### Table

<table>
<thead>
<tr>
<th>Year</th>
<th>Reported Turnout</th>
<th>Actual Turnout</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>62.21</td>
<td>52.66</td>
</tr>
<tr>
<td>1984</td>
<td>64.86</td>
<td>53.11</td>
</tr>
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<td>1988</td>
<td>60.54</td>
<td>52.60</td>
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<td>1992</td>
<td>68.41</td>
<td>55.10</td>
</tr>
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<td>1996</td>
<td>68.55</td>
<td>49.00</td>
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<td>2000</td>
<td>65.41</td>
<td>51.21</td>
</tr>
<tr>
<td>2004</td>
<td>69.06</td>
<td>56.69</td>
</tr>
<tr>
<td>2008</td>
<td>69.04</td>
<td>57.37</td>
</tr>
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</table>

*Figures are measured in percentages*

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1 Characteristics of Scientific Knowledge

- Think about how scientific research is conducted in the “hard sciences.”
  - Finding the boiling temperature of water.
  - Adding salt to the water.
  - Does adding salt change the temperature of water?

1.1 Empirical Verification

- The nature of empirical verification.
- The American National Election Survey

- So what is happening?
  - It is likely social desirability bias

1.2 Explanation

**Definition 1.** Social desirability is a sociological phenomenon where interviewees misrepresent their actions because they wish to hide their true opinion.

**Example 2.** It is common that if you ask voters if they would vote for a given minority, the true response is unlikely to be truthful. That is, if a voter wishes to vote against a candidate because of their gender, they may do so, but tell an interviewer that it is the result of the candidates policy positions.

- That is, although people feel like they should go vote, in some cases the amount of those who will lie to interviews tops 15% of the total number who vote.\footnote{For 1980, this calculation is as follows: $\frac{62.21 - 52.66}{52.66} = .18$}
2 Types of Knowledge

2.1 Normative Knowledge

• When knowledge is considered normative, it contains knowledge about what should happen.

  Example 3. 1. In the United States, the poor should pay less than the wealthy in tax rates.
  2. Voters should be knowledgable about politics and current events.

• For the most part, politics is concerned with normative issues. However, political science is almost never concerned with propositions involving should.

2.2 Non-normative Knowledge

Definition 4. Non-normative knowledge is knowledge that is not up to definitional interpretation and includes active verbs rather that conditional verbs.

Example 5. 1. In the 1980 American National Elections Survey (ANES), 62.21% of the respondents reported voting.\(^2\)
  2. From 1980-2008, those interviewed for the American National Elections Survey having interest in politics are positively and statistically significantly correlated with self-reported turnout.

3 The Aims of Science

3.1 Scientific Transmissibility

• The most important characteristic of scientific, non-normative knowledge is that there is a principle of transmissibility. That is, knowledge and the ways to obtain such knowledge must be replicable.

Definition 6. Replicability is the ability of others to find the same conclusion you did given the same materials.

Example 7. In our example about boiling water, you can go home, pour water into a pot, heat it and measure its temperature. However, if I find that the water boils at 300° C, but do not provide any instructions or methodological method to show this, it is not scientific, non-normative knowledge.

\(^2\)Notice the difference: reported is the verb without a conditional modifier
4 Causal Relationships

- In political science, we are most concerned with finding and providing evidence for causal relationships.
  - Causal relationships are one in which a change in an independent variable dictates a change in a dependent variable.
  - If we wanted to determine the wages over a one week span for an Supplemental Instructor (SI) of the University of Texas of the Permian Basin, what would we our main explanatory variable?
  - Undoubtedly, it would be number of hours worked and their wage rate per hour. In this case, we know that it is 9.00/hr. Therefore, if we want to determine an SI’s weekly pay for a week, we only need to know one value (hours worked).

\[ Y(\text{Weekly Wages}) = 9.00 \times X_1 \]

or more generally:

\[ Y(\text{Weekly Wages}) = \beta \times X_1 \]

4.1 An Individual Vote Choice Example

- The Columbia or Sociological Model
  - The Sociological model, championed by Berelson, Lazarsfeld and McPhee (1954) contends that our social influences are the most important as it pertains to vote choice.

- The Michigan or Psychological Model
  - The Michigan or Psychological model, developed by the University of Michigan’s Center for Social Research and predominantly attributed to Campbell et al. (1960) argues that individuals possess a psychological connection to a political party which drives a great majority of vote choice decisions and more than sociological factors can account for.

- The Rational Choice Model
  - Finally, the rational choice model developed theoretically by Downs (1957) and extended by Fiorina (1978, 1981) holds that voters based their vote choice based on the performance of the incumbent on economic issues.
4.2 Probabilistic Explanation

- The problem with all of these theories, as well as the bulk of political science is that although the models do go a long way in explaining vote choice, none of them are correct 100% of the time. Therefore, we need to develop probabilistic, rather than deterministic theories and models.
  - By deterministic we mean a relationship that can be obtained without fail based on some type of formula.

5 Acquiring Scientific Knowledge

5.1 Induction

- Induction is the process of making generalizations based on observing micro-level phenomena and extrapolating to a larger group.
  - For example, noticing that a young American has the same partisan identification as their parents and theorizing that all American get their party identification from their parents.

5.2 Deduction

- Deduction is the opposite. It is taking large scale phenomena and applying it individual outcomes.
  - For example, noticing that many young American take their party identification from their parents and picking individuals out and predicting their Party ID based on their parents Party ID.
References


