The General Social Survey

GSS

The Effect of Question Presentation in Web-based Surveys: Two Experiments from the General Social Survey

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SUMMARY

This report examines two survey item experiments conducted on the 2021 and 2022 General Social Survey (GSS) evaluating the web-based implementation of multiple historical GSS questions given the increased use of web questionnaires in these years. The first experiment examines the use of a grid-format response for two sets of items with shared question stems, response options, and conceptual topics. The second experiment examines displaying response categories for historically volunteered survey responses (e.g., "no opinion," "stay as is," "somewhat strong," etc.). We analyze data from the GSS 2021 and 2022 to explore differences in these web-based wording experiments, investigate comparisons to the 2018 GSS for select grid and volunteered response experiment variables, and conduct logistic regression analyses to determine if select demographic characteristics are more likely to predict a volunteered response.

The high-level findings are as follows:

- There are few significant differences in estimates between grid and non-grid questions for web cases and among all modes.
- The presence of historically volunteered responses in the web questionnaire significantly increases the usage of these categories for nearly every item examined.
- There are no consistent demographic predictors for providing a volunteered response, but significant predictors are related either directly or indirectly to the question construct.
- Compared to 2018, the grid experiment variables have inconsistent results. In the volunteered response experiment, the additional response option increases the prevalence of volunteered responses already given to interviewers in in-person and telephone interviews.

The grid and volunteered response experiments allow methodological innovation in the historical GSS with the introduction of web and a multimode design. We posit that the combination of the non-gridded and gridded versions (e.g., ABANY, ABANYG) is reasonable and should have minimal impact on findings. However, the analytic approach for the volunteered experiments is less clear and researchers should use caution when combining variables (e.g., GRASSNV, GRASSV). The GSS is conducting experiments in 2024 to further test impact.

GSS GRID AND VOLUNTEERED RESPONSE EXPERIMENTS

The General Social Survey (GSS) is a nationally representative survey of adults that has been conducted since 1972 to capture the attitudes and opinions of the public in the United States (GSS n.d.). The GSS was primarily administered as a face-to-face interview from 1972 to 2018. Given face-to-face interviews could not be conducted safely during the first year of the COVID-19 pandemic, the GSS was redesigned into a primarily self-administered web survey (supplemented with phone interviews) for collection in 2021 (Davern et al. 2021). In 2022, the GSS reintroduced face-to-face data collection as a primary collection mode while maintaining a strong web component in a multimode design (Davern et al. 2024). The shift in recent years to primarily web-based collection allowed GSS the opportunity to experimentally explore differences in measurement on a variety of survey items. The GSS introduced two experiments related to web administration in 2021 that continued into 2022 for those completing in the web mode: gridded questions and volunteered responses (Davern et al. 2021:2024).

Grid Experiments

Web surveys make use of grids to simplify presentation of items with shared question stems, response options, and conceptual topics. Grids have been found to reduce question order effects (Stefkovics et al. 2022) and result in slightly faster response times than their item-by-item counterparts (e.g., Couper et al. 2013; Debell et al. 2021).

For GSS 2021 and 2022, in their web modality, the grid experiment included questions on abortion and suicide. Cases were randomly assigned to one of two conditions by FORM ---which is a structural variable that randomly splits each of the three ballots in the GSS questionnaire. In the experimental condition, the questions were arranged in a grid with several questions on a single page. Except for one item, each grid included 3 or 4 items (Table 1). The grid experiment presented three abortion items at a time on a single web page, and one item alone. All suicide items were included in just one grid. In the control condition, the respective item series were shown sequentially on separate screens. For face-to-face and telephone interviews, these questions were read separately to the respondent, more like the control condition.

Volunteered Response Experiments

Historically, the interviewer-administered instrument included options that are available for interviewers to code when volunteered by respondents but are not shown or read aloud to respondents. Often these volunteered responses are non-committal (e.g., "It depends", "About right"), a non-attitude (e.g., "Don't know", "No opinion"), or an "other" type option. These volunteered responses are coded as valid as any of the stated response options and are included in the cumulative dataset because of their natural occurrence in the population. However, in a web-administered survey, these volunteered responses must either be unavailable to a respondent in the question choice set or be included as an explicit response option (de Leeuw et al. 2015). For GSS 2021 and 2022, we randomly assigned web respondents to the experimental condition (using variable FORM) where the explicit volunteered response (e.g., "It depends", "Don't know") is always present, or to the control condition where the volunteered response is absent. For example, for the item COURTS ("… do you think the courts in this area deal too harshly or not harshly enough with criminals?"), the control for web cases has two responses ("too harshly" and "not harshly enough") while the experiment condition has three responses: "too harshly," "not harshly enough," and "about right." The question stimulus (i.e., question text and response options) for the control condition is most like the presentation of questions in face-to-face and telephone interviews (i.e., no inclusion of volunteered responses) while the final responses that are made available for analysis is more similar for the experimental condition to interviewer administration (i.e., with inclusion of volunteered responses). Although the 2021 GSS was primarily web administered, the multimodal design of the 2022 GSS allows for comparisons across modes (web, face-to-face and phone), with respect to the experimental conditions.

Objectives

The purpose of this report is to assess the impact of these two experiments on question measurement as the GSS transitions to the use of web-administration as a primary mode of data collection. This paper asks the following research questions regarding the grid experiment:

1) In the grid experiment, are responses significantly different for the non-grid and grid conditions when comparing web cases?
2) Do grid experiments alter estimates compared to the 2018 GSS, which was conducted primarily as a face-to-face study?

Concerning the volunteered response experiment, we ask the following questions:

3) In the volunteered response experiment, are responses significantly different for the volunteer and non-volunteer conditions when comparing web cases?
    a. Do responses for the volunteered response experiment remain significantly different when considering all survey modes (in-person, telephone, and web)?
4) Do the volunteered response experiments alter estimates compared to the 2018 GSS?
5) What demographic characteristics are more likely to predict a volunteered response?

METHODS

Data: This research uses data from General Social Survey years 2021 (N=4,032) and 2022 (N=3,544).[1] Given the experiments are restricted to web completes, we focus part of our analysis on the 3,561 web completes from GSS 2021 (88.3 percent of total 2021 completes) and 1,636 web completes from GSS 2022 (46.2 percent of total 2022 completes). For these analyses, we used Release 3a of the GSS 1972-2022 cumulative file (Davern et al. 2024).

Measures: Variables in these analyses include measures of sociodemographic characteristics, final mode assignment, and variables that reflect the grid and volunteered response experiments. Sociodemographic variables include sex (male or female), age, race (white, Black, or other race), educational attainment (less than high school, high school, associate/Junior college, bachelor's degree, or graduate degree), and marital status (married, widowed, divorced, separated, or never married). Final mode assignment (i.e., variable MODE) includes web, in-person, telephone, and combination (i.e., mixed-mode; the respondent completed some of the survey in one mode and some in another mode). The grid experiment includes 11 variables that cover questions about abortion and suicide. The volunteered response experiment includes 19 variables that cover an array of responses that can be grouped by non-committal, non-attitude, other, and factual. Please see Tables 1-2, respectively, for the full list of experimental variables.[2]

Analytical Methods: First, we compare and test for differences between the control and experiment results using design-adjusted Rao-Scott Pearson chi-square tests (Heeringa, West, & Berglund, 2010). For the grid experiment, we compare web-only cases. For the volunteered response experiment, we compare the web-only cases first followed by the full sample including all modes. When examining all modes, we place the face-to-face and telephone completes with the control condition, as it is important to compare the respondent-provided volunteered responses with the experiment volunteered responses that are explicitly shown to responses, as well as to measure any shifts in distribution among these responses. Bonferroni corrections for each experiment are used to adjust for multiple comparisons. Next, we compare 2018 GSS responses against control and experiment variables for both the grid and volunteered response experiments. Last, we create binary variables of the volunteered response experiment (1-volunteered response, 0-all other response options) and conduct logistic regression analyses to determine what respondent demographic characteristics are more likely to predict a volunteered response. Control cases are not included in this analysis. All analyses are conducted accounting for complex sample design and using weights adjusted for nonresponse and to population totals (i.e., variable WTSSNRPS).

Table 1. Grid Variable List.

Mnemonic	Abbreviated Question	Screen*
ABDEFECTG	Do you think it should be possible for a pregnant woman to obtain a legal abortion if there is a strong chance of serious defect in the baby?	1
ABNOMOREG	Do you think it should be possible for a pregnant woman to obtain a legal abortion if she is married and does not want any more children?	1

[1] The AmeriSpeak racial and ethnic oversample conducted in 2022 (Wells & Sparkman, 2024) is not used in this research.
[2] Due to a recently discovered data error, we do not examine the SUICIDE items or RELITENV for GSS 2021. Due to an error on the 2021 web instrument, "Don't Know" was incorrectly shown to respondents on the non-gridded SUICIDE variables; in all other years, it is not made explicitly visible or asked as part of the question. There is a programming error in response 4 ("No religion") in RELITENV, that will be addressed in Release 4 of the 2022 GSS in the fall of 2024.

