The General Social Survey

GSS

ASSIGNMENT ERROR BY BALLOT AND FORM

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SUMMARY: The General Social Survey (GSS) has six different versions of the survey questionnaire, which enables us to reduce respondent burden by asking some questions on only some versions, and also allows us to conduct question wording experimentation. An error occurred in how respondents were assigned to one of the six versions of the GSS questionnaire in 2002, 2010, 2012, 2016, and 2018 that resulted in demographic imbalances across questionnaire versions. Specifically, the error resulted in age and sex imbalances, where the mean age and proportion of males and females varies by questionnaire version. This error does not affect the representativeness of the overall sample in these years.

This report summarizes our preliminary analysis of the assignment error which indicates that overall impacts are relatively small. Based on our preliminary analysis, 53.7 percent of questions, on average across these years, are not affected and estimates are not impacted, including most of the core GSS time-series questions. Another 39.8 percent of questions are minimally affected, where the estimated impact is generally quite small and well within the margin of error. The impact of the error is mitigated for these questions because they are asked on multiple questionnaire versions, and the versions are routinely combined in analysis of the GSS data, thus moderating and in some cases self-correcting, the imbalances present for individual questionnaire versions. Only 6.4 percent of questions are potentially adversely affected, as they are asked on specific questionnaire versions that are most impacted by the assignment error, and the magnitude of the impact to these questions is still under investigation. NORC is evaluating possible weighting approaches and is planning to release a fuller summary of the analysis and updated survey weights in late Summer 2022 that are expected to correct for the potential imbalances introduced by the assignment error for the vast majority of questions.

Understanding the Error

BACKGROUND: This report uses data from 2018 to explain and illustrate the impact of the assignment error. There are six alternative versions of the GSS questionnaire in 2018 as shown

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Exhibit 1: Six GSS Questionnaires

Ballot A Form X	Ballot A Form Y
Ballot B Form X	Ballot B Form Y
Ballot C Form X	Ballot C Form Y

in Exhibit 1 (the other affected years have a similar configuration). There are three ballots (Ballots A, B, and C) where some questions are asked on two ballots (and sometimes one) so that not all questions are asked of the full sample to help reduce respondent burden. There are also two forms (Form X and Y), which are used to conduct experimental research (e.g., testing different wording of questions), and these are usually included as a small subset of questions.

The GSS selects an adult in the household to complete the survey interview. This selection process ensures that the probability sample design is extended to selecting a respondent within the household, where each eligible respondent has a known, nonzero chance of being selected for the survey. To do this, the age and sex for all adults in the household are collected and ranked from oldest to youngest, and then one of the adults is selected to complete the survey using a systematic sampling approach with a random start.

DESCRIPTION OF THE ERROR: GSS users identified a sex imbalance by form in historical data in late 2021. The NORC team investigated this imbalance and verified that an error occurred in how respondents were assigned to one of the six versions of the GSS questionnaire. Assignment of one of the six versions of the questionnaire to the selected respondent (in households with multiple eligible respondents) was determined by the age order of adults in the household from the respondent selection process (e.g., the oldest adult in a 2-person household was systematically assigned one version of the questionnaire, instead of receiving a version randomly).

This assignment error caused an unintended relationship between age order of adults within household and the version of the questionnaire assigned for specific households in 2002, 2010, 2012, 2016, and 2018. It resulted in age and sex imbalances where the mean age and proportion of males and females varies for each ballot and form combination for the affected households. This is similar to the issue reported in Methodology Report No. 36 (Smith and Peterson, 1986). Quality check processes implemented to prevent the recurrence of this error were insufficient, and we have implemented additional quality checks to ensure the error does not occur in the future.

The impact of the error is limited to specific households. Respondents in 3-adult and 6-or-more-adult households received a ballot A, B, or C questionnaire based on relative age within the household. For example, in 3-adult households in 2018, the respondent received ballot B if they were the oldest adult in the household, ballot C if they were the youngest, and ballot A if they were in the middle—instead of receiving a ballot randomly. Likewise, respondents in 2-adult, 4-adult, and 6-or-more-adult households received a form X or Y questionnaire based on their relative age within the household—instead of receiving a form randomly. For example, in 2-adult households in 2018 the respondent received a form Y questionnaire if they were the older of the two adults or a form X questionnaire if they were the younger of the two adults (see Appendix A

for a table with the count of respondents assigned to each ballot and form by number of adults in the household and age rank for 2018).

SUMMARY OF IMPACT: Questions can be grouped into three types of potential impact. Below is a description of the three types, the average size of each group in the affected years, and a summary of the potential impact (see Appendix B for the number of and proportion of questions impacted each year).

- Questions that are ***not affected*.** This is 53.7 percent of questions on average (522 questions). There is no impact to estimates from the assignment error.
- Questions that are ***minimally affected.*** This is 39.8 percent of questions on average (378 questions). When impacts are present, they are generally small and well within the margin of error.
- Questions that are potentially ***adversely affected.*** This is only 6.4 percent of questions on average (61 questions). The magnitude of the impact for these questions is still under investigation.

This summary uses 2018 to further demonstrate the questions and households impacted. As shown in Exhibit 2, a total of 487 questions (45.9 percent) are ***not affected,*** including 482 questions asked on both form X and Y of all three ballots and 5 questions asked on all three ballots with different wording on form X and Y, but where the results are similar and are often combined for analysis.[2]

Exhibit 2: Summary of Questions and Potential Impact in 2018

	#/% of Questions	
	#	%
Not affected	487	45.9
Minimally affected	514	48.5
Potentially adversely affected	59	5.6
Total	**1,060**	**100.0**

Questions asked on at least two ballots and forms are ***minimally affected*** because the sex and age imbalances caused by the assignment error are mitigated when multiple versions of the questionnaire are combined. This is a total of 514 questions (48.5 percent), including 186 questions asked on both form X and Y of two ballots (A & B, A & C, or B & C) that only impact 10.9 percent of respondents who live in 3-adult and 6-or-more-adult households and were affected by the assignment error by ballot (see Exhibit 3 for a summary of households impacted by the error in 2018). Another 328 minimally affected questions are asked on at least two ballots and two forms in some combination (e.g., both form X and Y of one ballot and one form of another ballot), which are impacted by the 55.5 percent of respondents that live in 2-adult, 4-adult, and 6-or-more-adult households and were affected by the assignment error by form.

