

## How to Prepare Appendix A

One of the skills that the term paper demonstrates is the ability to think through a theoretical model (i.e., what independent variables logically influence the dependent variable). The first step is to carefully think through what dependent variable(s) would be useful to explain for someone working in the policy area of your term paper. Notice that Appendix A in the sample term contains a theoretical rationale for each question. For example, notice how scores on question #1 in Appendix A of the sample term paper could predict scores on question #2. Additionally, scores on questions #1- #3 in Appendix A of the sample term paper could logically be used to predict scores on question #4. Make sure you do the same. We want the reader to come away with a sense that you can think through a useful model and write a series of survey questions that would measure the variables necessary to estimate this model.

In writing survey questions there are several factors to keep in mind. First, think through the model (i.e., the dependent and independent variables) clearly. If a potential question is not a measure of either the dependent variable or an independent variable that theory suggests should help explain the dependent variable, then it probably shouldn't be asked. Be prepared to provide a theoretical defense for each question that will appear in the appendix of your term paper. Second, keep the survey short. The more questions you ask the greater the likelihood respondents will cease participating.

With these two general comments in mind, let me mention, and illustrate, some suggestions for writing survey questions. First, don't assume that respondents have much information. Few people follow public affairs very closely. As a result, not many people are going to know about particular pieces of legislation or particular policies. For example, avoid statements such as the following:

The courts should give different rulings on immigrant rights.

Strongly agree	Agree somewhat	Uncertain	Disagree somewhat	Strongly disagree
-------------------	-------------------	-----------	----------------------	----------------------

The statement above is poorly phrased because it assumes that the respondent knows what the courts have ruled. If you are trying to measure the respondent's attitudes toward immigration it would be better to ask more specific questions that don't presume much knowledge. For example, a more specific question specifically addressing the respondent's opinion about the desirability of illegal immigrants obtaining drivers licenses might be phrased as follows:

Do you think that illegal immigrants should be allowed to obtain drivers licenses?

Yes	No	Uncertain
-----	----	-----------

While this is a more specific question than the previous example, the formulation is still not desirable. In general, try to avoid “yes/no” answers. They simply do not allow respondents to reveal more nuanced answers. For example, if you are asking for someone’s views about drivers licenses for illegal immigrants, you might provide four or five options that indicate a range of possible opinions (e.g., 1 - Not favor under any circumstances, 2 - Only permit operating a vehicle to go to work or for a medical emergency, 3 – Permit driving only within 25 miles of home, 4 – Be allowed to obtain a drivers license with the same privileges as legal residents – notice how the range of answers form a continuum from least privileges to most privileges).

Measuring how much information the respondent has about the subject, or providing information, may result in a more accurate assessment of a respondent’s viewpoint. Continuing with the topic of drivers licenses for illegal immigrants, consider the following question:

Which of the following is closest to the opinion of law enforcement officials concerning the effect that permitting illegal immigrants to obtain drivers licenses would have on the cost of auto insurance?

Reduce it by approximately \$100, or more, per year	Reduce it by approximately \$50 per year	Have no effect	Increase it by approximately \$50 per year	Increase it by approximately \$100, or more, per year
---	--	----------------	--	---

The question immediately above provides an indication of the information base the respondent had in answering previous questions on this topic. Such information can be very illuminating. For example, in studies of opinions about the federal budget, political scientists have found that many respondents think much of the federal budget is spent on relatively unpopular items such as welfare (10%-15%) and foreign aid (10%-15%). Welfare and foreign aid each constitute approximately 1% of federal spending.

You could also suggest a state of the world and ask the respondent to reply to it. For example, a question such as the following:

If law enforcement authorities feel that, on balance, traffic fatalities would be reduced if illegal immigrants were allowed to obtain drivers licenses, which of the following would best represent your viewpoint concerning the desirability of permitting illegal immigrants to obtain drivers licenses?

1 – Not permitting illegal immigrants to obtain drivers licenses is more important than reducing traffic accidents.

2 – Unless it would lead to a large reduction in traffic accidents illegal immigrants should not be allowed to obtain drivers licenses.

3 – If it would result in even a small reduction in traffic accidents illegal immigrants should be allowed to obtain drivers licenses.

4 – Even if it increased the number of traffic accidents, illegal immigrants should be allowed to obtain drivers licenses.

Having the respondent rate the importance of various explanations for a phenomena can produce much useful information. For example, the following statements were used to ascertain how respondents viewed various explanations for economic inequality:

We'd like to know why you think it is, that in America today, some people have better (worse) jobs and higher (lower) incomes than others do. I'm going to read you some possible explanations, and I want you to tell me how important you think each is – very important, somewhat important, or not important at all.