Mnemonic	Abbreviated Question	Screen*
ABHLTHG	Do you think it should be possible for a pregnant woman to obtain a legal abortion if the woman's own health is seriously endangered by the pregnancy?	1
ABPOORG	Do you think it should be possible for a pregnant woman to obtain a legal abortion if the family has a very low income and cannot afford any more children?	2
ABRAPEG	Do you think it should be possible for a pregnant woman to obtain a legal abortion if she became pregnant as a result of rape?	2
ABSINGLEG	Do you think it should be possible for a pregnant woman to obtain a legal abortion if she is not married and does not want to marry the man?	2
ABANYG	Do you think it should be possible for a pregnant woman to obtain a legal abortion if the woman wants it for any reason?	3
SUICIDE1G	Do you think a person has the right to end his or her own life if this person has an incurable disease?	4
SUICIDE2G	Do you think a person has the right to end his or her own life if this person has gone bankrupt?	4
SUICIDE3G	Do you think a person has the right to end his or her own life if this person has dishonored his or her family?	4
SUICIDE4G	Do you think a person has the right to end his or her own life if this person is tired of living and ready to die?	4

* Screen signifies which grid item appeared on a screen together and the order in which they were presented. For example, ABDEFECTG, ABNOMOREG, and ABHLTHG all appeared together on a screen, then followed by a screen with ABPOORG, ABRAPEG, and ABSINGLEG; ABANYG is shown separately. SUICIDE1G-SUICIDE4G are all shown on the same screen.

Table 2. Volunteered Response Attitudinal and Factual Variable List.

Mnemonic	Abbreviated Question	Volunteered Option	
AGEDV	Good idea or a bad idea that older people share their home with their grown children?	It depends	Non-committal
COURTSV	How do courts deal with criminals?	About right	
DIVLAWV	Feeling on divorce laws?	Stay as is	
FAIRV	Are people fair or do they try to take advantage?	It depends	
GETAHEADV	Opinion of how people get ahead?	Hard work and luck equally important	
HELPFULV	Are people generally helpful or looking out for themselves?	It depends	

Mnemonic	Abbreviated Question	Volunteered Option	
RACOPENV	Suppose there is a community-wide vote on the general housing issue. One law says that a homeowner can decide whom to sell their house to, even if that homeowner prefers not to sell to someone because of their race or color. The second law says that a homeowner cannot refuse to sell to someone because of their race or color. Which law would you vote for?	Neither	Non-committal
RELITENV	Would you call yourself a strong (religious preference) or a not very strong (religious preference)?	Somewhat strong	
TRUSTV	Can people be trusted?	Other, depends	
DISCAFFWV	A woman won't get a job or promotion while an equally or less qualified man gets one instead?	No opinion	Non-attitudes
FEPOLV	Please indicate if you agree or disagree with this statement: Most men are better suited emotionally for politics than are most women.	Don't know	
GRASSV	Should marijuana be made legal?	No opinion	
POSTLIFEV	Do you believe there is a life after death?	Don't know	
PRAYERV	Should biblical prayer be allowed in public schools?	No opinion	
USWARYV	Do you expect the USA to be in world war within the next 10 years?	No opinion	
BIBLEV	Which of these statements comes closest to describing your feelings about the Bible?	Something else/Other	Other
KIDSSOLV	What children's standard of living will be?	No children	Factual
USCITZNV	Now we would like to ask you about U.S. citizenship. Are you…	A U.S. citizen born in Puerto Rico, the U.S. Virgin Islands, or the northern Marianas Islands Born outside of the U.S. to parents who were U.S. citizens	
FUCITZNV	Are you… [question about citizenship]	Not eligible to become a U.S. citizen	

GRID EXPERIMENT RESULTS

Significance Testing in the Grid Experiment

Table 3 reports the findings of significance testing across sample years for web cases only to determine if responses are significantly different for the experimental and control conditions in grid experiment. In the 2021 survey, only one abortion item sees a significant difference in the grid experiment for the item asking if it should be possible for a pregnant woman to obtain a legal abortion if a woman wants it for any reason ($p<.05$). The experimental grid version of the variable has an increased response of "yes" compared to the control (60.1% in the experiment, 54.7% in the control). In the 2022 survey, the abortion item asking if it should be possible for a pregnant woman to obtain a legal abortion if a woman becomes pregnant as a result of rape ($p<.05$), in which the experimental grid version of the variable has an increased response of "yes" compared to the control (92.1% in the experiment, 86.2% in the control). No other abortion items were significant when focusing on web responses in 2021 or 2022. None of the suicide items were statistically significant in 2022. However, the couple of significant differences (ABANYG in 2021 and ABRAPEG in 2022) do not remain significant when controlling for multiple comparisons.

Table 3. Significance Testing of Control and Experiment Grid Variables, Web Cases Only.

Abbreviated Questions [Mnemonic]	Response Category	2021			2022		
		No Grid	Grid	P-Value	No Grid	Grid	P-Value
Abortion… if there is a strong chance of serious defect in the baby? [ABDEFECTG]	Yes	77.4	78.6		79.8	85.5	
	No	22.6	21.4		20.2	14.5	
Abortion… if she is married and does not want any more children? [ABNOMOREG]	Yes	58.0	53.8		61.4	60.8	
	No	42.0	46.2		38.6	39.2	
Abortion… if the woman's own health is seriously endangered by the pregnancy? [ABHLTHG]	Yes	89.2	89.8		91.4	95.6	
	No	10.8	10.2		8.6	4.4	
Abortion… if the family has a very low income and cannot afford any more children? [ABPOORG]	Yes	57.7	56.1		62.7	63.0	
	No	42.3	43.9		37.3	37.0	
Abortion… if she becomes pregnant as a result of rape? [ABRAPEG]	Yes	84.9	83.1		86.2	92.1	*
	No	15.1	16.9		13.8	7.9	
Abortion… if she does not want to marry? [ABSINGLEG]	Yes	55.9	53.3		59.6	59.0	
	No	44.1	46.7		40.4	41.0	
Abortion… woman wants it for any reason? [ABANYG]	Yes	54.7	60.1	*	60.1	64.6	
	No	45.3	39.9		39.9	35.4	

Abbreviated Questions [Mnemonic]	Response Category	2021			2022		
		No Grid	Grid	P-Value	No Grid	Grid	P-Value
Suicide… has an incurable disease? [SUICIDE1G]	Yes	[a]	[a]	[a]	73.0	74.2	
	No	[a]	[a]		27.0	25.8	
Suicide… has gone bankrupt? [SUICIDE2G]	Yes	[a]	[a]	[a]	16.1	12.7	
	No	[a]	[a]		83.9	87.3	
Suicide… has dishonored his or her family? [SUICIDE3G]	Yes	[a]	[a]	[a]	15.9	12.8	
	No	[a]	[a]		84.1	87.2	
Suicide… is tired of living and ready to die? [SUICIDE4G]	Yes	[a]	[a]	[a]	29.8	24.4	
	No	[a]	[a]		70.2	75.6	

Note: Weighted proportions estimated using WTSSNRPS.

*p < .05; **p < .01; ***p < .001. A Bonferroni adjustment for multiple comparisons (22 comparisons) for p = 0.05 is 0.0023.

[a] Due to an error in the survey design of 2021 suicide items, they will not be used in this analysis (see footnote 2).