[2] These measures are: NATSPAC/NATSPACY, NATARMS/NATARMSY, NATFARE/NATFAREY, NATENVI/NATENVIY, POSSLQ/POSSLQY.

Exhibit 3: Households Impacted in 2018

	#/% of Respondents	
	#	%
Affected by assignment error by ballot (live in 3-adult or 6-or-more-adult households)	256	10.9
Affected by assignment error by form (live in 2-adult, 4-adult, or 6-or-more-adult households)	1,304	55.5
Affected by assignment error by ballot and form	1,558	66.4

The analytic impact of the assignment error is mitigated by the frequency with which questions appear on multiple ballots and forms, because questionnaires are often combined for analysis. When impacts are present, they are generally small and well within what is expected for typical margin of error. In addition, we expect that remaining sex and age imbalances can be further reduced through the use of new weights for most impacted questions.

Only 59 questions (5.6 percent) were potentially ***adversely affected*** by the error as they were asked on only one form or one ballot and are most likely to be impacted by the sex and age imbalances caused by the assignment error. The magnitude of the impact for these questions is still under investigation. This includes 10 questions asked on both forms on one ballot and impacts the 10.9 percent of households affected by the assignment error by ballot. Another 25 questions were asked on one form of all three ballots and affect the 55.5 percent of households impacted by the assignment error by form. The remaining 34 questions were asked on one form of either two ballots or one ballot and can affect 66.3 percent households who were impacted by the assignment error by ballot and form. See Appendix D for a summary of questions that are potentially adversely affected for each year. For adversely affected questions, users should consider testing each measure for associations with age, sex, and number of adults in household in unaffected years and examine trends of the measure over time, when possible, to explore the potential for impact in affected years.

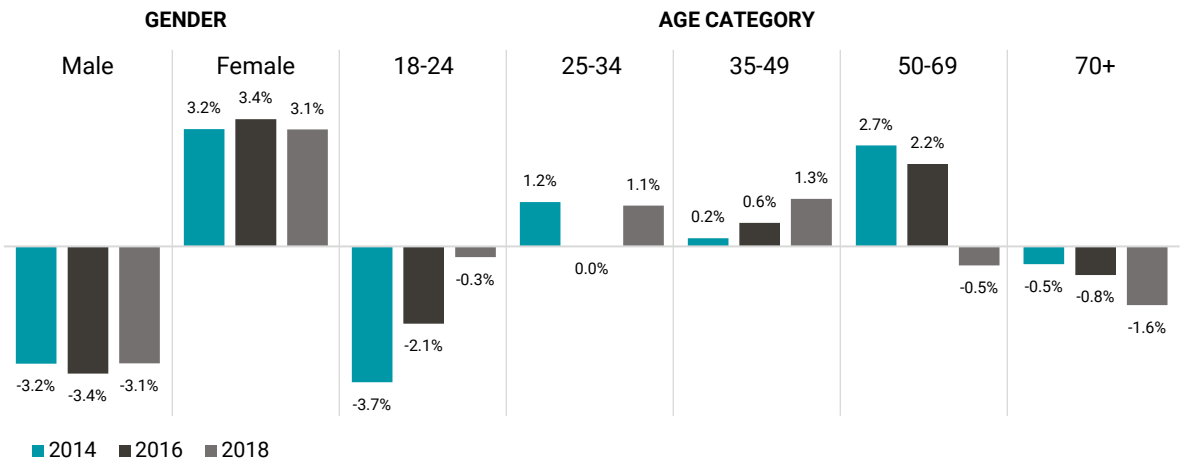
Analysis

OVERALL DEMOGRAPHICS: The GSS sample consists of a random sample of households and persons that are representative of households and people in the United States. This is confirmed by comparing the GSS sample for 2014, 2016, and 2018 to the corresponding one-year American Community Survey (ACS) estimates for adults 18 and older.

As is already well documented (Morgan 2020), the GSS overrepresents females and underrepresents males by about 3 percentage points; this issue is unrelated to the assignment error with ballot and form and is seen across all years of the GSS (see Exhibit 4). Indeed, the overall age distribution is similar and the GSS sample is closer to the ACS in 2016 and 2018 (affected years) than in 2014 (unaffected year), further demonstrating that the form and ballot assignment error is not impacting the overall age representation of the GSS sample. These

comparisons support the overall representativeness of the GSS samples, as they do not include poststratification to any control totals.

Exhibit 4: Differences Between GSS and ACS for Sex and Age 2014, 2016, and 2018



Note: Percentage point differences between GSS sample and corresponding one-year ACS estimates for adults 18+. Both ACS and GSS estimates are weighted; GSS weights do not include poststratification to control totals.

DEMOGRAPHICS FOR TWO-BALLOT COMBINATIONS: The sex and age distributions for the three different GSS ballot combinations (A & B, A & C, or B & C) are very similar to the sex and age distribution for the combined sample across all three ballots (A, B, and C). We do see some differences for the ballot combinations (e.g., there are fewer young adults ages 18–24 and more 70 and older adults on ballot A & B.) These differences are generally small and not statistically significant. This suggests that questions asked on any of these two ballot combinations should have little or no impact from the sex and age imbalances caused by the assignment error, and any impacts would be well within the margin of error (see Exhibit 5).

Exhibit 5: Sex and Age Distribution for GSS Total Sample and Two-Ballot Combinations in 2018

	Total	Two-Ballot Combination		
		A & B	A & C	B & C
Sex				
Male	45.5%	45.4%	45.1%	46.1%
Female	54.5%	54.6%	54.9%	53.9%
Age				
18–24	11.8%	8.8%	13.3%	13.2%
25–34	19.0%	18.1%	20.1%	18.7%
35–49	25.8%	25.9%	26.3%	25.2%
50–69	31.1%	32.6%	29.1%	31.7%
70+	12.3%	14.6%	11.2%	11.2%

Note: GSS estimates are weighted; GSS weights do not include poststratification to control totals.