Very Important	Somewhat Important	Not Important
-------------------	-----------------------	------------------

Some people don't get a chance to get a good education

Some people just don't work as hard

Some people have more inborn ability to learn

Discrimination holds some people back

Government policies have helped high-income workers more

Some people just choose low-paying jobs

God made people different from one another

Avoid questions with two, or more, referents (i.e., "double-barreled" questions). For example, avoid questions or statements such as the following:

President Obama should reduce the pay of banking executives whose banks receive government assistance and use this money to help poor people buy medical insurance.

**Strongly**   **Agree**                      **Disagree**   **Strongly**  
**agree**   **somewhat**   **Uncertain**   **somewhat**   **disagree**

This should be handled by two separate questions. One question would deal with the desirability of reducing the pay of banking executives whose banks receive government assistance while the second question would probe the respondent's attitudes toward helping poor people buy medical insurance.

Avoid having the same meaning of answers to a series of questions. For example, suppose you are asking people their agreement with the following series of statements:

Statement	Answers			
	<b>Strongly</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly</b>
	<b>agree</b>	<b>somewhat</b>	<b>Uncertain</b>	<b>somewhat</b>
				<b>disagree</b>

City parks are clean

City parks provide  
adequate children's  
playground  
equipment

City parks are safe

City parks are  
Beautiful

In this series of statements a favorable answer about city parks always means that the respondent agrees with a positive statement. A preferable approach would be for the respondent to give a favorable assessment of the city parks by occasionally having to disagree with a negative statement. For example, the following would be a better formulation:

<b>Strongly</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly</b>
<b>agree</b>	<b>somewhat</b>	<b>Uncertain</b>	<b>somewhat</b>
			<b>disagree</b>

City parks are clean

City parks provide  
adequate children's  
playground  
equipment

**City parks are not safe**

**City parks are  
Beautiful**

Notice that the third statement, city parks are safe, has now been changed to city parks are not safe. Thus, to give a favorable answer to this statement, the respondent would have to disagree with a negative statement. Changing the implications of a particular answer (e.g., strongly agree) helps force the respondent to think about their answers. It avoids what is termed “response set.” This example appears in Quantitative Methods for Public Administration, 2<sup>nd</sup> edition, by Susan Welch and John Comer, page 75.

Scale responses that are rank-ordered without a precise mathematical are ordinal level measures. For example, we know that “strongly agree” indicates greater agreement than “agree” and that “agree” indicates greater agreement than “uncertain.” However, we do not know the amount of difference between categories. Thus, is the difference between “strongly agree” and “agree” greater than, equal to, or less than the difference between “agree” and “uncertain”? We do not know. People who select the same category of response (e.g., “strongly agree”) may mean two different degrees of agreement. In voting studies respondents are often asked how likely they are to vote. The possible answers are often: almost certain, very likely, somewhat likely, not likely and very unlikely.

Charles Manski suggests that respondents can provide precise probabilities of behavior. For example, the voting turnout question could be rephrased as follows: What do you think is the PERCENT CHANCE that you will cast a vote for President? The respondent then indicates a particular percentage. When Manski compared the answers of the same respondents to both versions of this question, he found very different probabilities. Some respondents who answered that they were “highly likely to vote” listed their percent chance of voting in the 50% range while others listed probabilities of 80%, or greater. Although this approach is not currently used by any major survey organization, it would appear to hold great promise in reducing measurement error.

Politics and policy often involve “tradeoffs” (e.g., question #4 in Appendix A of the sample term paper). Frequently, government can not simultaneously achieve the greatest amount of each of several goals. For example, since government spending on the environment reduces pollution, there may be a tradeoff between the goals of reducing government spending and reducing pollution. Thus, lower government spending may result in increased pollution. The previous question concerning drivers licenses for illegal immigrants and traffic fatalities involved tradeoffs. Thus, it can be informative to ask respondents to choose between competing goals. For example, political scientist John Mark Hansen (American Political Science Review, 1998, pp. 513-531) used the following battery of “tradeoff” questions to measure support for reducing taxes:

Each year the government in Washington has to make decisions about taxes, spending, and the deficit. We'd like to know your opinions about what the government should do about the budget. I'm going to read you three proposals for cutting taxes, and I'd like you to tell me whether or not you favor each of them.

Yes,  
Favor

No, Do  
Not Favor

Don't  
Know

Do you favor cuts in spending on national defense in order to cut the taxes paid by ordinary Americans?