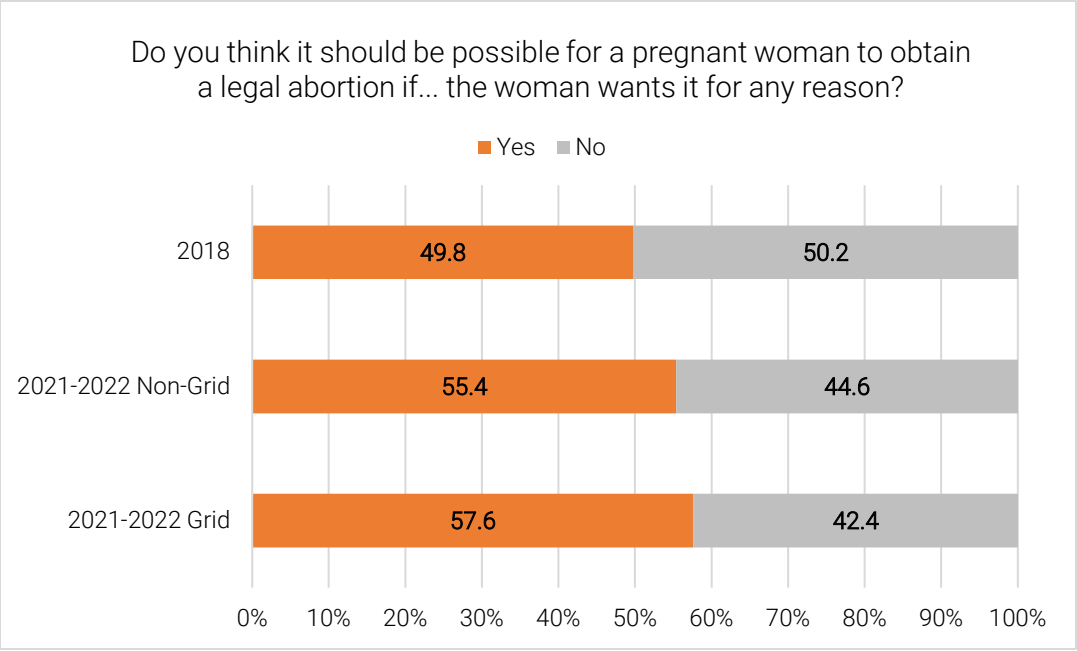
The Grid Experiment Compared to 2018

After analyzing the web-administered grid experiment, we compare 2021 and 2022 experiment-year responses to 2018. To address our second research question as to whether the grid experiments significantly alter estimates to the previous survey round that did not use a web-based questionnaire, we selected two grid variables to illustrate comparisons between responses from 2018 versus 2021 and 2022 non-grid responses, and 2018 versus 2021 and 2022 grid responses. Please note that the 2021 and 2022 non-grid versions include in-person and telephone responses.

Exhibits 1 and 2 show comparisons between responses in the 2018 GSS, with the control (administered in-person and by telephone) and grid experiments. Exhibit 1 illustrates the comparison of the variable ABANY with the experimental grid version starting in 2021. The "Yes" answer in response to if a woman should be able to obtain a legal abortion for any reason increases from 49.8% in 2018 to the 2021-2022 averages (57.6%), with the experiment reporting the highest "Yes" response in grid form (57.6%) and non-grid reporting 55.4%, suggesting the grid format could be in part responsible for increasing the "Yes" response option. However, in the historical comparison of the variable SUICIDE4 (Exhibit 2), while the "Yes" response if a person has a right to end their own life has also moved from 2018 (22.4%) to the 2022 responses[3], here the non-grid group has the highest "Yes" response (28.5%).

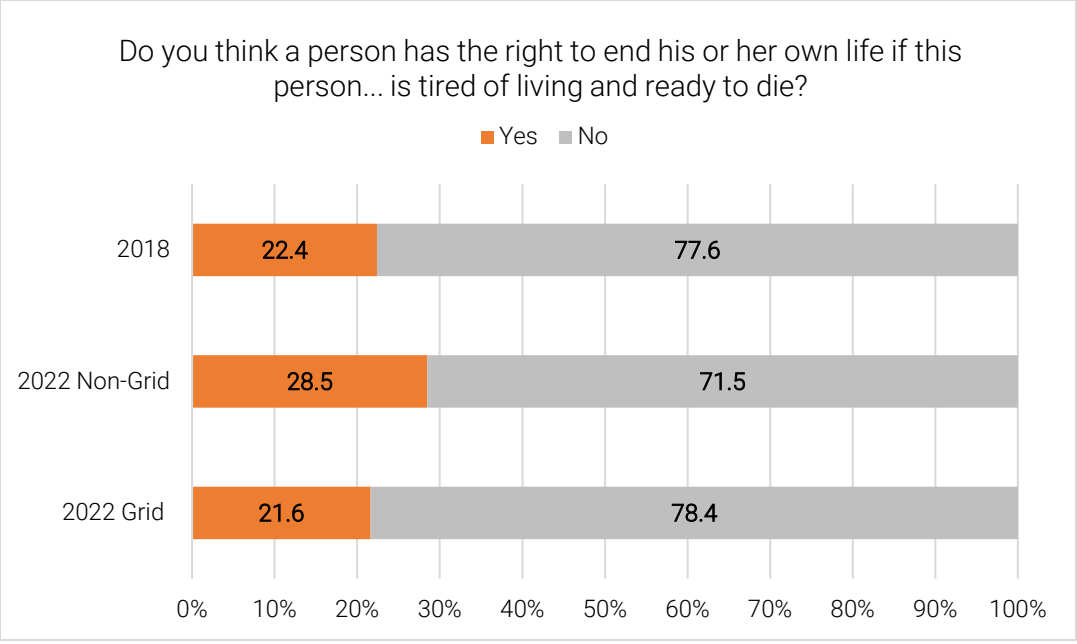
[3] Due to an error in the survey design of 2021 suicide items, the 2021 responses of this variable are not used.

Exhibit 1. Comparison of Variable ABANY.



Note: "2021-2022 Non-Grid" includes the in-person and telephone responses. Weighted proportions using WTSSNRPS.

Exhibit 2. Comparison of Variable SUICIDE4.



Note: "2022 Non-Grid" includes the in-person and telephone responses. Due to an error in the survey design of 2021 suicide items, they are not used above (see footnote 2). Weighted proportions using WTSSNRPS.

VOLUNTEERED RESPONSE EXPERIMENT RESULTS

Significance Testing in the Volunteered Response Experiment, Web Only

Table 4 reports the findings of significance testing across sample years and the volunteered response experiment items for web cases only. The "No Vol." column indicates that no additional response was shown to the respondents on the web, and the "Vol." column are the experimental variables with a volunteered response option. Except for the factual questions about respondent citizenship (USCITZN in both years, and FUCITZN in 2022), all other volunteered response experiment items are significantly different from the control, in 2021 and 2022, for web cases. Correcting for multiple comparisons maintains most of these significant differences. Experiment questions that allow respondents a non-committed volunteered response signifying ambivalence to the other responses (e.g., "It depends") had mostly large proportions for these response choice in the experiment, such as opinions about social interaction (e.g., questions about trusting others) and social issues. For example, a large proportion of respondents (62.1%-63.9%) answered "It depends" when asked if older people should share a home with their grown children. Other questions indicate use of the volunteered response, though they vary in response proportions (e.g., 9.9%-10.2% choosing "Something else/Other" to describe the Bible).

Interestingly, while the first citizenship volunteered response experiment was not significant, the follow up question, provided when respondents answer "Not a U.S. citizen," is significant ($p<.05$) in 2021. In 2021, 14.4% of web respondents reported not being eligible to become a U.S. citizen. Despite the lack of a significant difference in 2022, over 28% responded they were not eligible to become a citizen, possibly due to small sample sizes.

Table 4. Significance Testing of Control and Experiment Volunteer Variables, Web Cases.

Abbreviated Questions [Mnemonic]	Response Category	2021			2022			
		No Vol.	Vol.	P-Value	No Vol.	Vol.	P-Value	
As you know, many older people share a home with their grown children. Do you think this is generally a good idea or a bad idea? [AGEDV]	A good idea A bad idea It depends	68.8 13.1 0.2	27.1 10.8 62.1	***	66.9 33.1 0.0	25.5 10.5 63.9	***	Non-committal
In general, do you think the courts in this area deal too harshly or not harshly enough with criminals? [COURTSV]	Too harshly Not harshly enough About right	33.0 66.8 0.2	22.7 49.6 27.7	***	28.3 71.3 0.4	9.8 49.7 40.5	***	
Should divorce in this country be easier or more difficult to obtain than it is now? [DIVLAWV]	Easier More difficult Stay as is	66.9 33.0 <0.1	37.7 16.6 45.7	***	68.0 32.0 0.0	33.1 12.5 54.4	***	
Do you think most people would try to take advantage of you if they got a chance, or would they try to be fair? [FAIRV]	Would take advantage Would try to be fair It depends	47.7 52.3 0.0	21.5 36.2 42.3	***	56.5 43.3 0.2	26.6 30.3 43.2	***	