DEMOGRAPHICS BY BALLOT AND FORM: There are significant differences by sex and age when comparing the three individual ballots and the two individual forms. There are significant demographic differences among ballots A, B, and C. In some years, the sex and age distributions are somewhat different, with more significant differences in the affected years than in unaffected years and for affected years, differences are isolated to the households impacted by the error. As a result, there are significant sex and age differences by ballot for 3-adult households. For example, among 3-adult households in 2018, ballot A had more females than ballots B or C (64.4 percent vs. 46.1 percent and 43.6 percent, respectively) as this ballot was most likely to be assigned to the second-oldest adult in the household, who is more often female. The average age was also different, with the oldest mean age on ballot B (55.7), followed by ballot A (46.5), and lowest on ballot C (28.8), as this ballot was more likely to be assigned to the youngest adult in the household.

Our analysis indicates that there are statistically significant demographic differences between form X and Y for sex in four of the five affected years and for age in three of the five affected years (and no significant differences in unaffected years). These overall differences are driven by the sex and age differences among 2-adult households caused by the form assignment error. In 2018 among 2-adult households, females were more likely to be assigned form X than form Y since this ballot was most likely to be assigned to the second-oldest adult in the household, who is more often female (68.8 percent vs. 38.3 percent). The mean age was significantly lower for form X than form Y (44.7 vs. 51.2) since it was assigned to the younger of the two adults and form Y was assigned to the older of the two adults in the household.

The sex and age imbalances occur in all the years affected by the assignment error, but they present differently in some of the affected years. Among the ballots, the highest mean age is seen on ballot B in 2002 and 2018 but on ballot C in 2010 and 2012 and ballot A in 2016. A greater proportion of females is seen on ballot C in 2002, 2012, and 2016 but on ballot A in 2010 and 2018. Among the forms, 2002, 2012, 2016, and 2018 all follow the same pattern shown above with form X having a higher proportion of females and a lower mean age, but in 2010 form Y had a higher proportion of females and a lower mean age.

Attitude and Opinion Trends

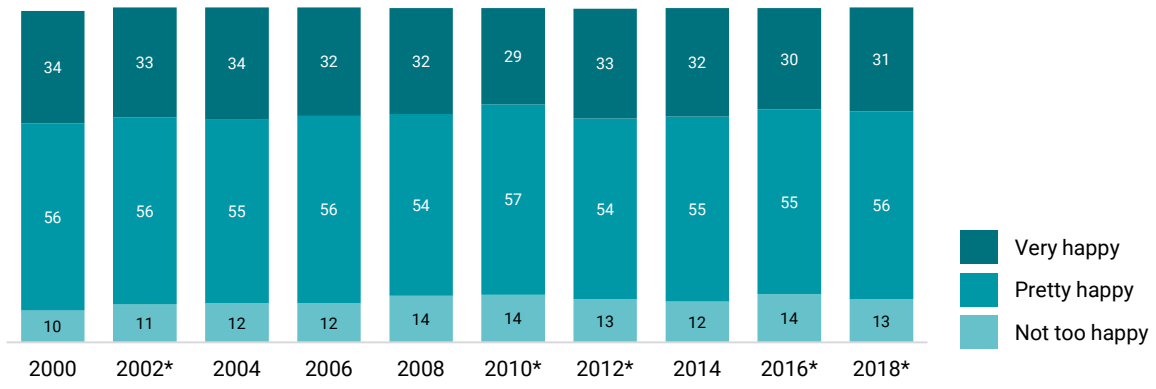
The following section provides examples from our preliminary analysis of key questions asked on different form and ballot combinations to help illustrate what we found. The following questions were selected for this initial analysis because they appear on specific ballot and form combinations, are part of the GSS key trends, and cover multiple attitude areas: HAPPY (general happiness), FECHLD (mother working doesn't hurt children), ABANY (abortion if woman wants for any reason), FEPOL (women not suited for politics), NATFARE (spending too much/too little on welfare), NATFAREY (spending too much/too little on assistance to the poor), FEJOB (for or against preferential hiring of women), FEHIRE (should hire and promote women), DISCAFFM (a man won't get a job or promotion), DISCAFFW (a woman won't get a job or promotion), and

USWARY (expect US in war within 10 years). See Appendix C for the specific question wording and ballot/form combinations.

> For all the trends shown, * indicates years affected by the assignment error. Percentages do not add to 100% due to rounding and since "Don't know" categories are not presented.

QUESTIONS ASKED ON ALL SIX QUESTIONNAIRES: Trends and basic relationships for the core GSS time-series questions that are asked on all three ballots and both forms are not impacted by the assignment error. For example, general happiness, which has been asked on all three ballots and both forms from 2000 to 2018, is very stable and shows no differences in years affected by the assignment error (2002, 2010, 2012, 2016, and 2018) and unaffected years (2000, 2004, 2006, 2008, and 2014) (see Exhibit 6). Similarly, there is very little difference by sex across the period, including affected and unaffected years.

