	Valid	Invalid	Partial	Suspect	Samples	Valid	Invalid	Partial	Suspect	Samples	of set
Telephone	93%	7%	0%	0%	46	80%	13%	7%	0%	46	
Person 1 name	96%	0%	2%	2%	46	80%	11%	7%	2%	46	
Person 1 age	98%	2%	0%	0%	46	94%	6%	0%	0%	31	
% responded hispanic Person 1	100%				46	61%				31	
% responded race Person 1	89%				46	58%				31	< .001

What were the results?

Valid information provided
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	Game		Survey		p -value
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	Valid	Invalid	Partial	Suspect	Samples	Valid	Invalid	Partial	Suspect	Samples	of set
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Person 1 name	96%	0%	2%	2%	46	80%	11%	7%	2%	46	
Person 1 age	98%	2%	0%	0%	46	94%	6%	0%	0%	31	
% responded hispanic Person 1	100%				46	61%				31	
% responded race Person 1	89%				46	58%				31	< .001

Valid information provided
on others in the home

	Game					Survey					p -value
	Valid	Invalid	Partial	Suspect	Samples	Valid	Invalid	Partial	Suspect	Samples	of set
Person 2 name	73%	19%	5%	3%	37	39%	52%	9%	0%	23	
Person 2 age	89%	11%	0%	0%	37	74%	26%	0%	0%	23	
% responded hispanic Person 2	86%				37	70%				23	
% responded race Person 2	81%				37	52%				23	
% responded to Person 2 location	92%				37	70%				23	
% responded to Person 2 relation	100%				37	87%				23	< .001

What were the results? (cont.)

Provided information through
the last reported person

	Game		Survey		<i>p</i> -value
	Valid	Samples	Valid	Samples	
% entered name for last person	80%	46	68%	31	.231

What were the results? (cont.)

Provided information through
the last reported person

	Game		Survey		<i>p</i> -value
	Valid	Samples	Valid	Samples	
% entered name for last person	80%	46	68%	31	.231

Did the Time Oracle help
people remember additional
people in the household

	Game		Survey		<i>p</i> -value
	Valid	Samples	Valid	Samples	
% mark additional people	28%	46	3%	31	.008

What were the results? (cont.)

Provided information through
the last reported person

	Game		Survey		<i>p</i> -value
	Valid	Samples	Valid	Samples	
% entered name for last person	80%	46	68%	31	.231

Did the Time Oracle help
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	Game		Survey		<i>p</i> -value
	Valid	Samples	Valid	Samples	
% mark additional people	28%	46	3%	31	.008

I preferred the game to filling out the Census, it kept me engaged. I am one of those where they always come knocking at my door. It made me want to fill it out correctly.
– Summary of one person's comments.

Acknowledgements

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Thank You

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Footnotes

1. Groves, Robert M. 2006. "Nonresponse Rates and Nonresponse Bias in Household Surveys." *Public Opinion Quarterly* 646-675. <https://academic.oup.com/poq/article-abstract/70/5/646/4084443?redirectedFrom=fulltext>.
2. U.S. Census Bureau. 2016. *Final Report: National Advisory Committee on Racial, Ethnic, and Other Populations*. Administrative Records, Internet, and Hard to Count Population Working Group .
3. CUNY Mapping Service at the Center for Urban Research. 2020. *HTC 2020*. Accessed 2023. <https://www.censushardtountmaps2020.us/?latlng=40.00000%2C-98.09000&z=4&promotedfeaturetype=states&baselayerstate=3&rtrYear=sR2020latest&infotab=info-rtrselfresponse&filterQuery=false>
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