Abbreviated Questions [Mnemonic]	Response Category	2021			2022			
		No Vol.	Vol.	P-Value	No Vol.	Vol.	P-Value	
Some people say that people get ahead by their own hard work; others say that lucky breaks or help from other people are more important. Which do you think is most important? [GETAHEADV]	Hard work most important	74.8	48.9		79.9	50.3		Non-committal
	Equally important	**0.1**	**44.4**		**0.0**	**43.5**		
	Luck more important	25.0	6.7	***	20.1	6.2	***	
Would you say that most of the time people try to be helpful, or that they are mostly just looking out for themselves? [HELPFULV]	Try to be helpful	54.0	29.5		50.5	25.6		
	Looking out for themselves	45.9	26.0	***	49.4	29.1	***	
	It depends	**0.2**	**44.6**		**0.0**	**45.2**		
…One law says that a homeowner can decide whom to sell their house to, even if that homeowner prefers not to sell to someone because of their race or color. The second law says that a homeowner cannot refuse to sell to someone because of their race or color. Which law would you vote for? [RACOPENV/Y][b]	First law	18.9	10.7		24.3	8.0		
	Second law	81.1	73.3		75.7	71.8		
	Neither	**0.0**	**16.0**	***	**0.0**	**20.2**	***	
Would you call yourself a strong (religious preference) or a not very strong (religious preference)? [RELITENV]	Strong	[a]	[a]		32.6	22.9		
	Not very strong	[a]	[a]	[a]	33.5	29.4	***	
	Somewhat strong	[a]	[a]		**0.0**	**16.7**		
	No religion	[a]	[a]		33.9	31.0		
Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people? [TRUSTV]	Can trust	38.5	17.4		31.6	16.6		
	Can't be too careful	61.5	44.4	***	68.4	44.0	***	
	It depends	**0.0**	**38.1**		**0.0**	**39.3**		
What do you think the chances are these days that a woman won't get a job or promotion while an equally or less qualified man gets one instead. Is this…? [DISCAFFWV]	Very likely	20.3	23.0		25.7	18.6		Non-attitudes
	Somewhat likely	45.7	41.5		45.8	41.3		
	Not very likely	26.5	19.8	***	19.7	22.3	**	
	Very unlikely	7.5	10.5		8.8	10.5		
	Don't know	**0.0**	**5.3**		**0.0**	**7.3**		
Please indicate if you agree or disagree with this statement: Most men are better suited emotionally for politics than are most women. [FEPOLV]	Agree	13.2	11.4		10.5	7.8		
	Disagree	86.8	77.0		89.5	78.1		
	Don't know	**0.0**	**11.6**	***	**0.0**	**14.1**	***	

Abbreviated Questions [Mnemonic]	Response Category	2021			2022			
		No Vol.	Vol.	P-Value	No Vol.	Vol.	P-Value	
Do you think the use of marijuana should be made legal or not? [GRASSV]	Should be legal	75.5	61.8		75.4	62.9		Non-attitudes
	Should not be legal	24.5	19.1	***	24.6	22.0	***	
	No opinion	0.0	19.2		0.0	15.1		
Do you believe there is a life after death? [POSTLIFEV]	Yes	72.8	56.7		69.3	59.2		
	No	27.1	18.0	***	30.7	14.8	***	
	Don't know	0.2	25.3		0.0	26.0		
The United States Supreme Court has ruled that no state or local government may require the reading of the Lord's Prayer or Bible verses in public schools. Do you approve or disapprove of the court ruling? [PRAYERV]	Approve	67.1	60.4		67.4	52.2		
	Disapprove	32.9	33.1		32.6	30.2		
	No opinion	0.0	6.5	***	0.0	17.7	***	
Do you expect the U.S. to fight in another world war within the next ten years? [USWARYV]	Yes	40.9	31.7		54.9	46.0		
	No	59.1	50.6	***	45.1	33.6	***	
	Don't know	0.0	17.7		0.0	20.5		
Which of these statements comes closest to describing your feelings about the Bible? [BIBLEV]	Word of God	21.8	23.0		21.6	17.5		Other
	Inspired word	46.4	38.1		42.9	46.8		
	Ancient book	31.8	28.7	***	35.4	25.7	***	
	Something else/Other	0.0	10.2		0.0	9.9		
When your children are at the age you are now, do you think their standard of living will be much better, somewhat better, about the same, somewhat worse, or much worse than yours is now? [KIDSSOLV]	Much better	23.5	20.5		17.0	17.8		
	Somewhat better	30.1	28.4		29.8	26.0		
	About the same	24.3	20.3		24.9	19.2		
	Somewhat worse	16.2	12.9	***	18.8	17.6	***	
	Much worse	5.9	5.4		9.6	8.3		
	No children	<0.1	12.5		0.0	11.0		
Now we would like to ask you about U.S. citizenship. Are you... [USCITZNV]	A U.S. citizen	65.3	59.5		59.9	47.0		Factual
	Not a U.S. citizen	34.7	39.7		40.1	49.4		
	A U.S. citizen born in Puerto Rico, the U.S. Virgin Islands, or the northern Marianas Islands	0.0	0.5		0.0	0.4		
	Born outside of the U.S. to parents who were U.S. citizens	0.0	0.2		0.0	3.1		

Abbreviated Questions [Mnemonic]	Response Category	2021			2022			
		No Vol.	Vol.	P-Value	No Vol.	Vol.	P-Value	
Are you… for U.S. citizenship? [FUCITZNV]	Currently applying	23.3	8.6		3.6	10.3		
	Planning to apply	56.4	58.0		46.7	50.5		
	Not planning to apply	20.3	19.0	*	49.7	11.0		
	Not eligible to become a U.S. citizen	**0.0**	**14.4**		**0.0**	**28.2**		

Note: The "No Vol." column indicates that no additional response was shown to the respondents on the web, and the "Vol." column are the experimental variables with a volunteered response option. Volunteered responses are denoted in bold. Weighted proportions estimated using WTSSNRPS.

*p < .05; **p < .01; ***p < .001. A Bonferroni adjustment for multiple comparisons (38 comparisons) for p = 0.05 is 0.0013.

[a] Due to a programming error, RELITENV will not be examined in this analysis (see footnote 2).

[b] Variable RACOPENV was asked in 2021 and RACOPENY was used in 2022 to reflect this experiment including a second form experiment.

Significance Testing in the Volunteered Response Experiment, All Modes

Considering the volunteered response experiments (Table 5), volunteered responses are present in the control column ("No Vol.") due to their appearance in the face-to-face and phone modes given we are combining these modes with the control condition on the web based on their similarity in response option presentation. Similar to the web-only comparison, all volunteered response experiment items are significantly different from the control among all modes in 2021 and 2022, except the demographic question about respondent citizenship (USCITZNV). The factual response in the question about standard of living (KIDSSOLV) is now not significant in 2022 across modes. Also, as in the web-only analysis, while the citizenship volunteered response experiment was not significant, the follow up factual question, provided when respondents answer "Not a U.S. citizen," is significant across both years. In 2021, 13.1% of respondents reported not being eligible to become a U.S. citizen (p<.001), and an increase of 8% (control) to 27.7% (experiment) in 2022 (p<.05). Similar to the web-only analysis, the majority of these differences remain significant when correcting for multiple comparisons. Exhibit 3 shows the volunteered responses percentages for 2022 of the non-volunteered condition (including in-person and telephone cases) and volunteered condition, ranked by the proportion of volunteered responses on the web.

Table 5. Significance Testing of Control and Experiment Volunteer Variables, Across All Modes^.

Abbreviated Questions [Mnemonic]	Response Category	2021			2022			
		No Vol.	Vol.	P-Value	No Vol.	Vol.	P-Value	
As you know, many older people share a home with their grown children. Do you think this is generally a good idea or a bad idea? [AGEDV]	A good idea	68.2	27.7		58.6	27.1		Non-committal
	A bad idea	30.1	12.3	***	24.7	10.1	***	
	It depends	**1.7**	**60.0**		**16.7**	**62.9**		
In general, do you think the courts in this area deal too harshly or not harshly enough with criminals? [COURTSV]	Too harshly	32.7	22.9		22.2	9.8		
	Not harshly enough	65.2	50.4	***	63.5	49.1	***	
	About right	**2.1**	**26.7**		**14.3**	**41.0**		

