

Navigating Factors Affecting Job Satisfaction Among Working Americans*

Analysis using US General Social Survey (1989 to 2016)

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Table of contents

| | | |
|----------|--|-----------|
| 1 | Introduction | 2 |
| 2 | Data | 2 |
| 2.1 | Source Data and Methodology | 2 |
| 2.2 | Data Cleaning | 2 |
| 2.3 | Data Terminology | 3 |
| 2.4 | Respondent Demographics | 3 |
| 2.5 | Graphs of Responses | 4 |
| 2.5.1 | Helps Others | 4 |
| 2.5.2 | Interesting Work | 4 |
| 2.5.3 | Social Usefulness | 6 |
| 3 | Results | 6 |
| 3.1 | Responses and demographics | 6 |
| 3.2 | Change in importance over time | 9 |
| 4 | Discussion | 11 |
| 4.1 | Age | 12 |
| 4.2 | Culture | 12 |
| 4.3 | Technology | 12 |
| 5 | Sources | 12 |

*Code and data in this report are available at: https://github.com/shirleychen003/job_satisfaction.git.

1 Introduction

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2 Data

Based at the University of Chicago since 1972, the General Social Survey (GSS) is a project with the objective of monitoring and analyzing the intricacies of American society (1). The GSS Data Explorer makes it so that data retrieved from the project is a publicly available resource, accessible to various types of people, such as educators, policymakers, or researchers through the National Opinion Research Center (NORC).

The dataset used for this paper was retrieved from The General Social Survey (GSS) Data Explorer website (citation). We retrieved survey data relating to work and job in the years of 1989, 1998, 2006, and 2016.

2.1 Source Data and Methodology

Majority of the GSS data was collected through face-to-face interviews with the target population of adults (18+) residing in the United States, but starting in 2002, Computer-assisted personal interviewing methods were introduced (3).

All the survey data used was in relation to job and work in the Work Orientation Module; the specific variable names extracted from the dataset being `intjob`, `hlpoths`, and `hlp soc`.

2.2 Data Cleaning

The open source statistical programming language (**R-base?**) was used to clean and analyze the data, along with producing the graphs. The main packages that supported this process included (**R-tidyverse?**), (**R-ggplot2?**), (**R-knitr?**), here...

The cleaning process involved filtering the specific data variables used for our analysis from the downloaded GSS dataset, and renaming any variables with meaningful names. For example, rather than “`intjob`” being the column name for “importance of interesting work in a job”, we renamed it to `interesting_work`, as shown in Table #. Further, the numerical values representing the participants’ responses (1-5) were changed to the representative words/phrases (not important, very important, etc.). Table 1 shows the old and new variable names used in cleaning, the description of variables, and sample responses.

Table 1: GSS Dataset

| Variable | New.Name | Description | Example.Response |
|----------|-------------------|--|------------------|
| intjob | interesting_work | Importance of interesting work in a job | Very Important |
| hlpoths | helping_others | Importance of helping others in a job | Neither |
| hlp soc | social_usefulness | Importance of social usefulness in a job | Not Important |

2.3 Data Terminology

The response choices for each question and their respective code in brackets are as follows: Inapplicable (-100), No Answer (-99), Do Not Know/Cannot Choose (-98), Very Important (1), Important (2), Neither (3), Not important (4), and Not Important At All (5). For our graphs, we did not include the Inapplicable, No Answer, and Do Not Know/Cannot choose responses to focus on the discernible participant responses.

2.4 Respondent Demographics

Table 2 shows the number and percentage of male and female respondents for 1989, 1998, 2006, and 2016. Table 4 shows the mean, median, mode, min, and max of respondent age for all four years of data collection.