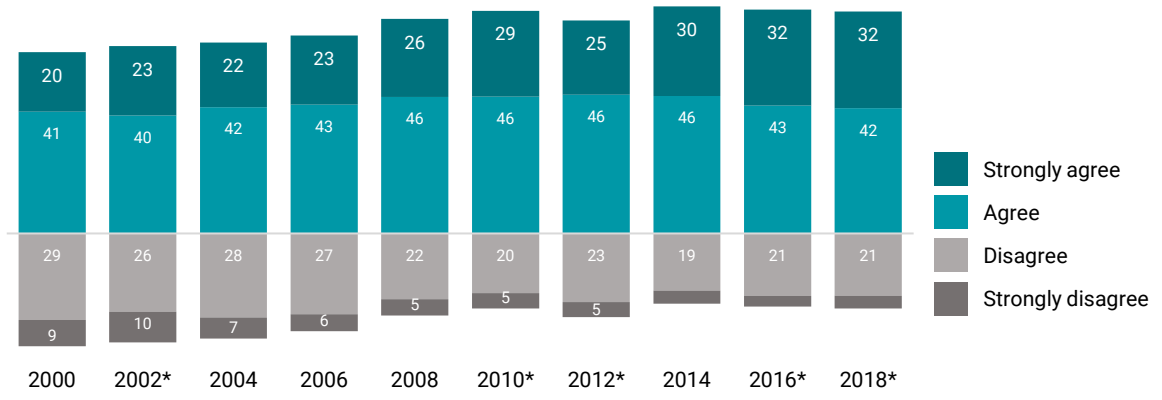
Exhibit 6: General Happiness, 2000–2018 (%)



QUESTIONS ASKED ON FOUR QUESTIONNAIRES: Our analysis further shows that questions asked on two of the ballots and both forms are only ***minimally impacted***, and when there is impact, the magnitude of the bias still falls within the typical margin of error for those questions. Basic relationships between demographics and key opinion, attitude, and socioeconomic variables are similar across years, even for questions that would be more likely to be impacted by the sex imbalance caused by the assignment error. For example, we examined a series of questions that appear on both forms of ballots A and B around sex and family, and these trends show little impact associated with the assignment error.

Specifically, the proportion who strongly agree that a working mother can establish just as warm and secure a relationship with her children as a mother who does not work has slowly grown in recent years. This growth started in 2008, a year unaffected by the assignment error (see Exhibit 7). Further, an increasing share of males and females strongly agree with this statement, and females continue to say strongly agree at a higher rate than males during affected and unaffected years.

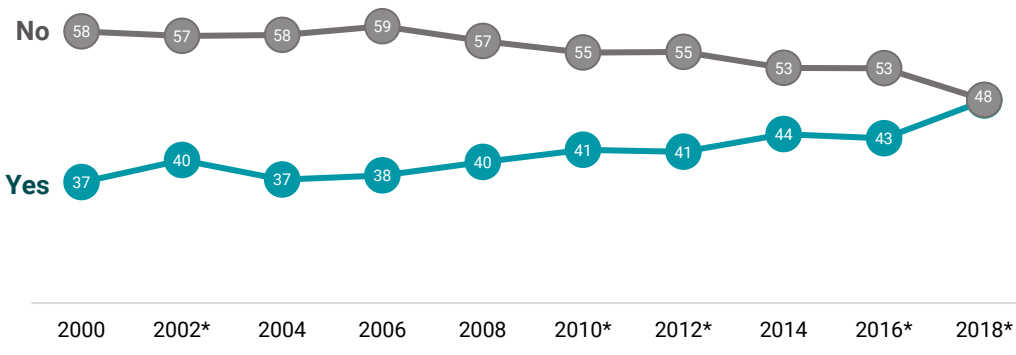
Exhibit 7: Working Mother Can Establish Just as Warm and Secure Relationship with Child as Nonworking Mother, 2000–2018(%)



Data labels for proportions less than 5% are not shown.

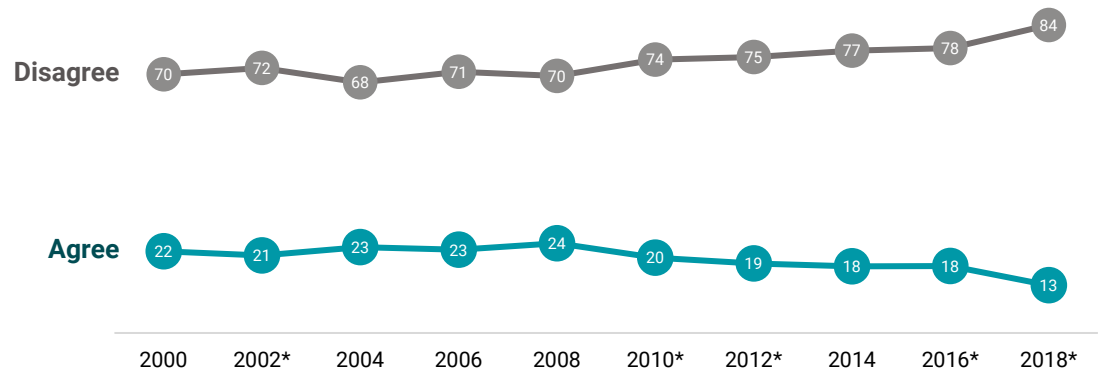
Questions about abortion that appear on both forms of ballots A and C also show little impact from the assignment error. The percent saying it should be possible for a woman to obtain a legal abortion if the woman wants it for any reason has slowly increased in recent years but does not appear to be related to the timing of the assignment error, and there is very little difference by sex across the period, including affected and unaffected years—further indicating any ballot imbalances did not significantly impact the estimates (see Exhibit 8).

Exhibit 8: Support Abortion for Any Reason, 2000–2018



QUESTIONS ASKED ON THREE QUESTIONNAIRES: Many of the ***minimally impacted*** questions are asked on three versions of the questionnaire, both forms of one ballot and one form of another ballot (e.g., form X and Y of ballot A and form X of ballot B). The impact of the assignment error is mitigated for these questions by being asked on more than one ballot and form. For example, the proportion has slowly grown in recent years of people who disagree that most men are better suited emotionally for politics than most women. This trend started in 2008, a year unaffected by the assignment error (Exhibit 9). There are very few differences by sex for this question from 2000–2018, in both affected and unaffected years.