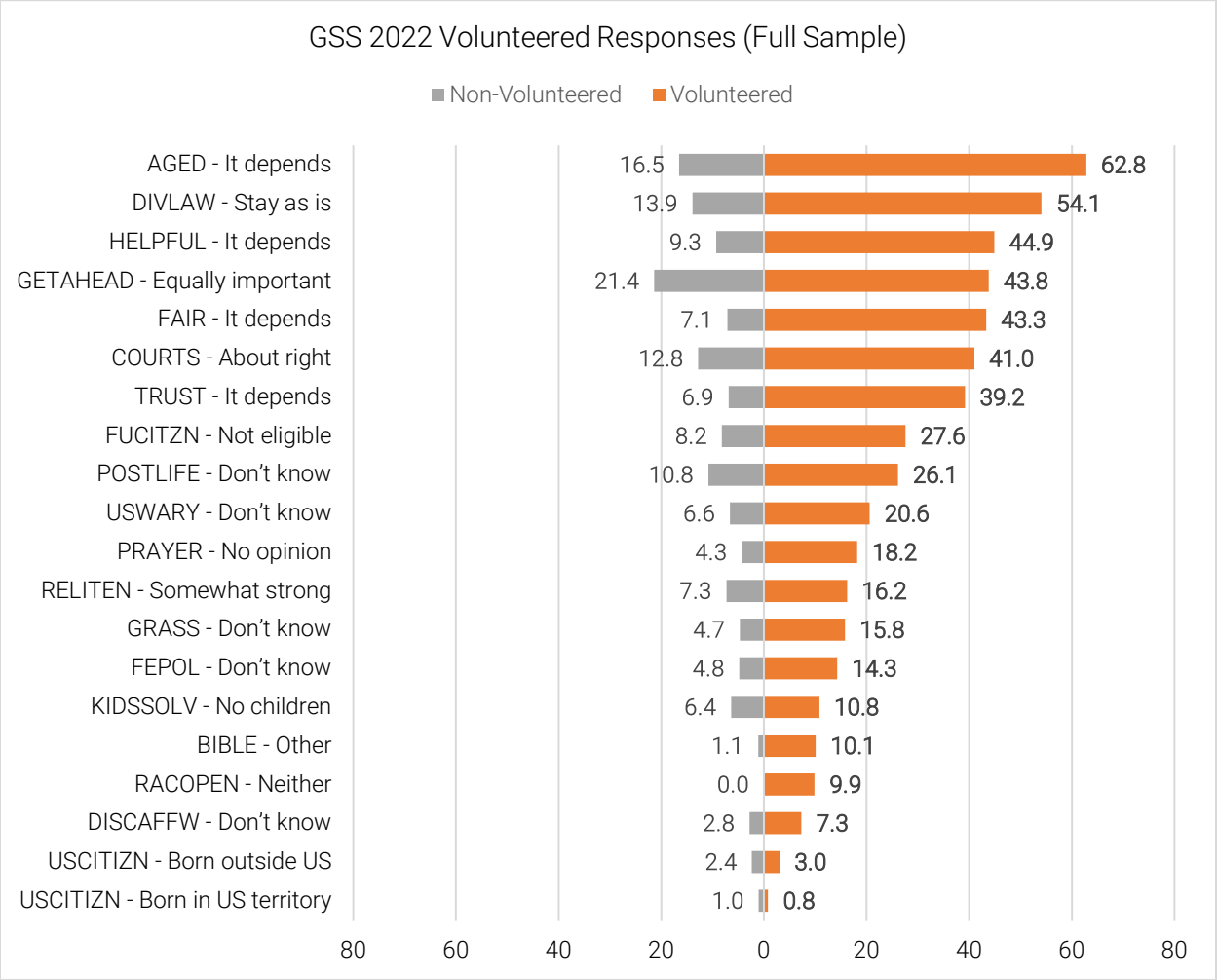
Abbreviated Questions [Mnemonic]	Response Category	2021			2022			
		No Vol.	Vol.	P-Value	No Vol.	Vol.	P-Value	
Should divorce in this country be easier or more difficult to obtain than it is now? [DIVLAWV]	Easier More difficult **Stay as is**	66.0 32.9 **1.1**	38.2 17.4 **44.4**	***	58.7 26.4 **14.9**	33.2 12.7 **54.2**	***	Non-committal
Do you think most people would try to take advantage of you if they got a chance, or would they try to be fair? [FAIRV]	Would take advantage Would try to be fair **It depends**	48.0 51.8 **0.3**	21.6 38.4 **39.9**	***	48.2 44.6 **7.2**	26.7 29.9 **43.3**	***	
Some people say that people get ahead by their own hard work; others say that lucky breaks or help from other people are more important. Which do you think is most important? [GETAHEADV]	Hard work most important **Equally important** Luck more important	74.5 **1.9** 23.6	50.4 **42.3** 7.2	***	63.1 **21.5** 15.4	49.9 **43.8** 6.2	***	
Would you say that most of the time people try to be helpful, or that they are mostly just looking out for themselves? [HELPFULV]	Try to be helpful Looking out for themselves **It depends**	53.3 46.2 **0.5**	31.5 26.1 **42.3**	***	44.9 45.7 **9.4**	25.8 29.3 **44.9**	***	
… One law says that a homeowner can decide whom to sell their house to, even if that homeowner prefers not to sell to someone because of their race or color. The second law says that a homeowner cannot refuse to sell to someone because of their race or color. Which law would you vote for? [RACOPENV/Y]	First law Second law **Neither**	18.8 80.8 **0.3**	11.0 73.5 **15.6**	***	18.0 82.0 **0.0**	11.0 79.1 **9.9**	***	
Would you call yourself a strong (religious preference) or a not very strong (religious preference)? [RELITENV]	Strong Not very strong **Somewhat strong** No religion	[a] [a] [a] [a]	[a] [a] [a] [a]	[a]	33.9 32.2 **7.3** 26.7	23.4 29.2 **16.2** 31.2	***	
Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people? [TRUSTV]	Can trust Can't be too careful **It depends**	37.7 62.1 **0.2**	19.1 45.0 **35.9**	***	27.4 65.6 **6.9**	16.2 44.7 **39.2**	***	

Abbreviated Questions [Mnemonic]	Response Category	2021			2022			
		No Vol.	Vol.	P-Value	No Vol.	Vol.	P-Value	
What do you think the chances are these days that a woman won't get a job or promotion while an equally or less qualified man gets one instead. Is this…? [DISCAFFWV]	Very likely Somewhat likely Not very likely Very unlikely Don't know	20.1 45.2 26.7 7.9 0.0	23.5 41.8 19.6 10.1 5.0	***	25.4 42.7 21.0 8.0 2.9	18.6 41.3 22.3 10.5 7.3	*	Non-attitudes
Please indicate if you agree or disagree with this statement: Most men are better suited emotionally for politics than are most women. [FEPOLV]	Agree Disagree Don't know	13.7 86.0 0.3	11.6 77.1 11.3	***	13.5 81.7 4.8	7.4 78.3 14.3	***	
Do you think the use of marijuana should be made legal or not? [GRASSV]	Should be legal Should not be legal No opinion	73.6 26.0 0.4	60.8 20.0 19.2	***	69.7 25.6 4.6	62.6 21.6 15.9	***	
Do you believe there is a life after death? [POSTLIFEV]	Yes No Don't know	72.6 26.5 0.9	58.2 17.6 24.2	***	70.3 18.9 10.8	59.0 14.8 26.1	***	
The United States Supreme Court has ruled that no state or local government may require the reading of the Lord's Prayer or Bible verses in public schools. Do you approve or disapprove of the court ruling? [PRAYERV]	Approve Disapprove No opinion	64.4 35.2 0.4	58.5 35.2 6.3	***	55.1 40.6 4.3	51.8 30.0 18.2	***	
Do you expect the U.S. to fight in another world war within the next ten years? [USWARYV]	Yes No Don't know	40.9 58.2 0.9	32.1 50.6 17.3	***	55.3 38.1 6.6	47.0 32.4 20.6	***	
Which of these statements comes closest to describing your feelings about the Bible? [BIBLEV]	Word of God Inspired word Ancient book Something else/Other	22.5 46.7 30.6 0.2	23.3 38.3 28.2 10.2	***	27.9 44.8 26.2 1.1	17.5 46.5 25.8 10.2	***	Other
When your children are at the age you are now, do you think their standard of living will be much better, somewhat better, about the same, somewhat worse, or much worse than yours is now? [KIDSSOLV]	Much better Somewhat better About the same Somewhat worse Much worse No children	24.4 28.9 24.0 15.8 6.2 0.7	21.3 28.0 19.8 13.0 5.5 12.3	***	26.1 25.0 19.1 15.3 7.8 6.6	18.0 25.7 19.9 16.9 8.5 10.9		Factual

Abbreviated Questions [Mnemonic]	Response Category	2021			2022			
		No Vol.	Vol.	P-Value	No Vol.	Vol.	P-Value	
Now we would like to ask you about U.S. citizenship. Are you… [USCITZNV]	A U.S. citizen	64.9	60.4		58.5	47.2		Factual
	Not a U.S. citizen	35.1	38.3		38.1	48.9		
	A U.S. citizen born in Puerto Rico, the U.S. Virgin Islands, or the northern Marianas Islands	**0.0**	**0.5**		**1.0**	**0.8**		
	Born outside of the U.S. to parents who were U.S. citizens	**0.0**	**0.8**		**2.4**	**3.0**		
Are you… for U.S. citizenship? [FUCITZNV]	Currently applying	23.8	8.6		12.5	10.1		
	Planning to apply	54.9	56.5		46.5	51.5		
	Not planning to apply	21.3	21.8	***	32.7	10.8	*	
	Not eligible to become a U.S. citizen	**0.0**	**13.1**		**8.3**	**27.7**		

Note: The "No Vol." column indicates that no additional response was shown to the respondents on the web or during an in-person or phone interview. The "Vol." column are the experimental variables with a volunteered response option. Volunteered responses are denoted in bold. Weighted proportions estimated using WTSSNRPS.
*p < .05; **p < .01; ***p < .001. A Bonferroni adjustment for multiple comparisons (38 comparisons) for p = 0.05 is 0.0013.
^ In 2022, volunteer answers exist in the "No Vol." category because they have traditionally been received as an option during face-to-face and phone interviews, as such, the control and non-volunteered options combined are shown above. These responses are not shown or read aloud to respondents.