Table 2: Respondent Gender Demographics by Year

| Year | Sex | Count | Percentage |
|------|--------|-------|------------|
| 1989 | female | 786 | 56.51 |
| 1989 | male | 605 | 43.49 |
| 1998 | female | 678 | 58.80 |
| 1998 | male | 475 | 41.20 |
| 2006 | female | 807 | 53.48 |
| 2006 | male | 702 | 46.52 |
| 2016 | female | 766 | 52.22 |
| 2016 | male | 701 | 47.78 |

Table 3: Respondent Age Groups by Year

| Year | 18-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65+ | N/A |
|------|-------|-------|-------|-------|-------|-----|-----|
| 1989 | 150 | 322 | 293 | 215 | 153 | 256 | 2 |
| 1998 | 108 | 254 | 298 | 187 | 125 | 180 | 1 |
| 2006 | 110 | 269 | 329 | 335 | 227 | 230 | 9 |

| Year | 18-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65+ | N/A |
|------|-------|-------|-------|-------|-------|-----|-----|
| 2016 | 112 | 238 | 275 | 265 | 267 | 303 | 7 |

Table 4: Respondent Age Demographics by Year

| Year | Mean | Median | Mode | Min | Max |
|------|------|--------|------|-----|-----|
| 1989 | 45 | 42 | 28 | 18 | 89 |
| 1998 | 45 | 42 | 33 | 18 | 89 |
| 2006 | 47 | 46 | 47 | 18 | 89 |
| 2016 | 49 | 49 | 58 | 18 | 89 |

2.5 Graphs of Responses

Figure 1, Figure 2, and Figure 3, shows the responses to the prompt “On the following list there are various aspects of jobs. Please circle one number to show how important you personally consider it is in a job” where each graph represents one of the aspects. Respondents answered on a 1 to 5 Likert scale where 1 represents “very important” and 5 represents “not important at all”.

2.5.1 Helps Others

In Figure 1, the proportion of respondents to the prompt “A job that allows someone to help other people?” is displayed. From the first year of data collection in 1989 to 2006, “Important” was the most selected response. In 2016, “Very Important” surpassed “Important” by 1%. In general, you can see an increase in “Very Important” respondents across the years while there is little change in the proportion of “Not Important” and “Not Important At All” responses. Further, there is a general decrease in “Neither” responses from 1989 - 2006 which is interrupted when there is a slight increase in 2016.

2.5.2 Interesting Work

Figure 2 shows the proportion of responses for the prompt “An interesting job?”. In 1989, “Important” responses was most chosen at around 50%. The following survey, in 1998, showed an increase in “Very Important” responses, where it had a similar proportion to “Important” responses 1989 and “Important” decreased to a proportion similar to “Very Important”.

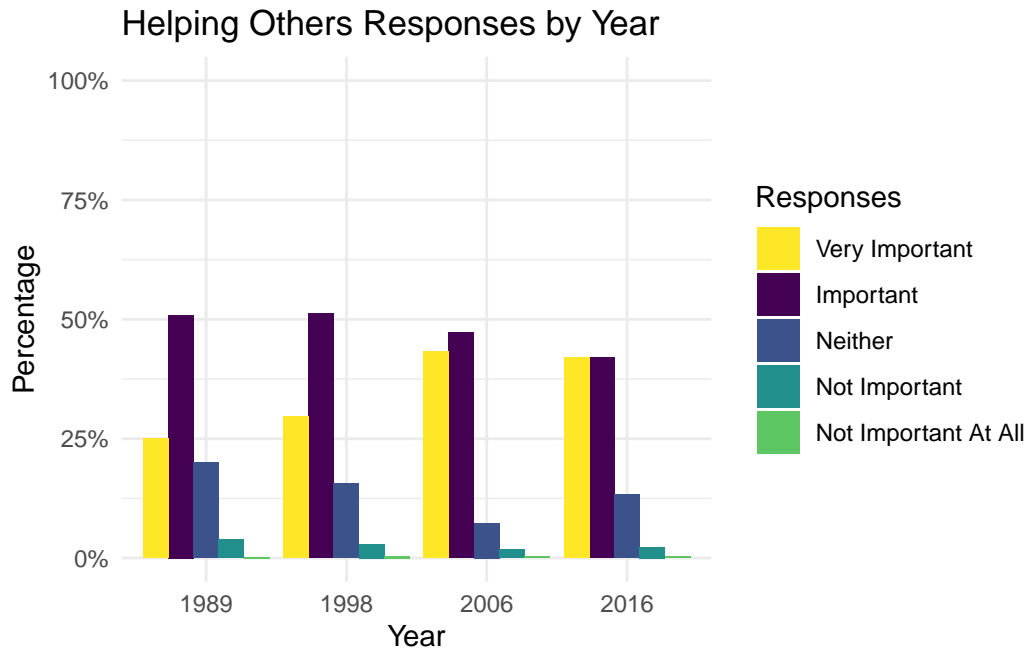


Figure 1: Q1 - “A job that allows someone to help other people?”