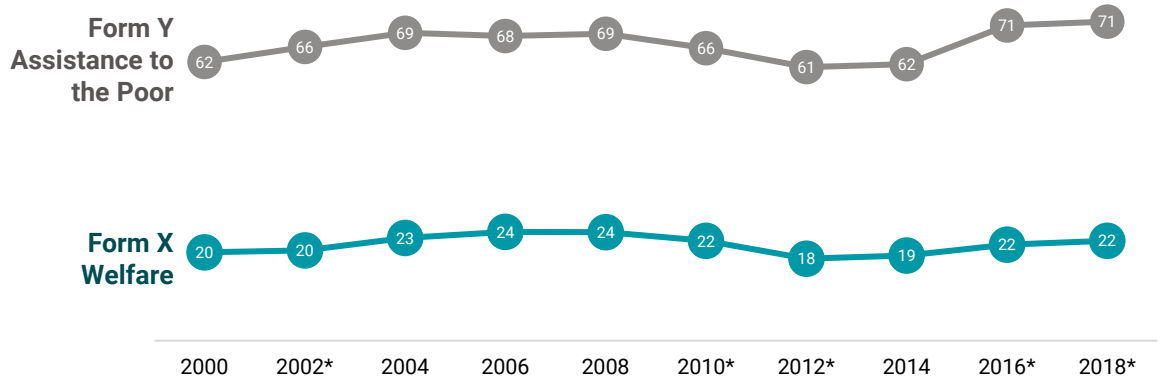
Exhibit 9: Most Men Better Suited Emotionally for Politics than Most Women, 2000–2018



Some of the questions asked on three of the questionnaires are asked on only one form on all three ballots to test question wording differences, including several questions from the national spending priorities list where respondents are asked whether we are spending too much money, too little money, or about the right amount on a variety of problems facing the country today. In this series, 11 of the 18 items test different wordings on form X and form Y (using data year 2018 to be illustrative).

For example, form X asks about "welfare" whereas form Y asks about "assistance to the poor," and far more say we are spending too little when asked about assistance to the poor vs. welfare (71 percent vs. 22 percent in 2018, see Exhibit 10). This question wording difference has produced a large and statistically significant difference (ranging from a 44- to 50-percentage-point difference) across this entire period, in years affected by the assignment error and in unaffected years, indicating that the assignment error does not impact the general finding that these question wordings produce differences.

Exhibit 10: Spending Too Little on Welfare/Assistance to the Poor, 2000–2018



QUESTIONS ASKED ON TWO QUESTIONNAIRES: There are two questions that have been typically asked in two ballots (A and B) but only in one form within the ballot and have the potential to be ***adversely affected***. These questions relate to women in the workforce. The question asking about preferential hiring of women shows a relatively stable trend with similar proportions saying they are "Strongly for" and "For" across affected and unaffected years (Exhibit 11). The biggest contrast is when comparing 2018 to 2004, with more people supportive for preferential treatment for women in 2018, which is consistent with trends on similar questions. Similarly, a question measuring agreement with the statement "Because of past discrimination, employers should make special efforts to hire and promote qualified women" has been relatively stable over time, with variations occurring within the margin of error (see Exhibit 12).

Exhibit 11: Women Should Be Given Preference in Hiring and Promotion, 2004–2018

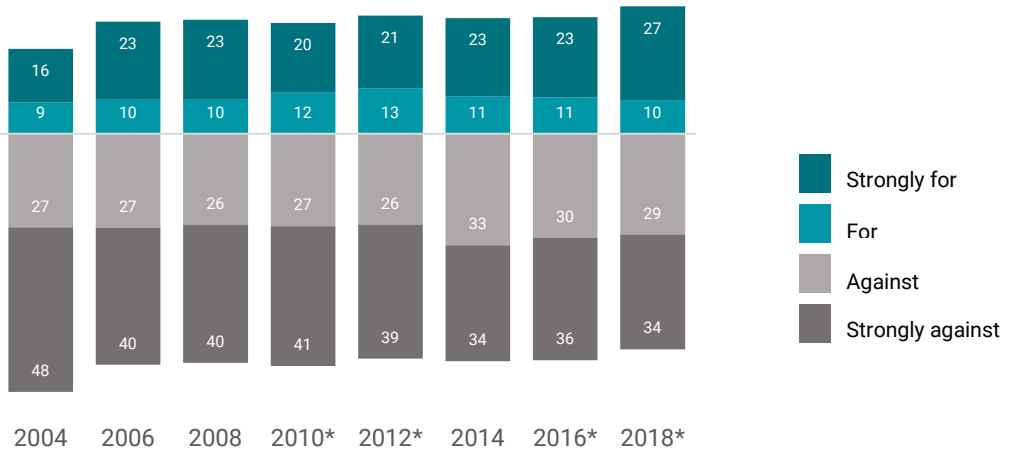
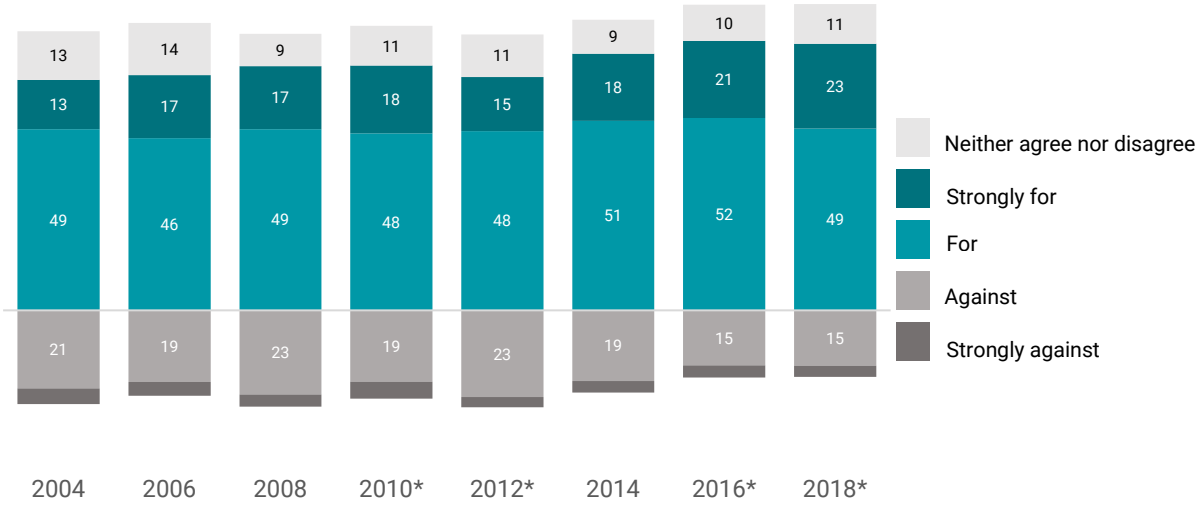