Exhibit 3. GSS 2022 Volunteered Responses Comparing Those Who Did or Did Not Receive an Explicit Volunteered Response Option.



Note: Non-volunteered includes in-person, telephone, and -NV web versions. Weighted proportions using WTSSNRPS.

Volunteered Response Experiments Compared to 2018

Having established the impact of volunteered responses, we compare 2021 and 2022 experiment-year responses to 2018. To address our fourth research question as to whether the grid and volunteered response experiments significantly alter estimates to the previous survey round, we selected four volunteer variables to illustrate comparisons between averaged responses from 2018, 2022 in-person and telephone responses (2021 was administered as web), 2021 and 2022 control responses, with 2021 and 2022 experiment responses.

In the comparison of the volunteered response experiment, we choose four variables each of the volunteered response categories: non-committal, non-attitude, other, and factual. Exhibits 4-7 show comparisons from 2018 to the 2021-2022 averages of the control and volunteered response experiment. Because the experiment was administered on the web, the in-person (F2F) and telephone (CATI) proportions for 2022 are also shown,[4] which represents the base variable (i.e., TRUST) and not part of the volunteered response experiment (i.e., TRUSTNV and TRUSTV). In these instances, as with the 2018 GSS, respondents could report the additional response to the interviewer.

[4] The 2021 GSS was not administered in-person.

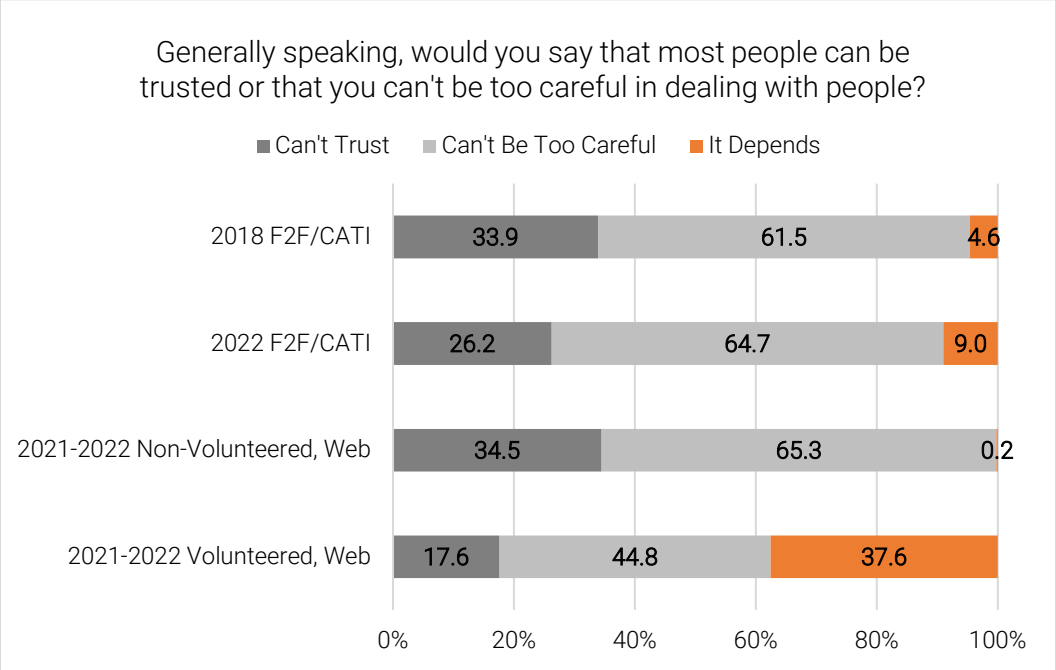
First, we select a volunteer example that represents a non-committal volunteered response. Exhibit 4 (TRUST) has the additional response of "It depends" when asked about trusting others (TRUST). In this example, the 2018 and 2022 in-person and telephone fielding are much smaller (4.6% and 9.0%) than the provided volunteered response in the experiment (37.6%).

Next, we select an example of a non-attitudinal response. Exhibit 5 (GRASS) has the additional response of "No opinion" when asked about marijuana legalization (GRASS). In this example, the 2018 and 2022 in-person and telephone fielding are much smaller (6.9% and 6.2%) than the provided volunteered response in the experiment (17.5%).

Exhibit 6 represents an example with an "other" volunteered response that is not non-committal, non-attitudinal, or factual. When asked about the Bible (Exhibit 6 BIBLE), respondents have provided the response "Something else/Other" in 2018 (1.7%), decreasing slightly in 2022 (1.5%), but increasing when explicitly shown as a response option in the experiment (10.2%).

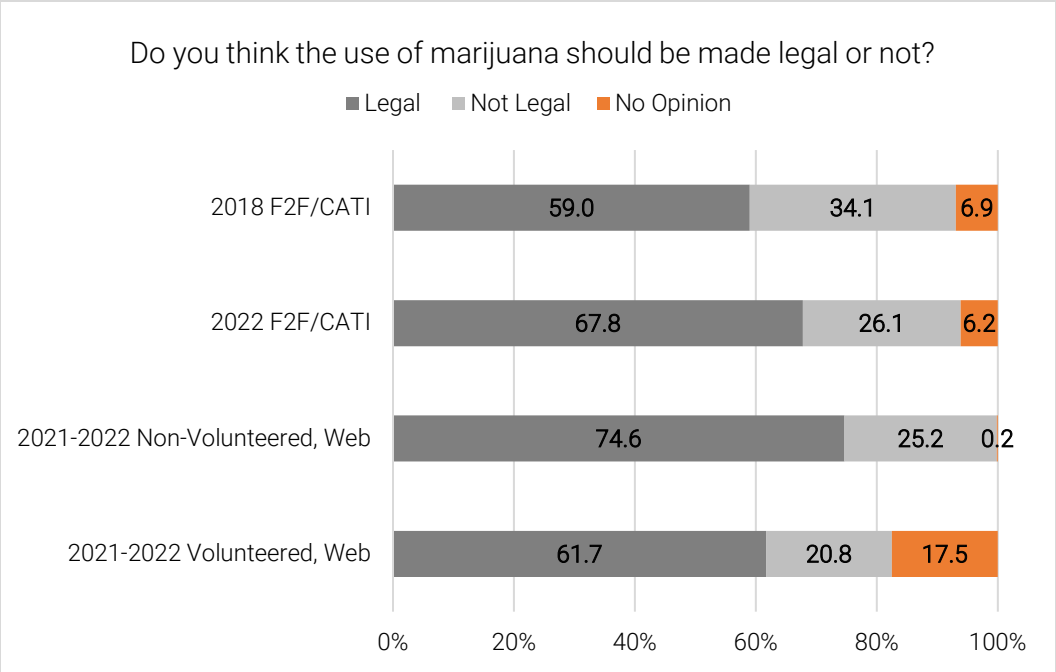
Last, for the factual response example (Exhibit 7 FUCITZN), responses are similar in 2018 and in the 2022 in-person and telephone fielding (11.3% and 11.0%).

Exhibit 4. Comparison of Variable TRUST.



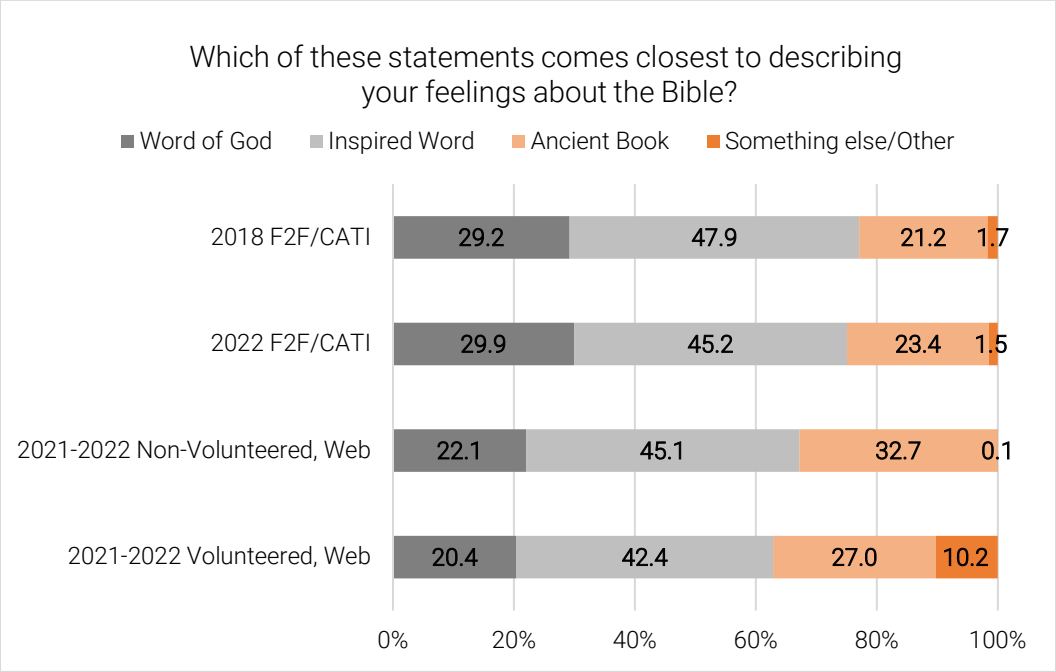
Note: Weighted proportions estimated using WTSSNRPS.