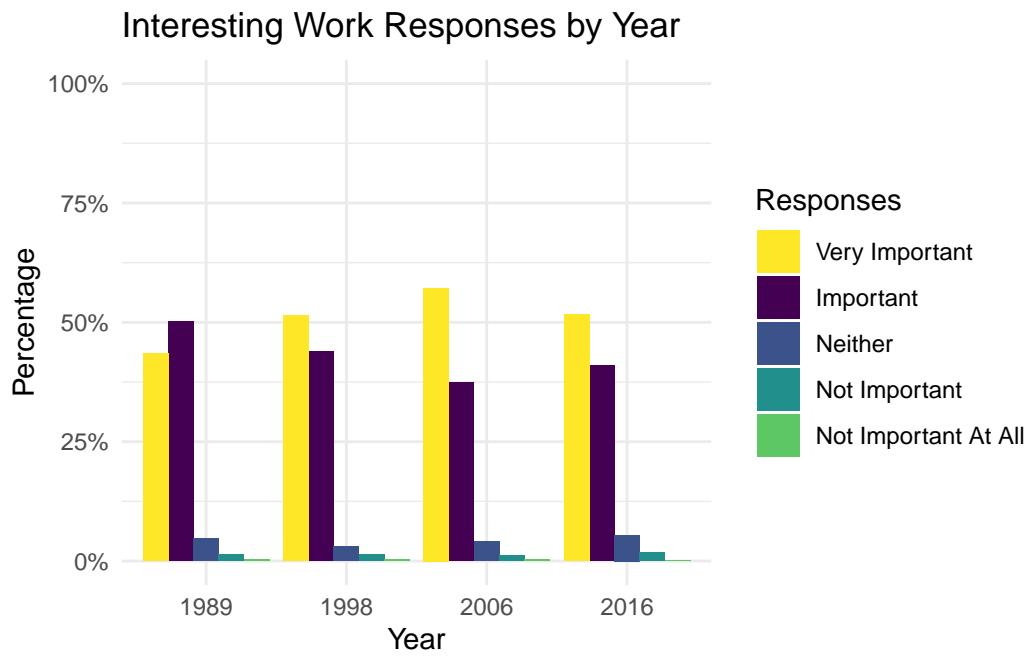


Figure 2: Q2 - “An interesting job?”

2.5.3 Social Usefulness

Figure 3 displays the proportion of responses for the prompt “A job that is useful to society?”. There is a large increase in the proportion of “Very Important” responses from 1989 to 2016. In contrast, there is a gradual decline for both “Important” and “Neither”. There is little change in “Not Important” and “Not Important At All”. Compared to the other figures, this graph has the most varying change in the “neutral” response.