Exhibit 12: Should Hire and Promote Qualified Women 2004–2018

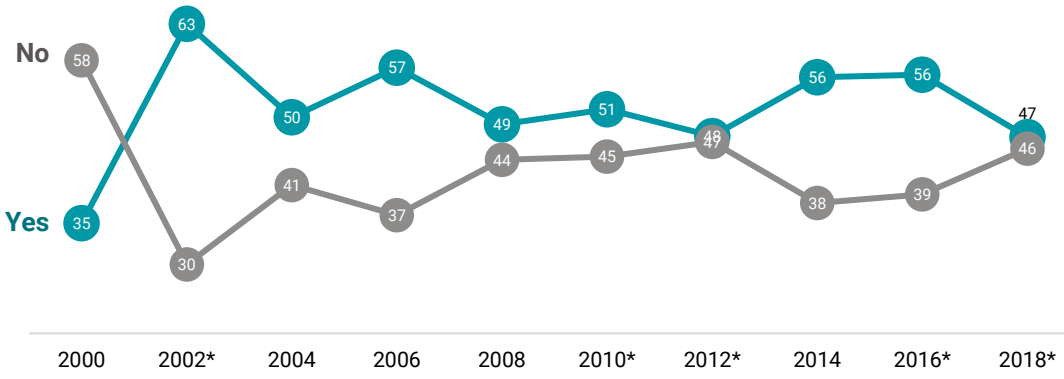


Data labels for proportions less than 5% are not shown.

Another question asked on only two questionnaires is whether you expect the United States to fight in another world war within the next 10 years; it has generally been asked on both forms of one ballot (Exhibit 13). It is harder to ascertain whether this question has been impacted since the proportion has changed over time and those changes appear to correlate with key events (e.g., 9/11 terrorist attacks, Arab Spring). Our analysis does find similar proportions in affected and unaffected years (e.g., 2014 and 2016, 2008 and 2010).

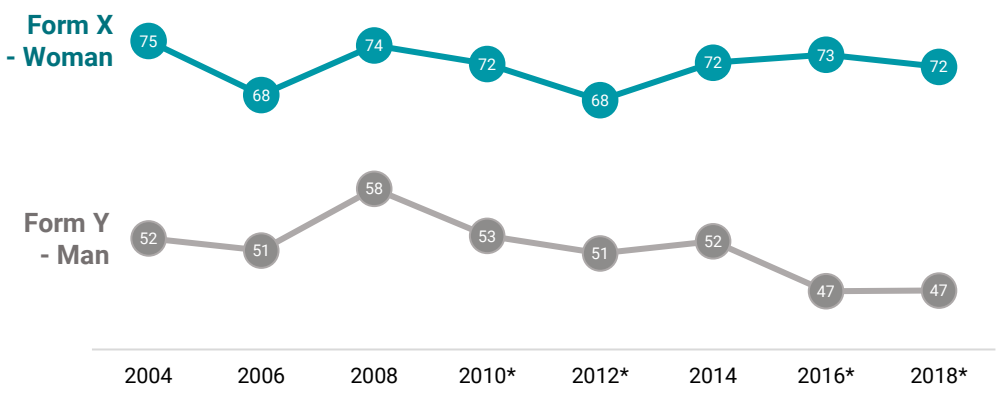
There are two questions asked on either form X or Y of ballots A and B; one asks what are the chances that “a woman won’t get a job or promotion while an equally or less qualified man gets one instead,” and the other asks, what are the chances that “a man won’t get a job or promotion

Exhibit 13: Expect United States in World War in 10 years, 2000–2018



while an equally or less qualified woman gets one instead." The proportion saying very or somewhat likely for each has been relatively stable over time, and the gap has generally remained consistent from 2004, although starting in 2016 somewhat fewer report that a man will not get a job or promotion while an equally qualified woman would instead (see Exhibit 14). This finding could be due to a true change or the demographic imbalances by form as a result of the form assignment error.

Exhibit 14: Very or Somewhat Likely for Man/Woman Will Not Get a Job or Promotion, 2004–2018



Discussion and Next Steps

To review, based on our preliminary analysis, 53.7 percent of questions are not affected, on average across these years, including most of the core GSS time-series questions. Another 39.8 percent of questions are minimally affected, where the estimated impact is generally quite small and well within the margin of error. The impact of the error is mitigated for these questions because they are asked on multiple questionnaire versions, and the versions are routinely combined in analysis of the GSS data. Further, we anticipate that remaining sex and age imbalances for these measures can be further reduced through new weights. Only 6.4 percent of questions are likely to be adversely affected as they are asked on specific questionnaire versions (one ballot or one form) and are most impacted by the assignment error.

If users are doing an analysis of form or ballot differences, they should examine for associations with age, sex, and number of adults in household in unaffected years and where feasible examine trends of the measure over time to explore the potential for impact in affected years. Data users should continue to use current weights in their analyses as appropriate (see GSS Codebook 2019, Appendix A: Sampling and Weighting), as was done for these analyses. Similarly, users who conduct multivariable analyses could examine sex and age in their models. Users who conduct analyses of subgroups particularly impacted by the error (such as analyses of questions from one form and restricted to households with a certain number of adults)

should conduct exploratory analyses of demographic characteristics to assess whether sample sizes by group are adequate for the planned analyses.

Furthermore, NORC is evaluating possible weighting approaches that are expected to correct for the potential imbalances introduced by the assignment error for the vast majority of questions. Our preliminary evaluation of the weighting solution further reinforces that impacts of the assignment error are relatively small. This report summarizes our preliminary analysis of the assignment error, and NORC is planning to release the full summary of our analysis and updated survey weights in late Summer 2022.