Exhibit 5. Comparison of Variable GRASS.



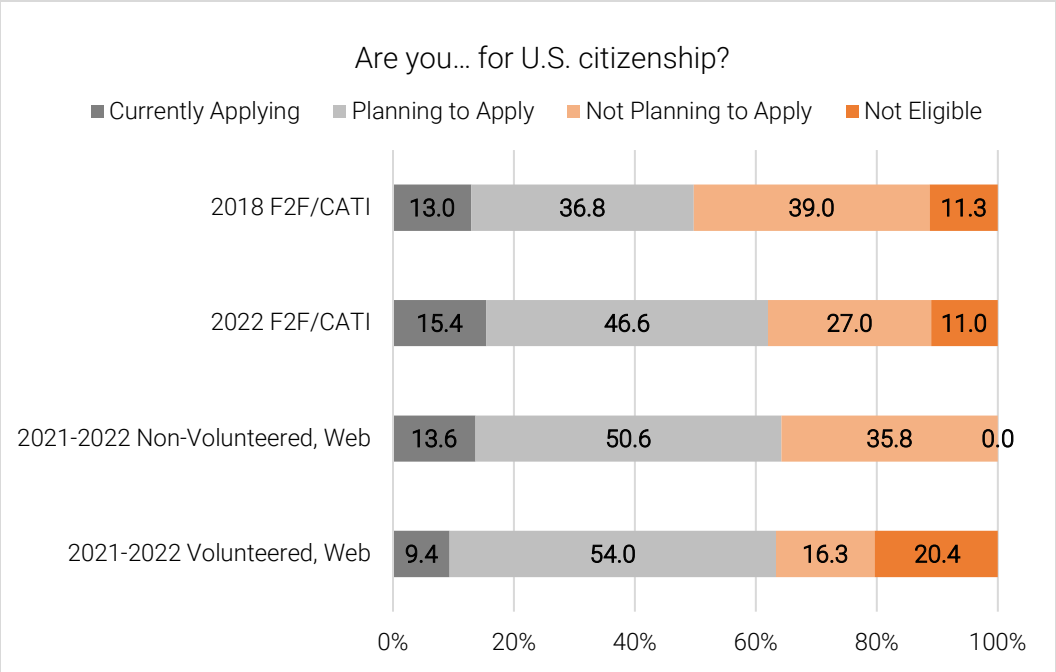
Note: Weighted proportions estimated using WTSSNRPS.

Exhibit 6. Comparison of Variable BIBLE.



Note: Weighted proportions estimated using WTSSNRPS.

Exhibit 7. Comparison of Variable FUCITZN.



Note: Weighted proportions estimated using WTSSNRPS.

Overall, the experimental volunteered option reports a higher proportion in 2021-2022 than in the in-person option and in 2018. This finding suggests that respondents are more likely to choose the additional response option when it is shown to them than volunteering it to an interviewer without prompting. Moreover, the 2022 in-person and telephone responses are similar to 2018, but notable differences do emerge on the web based on whether the volunteered response option is present or not.

Probability of Volunteered Response by Demographic Characteristics

Due to the experimental nature and varying proportions (ranging 0.8%-62.8%, see Exhibit 3) of the volunteered responses, we conducted logistic regression analyses to determine what demographics characteristics are more likely to predict a volunteered response when the volunteered response is explicitly offered. Table A1 (see Appendix) shows the odds ratios of choosing the volunteered option for the volunteered response experiment variables, for web cases only.

Overall, we do not see a consistent pattern across demographic groups having higher rates of volunteered responses. More than half of the variables considered have at least one significant predictor of providing a volunteered response, with eight of the nineteen variables having no significant predictors. This suggests that the choice to use the volunteered option is question specific.

Examining these variables individually supports that some significant demographic predictors may be directly related to the topic itself. For example, male respondents are 2.3 times as likely as female respondents to choose "Don't know" when asked if men were more suited than women in politics (FEPOLV). Divorced, separated, and never married respondents are all less likely than married respondents to choose "Stay as is" regarding divorce laws (DIVLAWV). Never married respondents are 7.4 times as likely to choose having "No children" when asked about their children's standard of living (KIDSSOLV). These examples provide direct ties from the question to the demographic characteristic. Other significant predictors suggest more indirect relationships (e.g., Black respondents more likely to choose "No opinion" when asked if marijuana should be made legal).

DISCUSSION

This report has examined how different measurement approaches impact response to a web questionnaire for a historically interviewer-administered survey. Our experiment looked at 1) the use of a grid for multiple items measuring different dimensions of a single construct and 2) the inclusion of volunteered response options that captures non-committal, factual, and other responses on certain factual and attitudinal questions. In sum, analyses show that while grid experiments show few significant differences between the control and experimental conditions, significant differences appear across the volunteered response experiment on web.

Regarding the grid experiment, we did not find many significant differences for web cases, finding little support of differences for research question 1. The lack of any major differences may be due to the design of the grids. Abortion items were only limited to three items in a grid (for a total of two grids and single item question) and the suicide item grid contained all four items. These grids are short compared to many web grids and only use Yes/No responses instead of multi-item scales with Likert-style responses, which may be less prone to satisficing (Couper et al. 2013). However, when correcting for multiple comparisons, none of these significant differences remain suggesting that these simplified grids make little difference in terms of measurement.

Comparing the 2018 and 2021-2022 results (research question 2), we find mixed results across the two experiment sets. The suicide variables and most of the abortion variables are generally consistent with recent years in spite of the grid experiment, but the remaining abortion variables seem to deviate in larger than expected ways from recent trends (e.g., ABNOMORE, ABPOOR, ABSINGLE).

The volunteered response experiment found significant differences for nearly every item examined for both years when considering only web as well as all modes affirming research questions 3 and 3a. The size of these volunteered responses ranged from single digits to over 60 percentage points showing a tremendously wide range of use dependent on the individual items themselves. Based on response type, volunteer non-committal responses appear to have the highest responses followed by non-attitudinal responses, and volunteer factual and other responses appearing on the lower end. Considering the impact of the volunteered response experiments compared to 2018 (research question 4), the increased use of the volunteered category by respondents disrupts some trends while the lack of a volunteered category on the web leads to disruptions in the other direction.

Finally, when considering who utilizes volunteered responses on the web (research question 5), we found there were no consistent demographic predictors for providing a volunteered response, though certain demographics were predictive on a variable-by-variable basis offering some support of our second research question. Demographic characteristics correlated with the construct (e.g., respondent sex and the role of women in politics; marital status and the ease of obtaining a divorce) were repeatedly observed.

Given this analysis of the 2021 and 2022 data, we feel assured that the combination of the non-gridded and gridded versions (e.g., ABANY, ABANYG) for the abortion and suicide items is reasonable for analytic purposes and should have minimal impact on findings. For future GSS cross-sections, the continued use of grids on the web may serve to decrease web response times (e.g., Couper et al. 2013) and reduce question order effects (Stefkovics et al. 2022); however, other aspects need to be carefully considered such as comparability with previous GSS studies. We did not consider the impact of different device type (e.g., laptop, mobile device) in respect to the grid experiment and future work should examine if there is a differential impact of the grids for completing the survey on mobile devices (e.g., Stern et al. 2016; Mavletova et al. 2017). However, the use of grids does increase programming complexity and further disrupts measurement equivalency across modes. Simplicity in data harmonization, comparability, and a desire to reduce total survey error may suggest not including grids in future GSS cycles.

The guidance regarding an analytic approach for the volunteered experiments is less clear. The inclusion of either the volunteer or non-volunteer versions or both with the face-to-face and telephone will shift distributions for many variables. While the combination of the two web versions may produce a similar distribution for a single response category, this is unlikely to be true for all categories. Therefore, we recommend extreme caution when analyzing combined responses for the variables used for the experiment.

The implications for including the volunteered responses have far reaching impacts for the GSS moving forward. The similarities between the response distributions for the volunteer condition in web and interviewer-administered modes for factual questions (i.e., USCITZN, FUCITZN) and factual responses (i.e., "No children" for KIDSSOL) showcase that providing these volunteered responses are necessary in the web mode. However, including volunteered responses for attitudinal questions on the web dramatically increases their usage. Despite the potential for providing easy responses for less motivated respondents, many of these attitudinal volunteered responses get reasonable use in interviewer-administered modes (e.g., DIVLAW, GETAHEAD) suggesting that these unspoken categories are often common attitudes on these subjects and may warrant general inclusion. When we consider reducing measurement differences due to mode, having the volunteered response as a standard response offering across all modes may also be warranted. The 2024 GSS includes an experiment to further test the impact the inclusion of volunteered survey responses for a subset of items considered in this report.