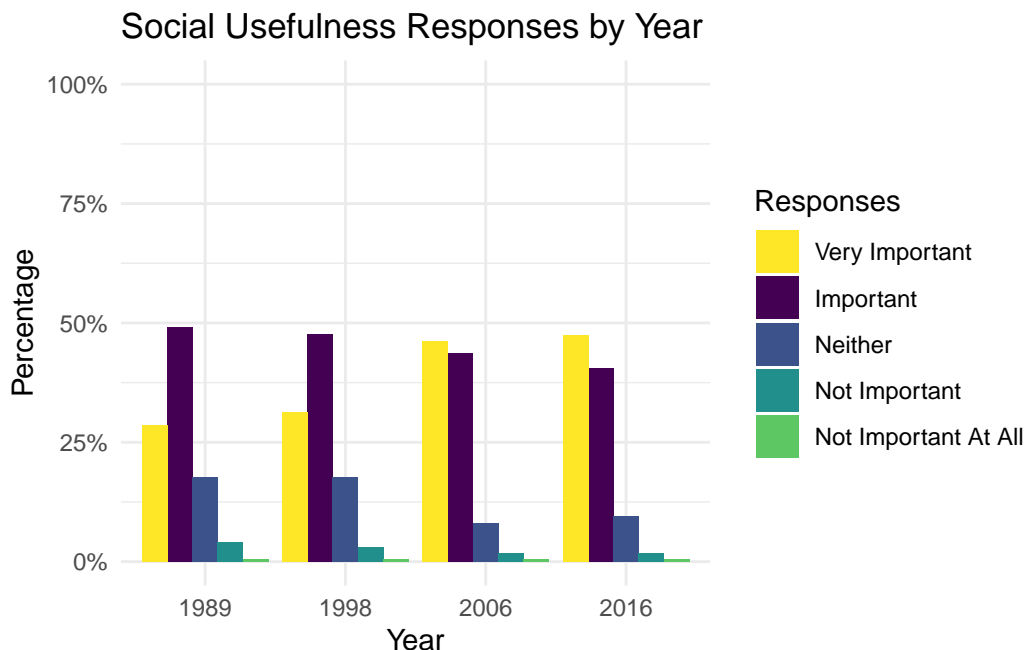


Figure 3: Q3 - “A job that is useful to society?”

3 Results

3.1 Responses and demographics

Table 5 summarizes the average responses per year for each question, where 1 represents “Very Important” and 5 represents “Not Important At All”. There is a general decrease in scores, meaning importance increased, each year. The largest change from 1989 to 2016 was “Social Usefulness”, with an average response decrease of 0.311. Overall, interesting work was consistently more important than helping others and social usefulness with an average of 0.264 points lower. As time passed, interesting work became rated more similarly with the other two factors, and in 2016 the average difference was only 0.144 points.

Table 5: Average of Responses by Year

| Year | Helping Others | Interesting Work | Social Usefulness |
|------|----------------|------------------|-------------------|
| 1989 | 2.034 | 1.649 | 1.986 |
| 1998 | 1.932 | 1.550 | 1.939 |
| 2006 | 1.687 | 1.501 | 1.669 |
| 2016 | 1.767 | 1.577 | 1.675 |

In Table 6 and Table 7, we see the percentage distribution of responses by respondent sex for the importance of helping others. In 1989, female respondents took the more extremes, and had much higher percentages for “very important” compared to their male counterparts. In 2016, the trend continues but at a lesser scale, with the proportions evening more.

Table 6: Helping Others Response Proportions 1989

| Response | Sex | Count | Percentage |
|----------------------|--------|-------|------------|
| very important | female | 210 | 60.34 |
| very important | male | 138 | 39.66 |
| important | female | 417 | 58.90 |
| important | male | 291 | 41.10 |
| neither | female | 133 | 47.84 |
| neither | male | 145 | 52.16 |
| not important | female | 24 | 44.44 |
| not important | male | 30 | 55.56 |
| not important at all | female | 2 | 66.67 |
| not important at all | male | 1 | 33.33 |

Table 7: Helping Others Response Proportions 2016

| Response | Sex | Count | Percentage |
|----------------------|--------|-------|------------|
| very important | female | 350 | 56.73 |
| very important | male | 267 | 43.27 |
| important | female | 324 | 52.51 |
| important | male | 293 | 47.49 |
| neither | female | 80 | 41.03 |
| neither | male | 115 | 58.97 |
| not important | female | 11 | 32.35 |
| not important | male | 23 | 67.65 |
| not important at all | female | 1 | 25.00 |
| not important at all | male | 3 | 75.00 |

Table 8 and Table 9 show the proportion of responses by sex for the importance of interesting work. Women again generally favour importance more than men, and similarly to the tables for helping others, the difference in proportion decreases in 2016. Interesting work 2016 has the lowest disparity in responses compared to the other two questions.