> For general questions regarding the GSS, please contact GSS@norc.org. For questions about this specific assignment error, please contact Michael Davern, Principal Investigator GSS and Executive Vice President of Research, at davern-michael@norc.org or René Bautista, Principal Investigator and GSS Director and Associate Director at the Methodology and Quantitative Social Science Department, at bautista-rene@norc.org.

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Appendix

Appendix A: Assignment Error by Ballot (A, B, C) and by Form (X, Y) in 2018

# of Adults		Household Age Rank (Oldest to Youngest)					
	Ballot	**1**	**2**	**3**	**4**	**5**	**6**
1	**A**	274					
	B	253					
	C	248					
2	**A**	185	198				
	B	199	196				
	C	204	214				
3	**A**	.	87	.			
	B	89	.	.			
	C	.	.	78			
4	**A**	7	9	5	14		
	B	6	5	5	16		
	C	5	9	10	15		
5	**A**	1	.	1	1	1	
	B	.	.	1	.	1	
	C	3	.	1	2	.	
6	**A**	2	.	.	.	.	.
	B	.	.	2	.	.	1
	C	.	.	.	.	.	.
	Form	**1**	**2**	**3**	**4**	**5**	**6**
1	**X**	380					
	Y	395					
2	**X**	.	608				
	Y	588	.				
3	**X**	42	47	37			
	Y	47	40	41			
4	**X**	.	23	.	45		
	Y	18	.	20	.		
5	**X**	1	.	2	1	1	
	Y	3	.	1	2	1	
6	**X**	.	.	.	.	.	1
	Y	2	.	2	.	.	.

Note: Count of respondents assigned to each ballot and form

Appendix B: Summary of Questions and Potential Impact in Affected Years

	2002		2010		2012		2016		2018		Average	
Not affected	881	82.4%	460	54.0%	419	48.1%	365	3.2%	487	45.9%	522	**53.7%**
Minimally affected	151	14.1%	348	40.8%	375	43.0%	503	52.7%	514	48.5%	378	**39.8%**
Potentially adversely affected	37	3.5%	44	5.2%	78	8.9%	87	9.1%	59	5.6%	61	**6.4%**
Total	**1,069**	**100%**	**852**	**100%**	**872**	**100%**	**955**	**100%**	**1,060**	**100%**	**962**	**100%**

Appendix C: Question Wording and Questionnaire Versions for Key Attitude and Opinion Trends

VARIABLE	QUESTION TEXT	FORM AND BALLOT
HAPPY	Taken all together, how would you say things are these days--would you say that you are very happy, pretty happy, or not too happy?	Ballots ABC Both X and Y forms
FEPOL	Tell me if you agree or disagree with this statement: Most men are better suited emotionally for politics than are most women.	Ballot A form X and Y Ballot B form X
FECHLD	Now I'm going to read several more statements. As I read each one, please tell me whether you strongly agree, agree, disagree, or strongly disagree with it. For example, here is the statement: A working mother can establish just as warm and secure a relationship with her children as a mother who does not work.	Ballots AB Both X and Y forms
ABANY	Please tell me whether or not you think it should be possible for a pregnant woman to obtain a legal abortion if. . .READ EACH STATEMENT, AND CIRCLE ONE CODE FOR EACH. The woman wants it for any reason?	Ballots AC Both X and Y forms

NATFARE/ NATFAREY	We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount. First (READ ITEM A) . . . are we spending too much, too little, or about the right amount on (ITEM)? NATFARE Welfare NATFAREY Assistance to the poor	Ballots ABC NATFARE – form X NATFAREY – form Y
FEJOBAFF/ FEHIRE	FEJOBAFF Some people say that because of past discrimination, women should be given preference in hiring and promotion. Others say that such preference in hiring and promotion of women is wrong because it discriminates against men. What about your opinion - are you for or against preferential hiring and promotion of women? IF FOR: Do you favor preference in hiring and promotion strongly or not strongly? IF AGAINST: Do you oppose preference in hiring and promotion strongly or not strongly? FEHIRE Now I'm going to read several statements. As I read each one, please tell me whether you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree. For example, here is the statement: Because of past discrimination, employers should make special efforts to hire and promote qualified women.	Ballots AB FEJOBAFF – form X FEHIRE – form Y
DISCAFFM/ DISCAFFW	DISCAFFM What do you think the chances are these days that a man won't get a job or promotion while an equally or less qualified woman gets one instead? Is this very likely, somewhat likely, somewhat unlikely, or very unlikely these days? DISCAFFW 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 very likely, somewhat likely, somewhat unlikely, or very unlikely these days?	Ballots AB DISCAFFM – form X DISCAFFW – form Y
USWARY	Do you expect the United States to fight in another world war within the next ten years?	Ballot A Both X and Y forms

Appendix D: Table of Potentially Adversely Affected Questions Asked on One Ballot or One Form in Affected Years

	2002		2010		2012		2016		2018	
Variable	Ballots	Forms	Ballots	Forms	Ballots	Forms	Ballots	Forms	Ballots	Forms
ABMEDGOV1									ABC	X
ABMEDGOV2									ABC	Y
ADVSCHED							C	XY		
AGE3							B	Y		
AGEDCHLD							A	Y		
AWAY5			AB	Y					BC	X
AWAY6			B	X	C	Y	A	X	AB	X
AWAY7			C	X	B	X	A	Y	A	X
AWAY8					B	X				
AWAY11					B	Y	B	Y		
AWAY12					B	Y				
AWAY13							B	X		
BIGBANG							A	X	A	X
BIGBANG1							B	X	B	X
BIGBANG2							A	Y	A	Y
BORED							C	X		
CESD1							C	XY		
CESD2							C	XY		
CESD3							C	XY		
CESD4							C	XY		
CESD5							C	XY		
CHEMGEN							A	XY	A	XY
COJEW							ABC	Y	B	X
DECIDWRK							C	XY		
DISCAFFM	AB	X	AB	X	AB	X	AB	X	AB	X
DISCAFFW	AB	Y	AB	Y	AB	Y	AB	Y	AB	Y
DWELL5					BC	X				
EVOLVED							AB	X	AB	X
FEHIRE	AB	Y	AB	Y	AB	Y	AB	Y	AB	Y
FEJOBAFF	AB	X	AB	X	AB	X	AB	X	AB	X
GENDER9					C	X				
GENDER10	BC	Y			C	X			AC	Y
GENDER12	A	Y								
GENDER13					B	Y	AB	X		
GENDER14					B	Y	A	X		