As the GSS continues to adapt to the changing survey environment, these experiments and corresponding analyses help to ensure the GSS maintains its measurement quality. The experiments covered in this report provide GSS data users and researchers with a more thorough understanding of how questionnaire presentation on the web impacts observed trend shifts. These novel experiments highlight survey research in relation to measurement as an ongoing and important tool in sociological scholarship in light of ever-changing survey methodologies and cultural trends.

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APPENDIX

Table A1. Logistic Regression (Odds Ratios) of Volunteered Responses, Web Cases Only, GSS Years 2021-2022.

	Non-committal								
Variables	AGEDV	COURTSV	DIVLAWV	FAIRV	GETAHEADV	HELPFULV	RACOPENV/Y	RELITENV+	TRUSTV
Male	1.042	1.172	0.834	0.957	1.247	0.780	1.099	0.798	1.064
	(0.151)	(0.151)	(0.125)	(0.177)	(0.178)	(0.111)	(0.190)	(0.225)	(0.153)
Age	1.007	1.007	1.009*	0.994	1.007	0.997	1.005	1.005	0.997
	(0.005)	(0.004)	(0.004)	(0.005)	(0.005)	(0.004)	(0.006)	(0.008)	(0.004)
Race[a]									
Black	0.807	0.758	0.868	1.098	0.969	1.096	0.910	1.315	0.869
	(0.177)	(0.144)	(0.180)	(0.285)	(0.206)	(0.243)	(0.216)	(0.507)	(0.207)
Other	0.614	1.476	1.092	0.959	1.811*	0.836	1.003	2.131	0.798
	(0.163)	(0.354)	(0.277)	(0.344)	(0.430)	(0.221)	(0.326)	(1.194)	(0.207)
Education[b]									
High School	0.806	1.016	1.324	0.982	1.298	1.558	0.732	0.561	1.953
	(0.269)	(0.329)	(0.375)	(0.384)	(0.422)	(0.498)	(0.277)	(0.328)	(0.720)
Assoc./Junior College	0.638	1.470	1.454	1.023	1.222	1.400	0.654	0.545	3.169**
	(0.242)	(0.525)	(0.509)	(0.466)	(0.431)	(0.522)	(0.303)	(0.429)	(1.324)
Bachelor's	0.745	2.005*	1.611	0.985	1.910*	1.317	0.457*	0.732	2.808**
	(0.259)	(0.671)	(0.478)	(0.411)	(0.625)	(0.433)	(0.181)	(0.472)	(1.061)
Graduate	0.823	2.275*	1.327	1.326	2.516**	1.684	0.220***	0.575	3.662***
	(0.291)	(0.767)	(0.409)	(0.566)	(0.864)	(0.555)	(0.092)	(0.396)	(1.422)
Marital Status[c]									
Widowed	0.355**	0.808	0.908	0.899	1.462	0.715	0.427*	1.951	0.509
	(0.117)	(0.222)	(0.309)	(0.391)	(0.491)	(0.239)	(0.147)	(1.331)	(0.177)
Divorced	1.458	0.795	0.500***	0.956	1.259	1.153	1.126	1.584	1.103
	(0.315)	(0.131)	(0.088)	(0.246)	(0.239)	(0.220)	(0.262)	(0.561)	(0.214)
Separated	0.768	0.629	0.370*	0.460	0.489	0.497	0.463	2.795	0.515
	(0.355)	(0.260)	(0.157)	(0.355)	(0.208)	(0.265)	(0.255)	(2.439)	(0.317)
Never Married	0.947	1.043	0.595**	1.294	1.371	0.939	0.655	0.681	0.904
	(0.184)	(0.171)	(0.110)	(0.295)	(0.241)	(0.170)	(0.193)	(0.299)	(0.172)
Constant	1.703	0.225	0.661	0.943	0.291	0.757	0.271	0.242	0.332
	(0.702)	(0.093)	(0.239)	(0.437)	(0.117)	(0.301)	(0.138)	(0.203)	(0.145)
N	1,626	2,388	1,600	1,062	1,640	1,626	2,180	761	1,623

Table A1. Logistic Regression (Odds Ratios) of Volunteered Responses, Web Cases Only, GSS Years 2021-2022 (continued).

	Non-attitudes						Other
Variables	DISCAFFWV	FEPOLV	GRASSV	POSTLIFEV	PRAYERV	USWARYV	BIBLEV
Male	0.657	2.334***	1.350	0.985	1.336	0.542	0.961
	(0.236)	(0.539)	(0.246)	(0.127)	(0.300)	(0.208)	(0.183)
Age	1.000	0.996	1.009	1.003	1.004	0.997	0.987*
	(0.009)	(0.007)	(0.006)	(0.004)	(0.007)	(0.009)	(0.006)
Race[a]							
Black	1.181	1.444	1.765*	0.692	1.030	1.549	1.034
	(0.502)	(0.418)	(0.490)	(0.138)	(0.372)	(0.642)	(0.317)
Other	1.326	1.925*	1.212	0.923	0.902	1.333	1.399
	(0.760)	(0.632)	(0.362)	(0.231)	(0.369)	(0.586)	(0.415)
Education[b]							
High School	1.886	0.859	0.531	0.976	1.084	0.946	0.792
	(0.879)	(0.339)	(0.194)	(0.298)	(0.414)	(0.519)	(0.290)
Assoc./Junior College	1.027	0.924	0.458	1.215	1.111	1.302	0.698
	(0.809)	(0.498)	(0.187)	(0.411)	(0.595)	(0.877)	(0.312)
Bachelor's	0.503	0.347*	0.459	0.955	1.203	0.550	0.826
	(0.290)	(0.148)	(0.186)	(0.311)	(0.514)	(0.295)	(0.321)
Graduate	0.516	0.381*	0.509	0.852	0.669	0.383	0.725
	(0.320)	(0.177)	(0.200)	(0.289)	(0.284)	(0.236)	(0.288)
Marital Status[c]							
Widowed	1.862	1.228	0.621	0.942	0.272*	0.518	0.759
	(0.938)	(0.694)	(0.227)	(0.310)	(0.161)	(0.499)	(0.391)
Divorced	1.231	1.379	0.759	1.147	0.825	0.983	0.815
	(0.571)	(0.469)	(0.196)	(0.205)	(0.286)	(0.418)	(0.247)
Separated	0.864	1.026	0.344	1.279	0.489	2.088	1.111
	(0.709)	(0.654)	(0.189)	(0.522)	(0.258)	(1.751)	(0.595)
Never Married	1.600	0.896	0.614*	1.569*	0.765	1.166	1.434
	(0.747)	(0.251)	(0.149)	(0.276)	(0.203)	(0.489)	(0.308)
Constant	0.0425	0.132	0.246	0.273	0.0837	0.350	0.214
	(0.029)	(0.064)	(0.117)	(0.108)	(0.045)	(0.271)	(0.105)
N	1,606	1,601	1,624	2,433	1,624	810	2,424

Table A1. Logistic Regression (Odds Ratios) of Volunteered Responses, Web Cases Only, GSS Years 2021-2022 (continued).

	Factual		
Variables	KIDSSOLV	USCITIZNV	FUCITIZNV
Male	1.096	3.253	0.173
	(0.232)	(4.357)	(0.223)
Age	1.017*	1.064	0.932
	(0.007)	(0.040)	(0.036)
Race[a]			
Black	0.376**	0.514	1
	(0.139)	(2.254)	(0)
Other	0.518	0.156	1.587
	(0.218)	(0.267)	(1.939)
Education[b]			
High School	0.953	1.126	0.048
	(0.467)	(2.948)	(0.110)
Assoc./Junior College	1.091	0.331	0.360
	(0.601)	(0.942)	(0.649)
Bachelor's	1.244	0.435	0.095
	(0.630)	(1.362)	(0.131)
Graduate	1.474	1	0.052
	(0.766)	(0)	(0.093)
Marital Status[c]			
Widowed	0.353	1	19.50
	(0.201)	(0)	(35.71)
Divorced	1.816	4.840	1
	(0.555)	(10.88)	(0)
Separated	0.522	40.82	1
	(0.347)	(139.4)	(0)
Never Married	7.395***	4.714	0.161
	(2.201)	(8.852)	(0.270)
Constant	0.028	0.0004	47.75
	(0.019)	(0.001)	(90.32)
N	1,624	201	90

Note: Odds ratio standard errors in parentheses. WTSSNRPS weight applied.
*p<0.05; **p<0.01; ***p<0.001
[a] Reference group: White race, [b] Reference group: Less than high school, [c] Reference group: Married. [+] GSS 2022 is the only year shown for RELITENV.