Table 8: Interesting Work Response Proportions 1989

| Response | Sex | Count | Percentage |
|----------------------|--------|-------|------------|
| very important | female | 341 | 56.46 |
| very important | male | 263 | 43.54 |
| important | female | 401 | 57.37 |
| important | male | 298 | 42.63 |
| neither | female | 34 | 52.31 |
| neither | male | 31 | 47.69 |
| not important | female | 7 | 38.89 |
| not important | male | 11 | 61.11 |
| not important at all | female | 3 | 60.00 |
| not important at all | male | 2 | 40.00 |

Table 9: Interesting Work Response Proportions 2016

| Response | Sex | Count | Percentage |
|----------------------|--------|-------|------------|
| very important | female | 391 | 51.65 |
| very important | male | 366 | 48.35 |
| important | female | 319 | 52.99 |
| important | male | 283 | 47.01 |
| neither | female | 42 | 52.50 |
| neither | male | 38 | 47.50 |
| not important | female | 13 | 48.15 |
| not important | male | 14 | 51.85 |
| not important at all | female | 1 | 100.00 |

In Table 10 and Table 11, the previous trend continues, with more women favouring importance and a decrease in gender differences in 2016. Social usefulness and interesting work had similar differences in proportions, while 1989 helping others had the largest disparity.

Table 10: Social Usefulness Response Proportions 1989

| Response | Sex | Count | Percentage |
|----------------|--------|-------|------------|
| very important | female | 223 | 56.03 |

| Response | Sex | Count | Percentage |
|----------------------|--------|-------|------------|
| very important | male | 175 | 43.97 |
| important | female | 399 | 58.33 |
| important | male | 285 | 41.67 |
| neither | female | 134 | 54.69 |
| neither | male | 111 | 45.31 |
| not important | female | 25 | 43.10 |
| not important | male | 33 | 56.90 |
| not important at all | female | 5 | 83.33 |
| not important at all | male | 1 | 16.67 |

Table 11

Table 11: Social Usefulness Response Proportions 2016

| Response | Sex | Count | Percentage |
|----------------------|--------|-------|------------|
| very important | female | 379 | 54.38 |
| very important | male | 318 | 45.62 |
| important | female | 314 | 52.86 |
| important | male | 280 | 47.14 |
| neither | female | 58 | 41.13 |
| neither | male | 83 | 58.87 |
| not important | female | 11 | 42.31 |
| not important | male | 15 | 57.69 |
| not important at all | female | 4 | 44.44 |
| not important at all | male | 5 | 55.56 |

3.2 Change in importance over time

Figure 4 demonstrates the changing proportion of responses to how important is it for a job to help others.

Figure 5 demonstrates the changing proportion of responses to how important is it for a job to help others.

```
<ggproto object: Class ScaleDiscrete, Scale, gg>
  aesthetics: fill
  axis_order: function
  break_info: function
  break_positions: function
```