	2002		2010		2012		2016		2018	
Variable	Ballots	Forms	Ballots	Forms	Ballots	Forms	Ballots	Forms	Ballots	Forms
GENEGEN							A	XY	A	XY
HLTHSTRT							ABC	Y	ABC	Y
INDUSGEN							A	XY	A	XY
INTRACE3			B	X	B	X	C	X		
JEW16AJ					A	Y				
KD3RELIG					C	Y				
LEASTHRS							C	XY		
MAR8	C	X								
MAR9			A	XY			A	X	A	Y
MAR12							A	XY		
MAR13					B	Y	B	X		
MAR14					B	Y				
MHP2R2									BC	Y
MHP4R2									C	X
MOSTHRS							C	XY		
NANOBEN							A	XY	A	XY
NANOHARM							A	XY	A	XY
NANOWILL							A	XY	A	XY
NATAID	ABC	X	ABC	X	ABC	X	ABC	X	ABC	X
NATAIDY	ABC	Y	ABC	Y	ABC	Y	ABC	Y	ABC	Y
NATCITY	ABC	X	ABC	X	ABC	X	ABC	X	ABC	X
NATCITYY	ABC	Y	ABC	Y	ABC	Y	ABC	Y	ABC	Y
NATCRIME	ABC	X	ABC	X	ABC	X	ABC	X	ABC	X
NATCRIMY	ABC	Y	ABC	Y	ABC	Y	ABC	Y	ABC	Y
NATDRUG	ABC	X	ABC	X	ABC	X	ABC	X	ABC	X
NATDRUGY	ABC	Y	ABC	Y	ABC	Y	ABC	Y	ABC	Y
NATEDUC	ABC	X	ABC	X	ABC	X	ABC	X	ABC	X
NATEDUCY	ABC	Y	ABC	Y	ABC	Y	ABC	Y	ABC	Y
NATHEAL	ABC	X	ABC	X	ABC	X	ABC	X	ABC	X
NATHEALY	ABC	Y	ABC	Y	ABC	Y	ABC	Y	ABC	Y
NATRACE	ABC	X	ABC	X	ABC	X	ABC	X	ABC	X
NATRACEY	ABC	Y	ABC	Y	ABC	Y	ABC	Y	ABC	Y
NATSCI	ABC	X								

	2002		2010		2012		2016		2018	
Variable	Ballots	Forms	Ballots	Forms	Ballots	Forms	Ballots	Forms	Ballots	Forms
NEWSFRMY			AC	Y						
NEWSFROM			C	X						
NUKEGEN							A	XY	A	XY
OLD9					C	X				
OLD10	BC	Y			C	X			AC	Y
OLD12	A	Y								
OLD13			B	Y	B	Y	AB	X		
OLD14			B	Y	B	Y	A	X		
PAIDHOW							C	XY		
POLEFF3					AC	X				
POLEFF11					AC	X				
POLEFF13					AC	X				
POLEFF15					AC	X				
POLEFF16					AC	X				
POLEFF17					AC	X				
POLEFY3					AC	Y				
POLEFY11					AC	Y				
POLEFY13					AC	Y				
POLEFY15					AC	Y				
POLEFY16					AC	Y				
POLEFY17					AC	Y				
RACETHAS							C	XY		
RACETHBL							C	XY		
RACETHHI							C	XY		
RACETHMN							C	XY		
RACETHNA							C	XY		
RACETHOT							C	XY		
RACETHWH							C	XY		
RANDOM							ABC	X	ABC	X
RELATE9					C	X				
RELATE10	BC	Y			C	X			AC	Y
RELATE12	A	Y								
RELATE13					B	Y	A	X		
RELATE14					B	Y	A	X		
RELHH9					C	X				
RELHH10	BC	Y			C	X			AC	Y

	2002		2010		2012		2016		2018	
Variable	Ballots	Forms	Ballots	Forms	Ballots	Forms	Ballots	Forms	Ballots	Forms
RELHH12	A	Y								
RELHH13					B	Y	A	X		
RELHH14					B	Y	A	X		
RELHHD9					C	X				
RELHHD10	BC	Y			C	X			AC	Y
RELHHD12	A	Y								
RELHHD13					B	Y	A	X		
RELHHD14					B	Y	A	X		
RELSP9	B	XY			C	X				
RELSP10	B	Y	A	XY	C	X			AC	Y
RELSP12							A	Y		
RELSP13					B	Y				
RELSP14					B	Y				
RHLTHEND							ABC	Y	ABC	X
RUSHED							C	XY		
SATJOBHV							A	Y		
SCIFROM			C	X						
SCIFROMY			AC	Y						
SCINEWS1			C	X						
SCINEWS2			C	X						
SEEKSCI			C	X						
SEEKSCIY			AC	Y						
SPJEWAJ					A	Y				
STRESSWK							C	Y		
TEMPGEN							A	XY	A	XY
USUALHRS							C	XY		
USWAR			B	XY	B	XY	B	XY		
USWARY			A	XY	A	XY	A	XY	A	XY
WATERGEN							A	XY	A	XY
WHERE5			AB	Y					BC	X
WHERE6			B	X	C	Y			ABC	X
WHERE7			C	X	B	X	A	Y	A	X
WHERE8					B	X				
WHERE11					B	Y				
WHERE12					B	Y				
WHERE13							B	X		
WLTHHSPS									AB	X