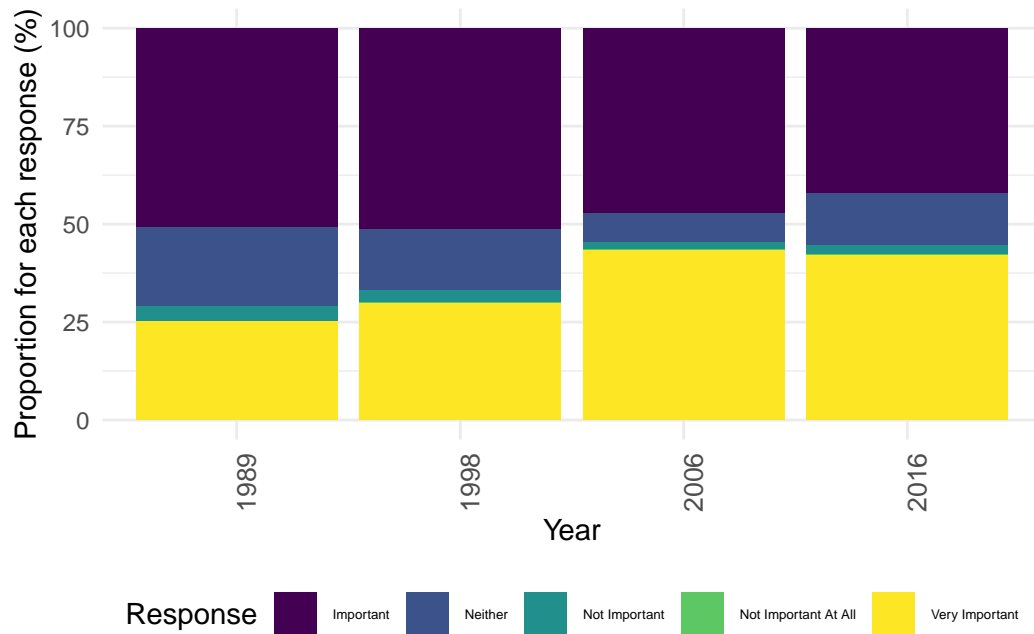


Figure 4: Proportion of Responses to Importance of Job that Helps Other

```

breaks: waiver
call: call
clone: function
dimension: function
drop: TRUE
expand: waiver
get_breaks: function
get_breaks_minor: function
get_labels: function
get_limits: function
guide: legend
is_discrete: function
is_empty: function
labels: waiver
limits: NULL
make_sec_title: function
make_title: function
map: function
map_df: function
n.breaks.cache: NULL
na.translate: TRUE

```

```

na.value: NA
name: waiver
palette: function
palette.cache: NULL
position: left
range: environment
rescale: function
reset: function
scale_name: viridis_d
train: function
train_df: function
transform: function
transform_df: function
super: <ggproto object: Class ScaleDiscrete, Scale, gg>

```

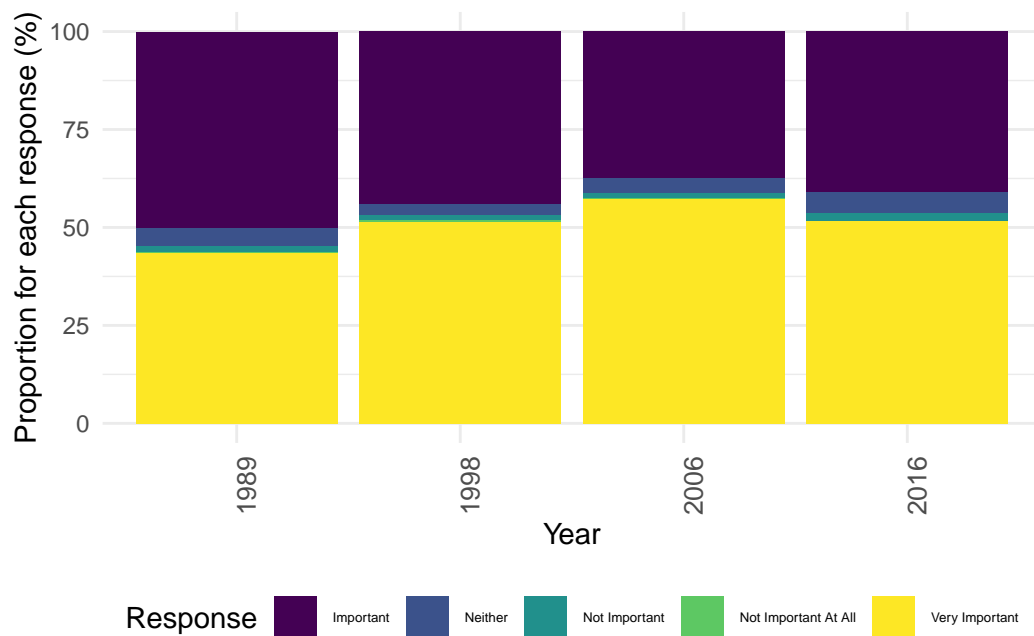


Figure 5: Proportion of Responses to Importance of Interesting Work in Job

4 Discussion

In progress... ## Gender

4.1 Age

4.2 Culture

4.3 Technology

5 Sources