Do you favor cuts in spending on domestic programs like Medicare, education, and highways in order to cut the taxes paid by ordinary Americans?

Do you favor an increase in the federal budget deficit in order to cut the taxes paid by ordinary Americans?

While the above appear to be "yes/no" questions, the respondent is answering either "yes" or "no" to a series of options. Thus, it's not one question with a "yes" or "no" answer.

Frequently social science theories involve examining the relationships between variables that involve "sensitive" topics. For example, a person's educational attainment or income is often a good predictor's of their opinions. Measuring such variables requires researchers to ask questions that respondents may feel are "intrusive," and as a result are reluctant to answer. For this reason, surveys will frequently include confidentiality statements. The following approach, adapted from a survey by the Public Policy Institute of California, is quite common.

We understand and respect that this information is confidential, we ask only for research purposes and will keep all of this information absolutely anonymous.

What was the last grade of school that you completed?

- 1 some high school or less
- 2 high school graduate/GED

- 3 some college
- 4 college graduate
- 5 post graduate
- 6 trade school
- 9 refuse

Which of the following categories best describes your total annual household income before taxes, from all sources?

- 1 under \$20,000
- 2 \$20,000 to under \$40,000
- 3 \$40,000 to under \$60,000
- 4 \$60,000 to under \$80,000
- 5 \$80,000 to under \$100,000
- 6 \$100,000 to under \$200,000
- 7 \$200,000 or more
- 9 don't know/refuse

The ordering of questions can affect the answers you receive. For example, in studying peoples' opinions about affirmative action and the traits they ascribe to African-Americans, researchers found that if you ask a question about affirmative action immediately *prior* to asking a question about what traits the respondent attributes to African-Americans (e.g., hard working, lazy, etc.), the view of African-Americans is much less positive than if the question order is *reversed* (i.e., ask a question about the traits the respondent ascribes to African-Americans and then ask about affirmative action). The "mere mention" of affirmative action appears to conjure up negative images of African-Americans.

The previous example also suggests that dealing with sensitive topics, such as racial attitudes, requires care in constructing a survey/measuring instrument. While a respondent may harbor negative attitudes toward a particular racial, ethnic or religious group, they are probably unlikely to directly state this to an interviewer or agree with a blatant statement expressing contempt for the group they dislike. The example of affirmative mentioned previously is such a topic. Due to "social desirability," respondents holding negative opinions about affirmative action may be reluctant to express them. Therefore, the measuring instrument needs to contain non-blatant options presented in a manner that conceals the respondent's answers.

One such approach is the list experiment. The respondent is shown a list of items that they are told might make people angry or upset. The respondent is then told to tell the interviewer how many of the items on the list make them angry or upset, but *not* which particular items. Here is a list used by political scientist James Kuklinski and his collaborators (American Journal of Political Science, 1997, pp. 402-419):

1. Government increasing the tax on gasoline
2. Professional athletes earning large salaries
3. Requiring seatbelts be used when driving
4. Corporations polluting the environment

A randomly selected group was given the list as constituted above while an equally sized randomly selected group was given the same list with the following fifth item added: Awarding college scholarships on the basis of race. If the average of the first group (i.e., the group shown statements 1-4) is 2.3 (i.e., the average person found 2.3 of items 1-4 made them angry or upset) and the average of the group shown all 5 items is 2.9, it would mean that 60% of the second group said that awarding college scholarships on the basis of race made them either angry or upset. You could try such a procedure in a survey by dividing a randomly selected group into two equal parts and administering two forms of answers as shown above.

Question wording can also affect the respondents' answers. An interesting example of this phenomenon comes from the political science literature on tolerance. In the 1950s Samuel Stouffer found that many Americans held rather intolerant views of communists. In the 1970s, using the same questions that Stouffer used, political scientists found that Americans had become more tolerant of communists. However, this did not necessarily mean that tolerance "per se" had increased.

To better assess tolerance, political scientist John Sullivan first asked respondents to name their least favored group from a large list of potentially unpopular groups. Then Sullivan asked the same questions that Stouffer had except that communists were replaced by the respondent's least favored group. What Sullivan found was that tolerance was not appreciably greater in the 1970s than the 1950s. The difference was strictly in the groups people were intolerant toward. Thus, while tolerance toward communists increased, Americans were as intolerant of their least favored group in the 1970s as they had been of communists in the 1950s. All of this suggests that much thought and care go into the preparation of survey questions and answers.

The file for preparing Appendix B of the term paper provides many examples of actual survey questions used by prominent surveyors. Remember, don't just "write a series of questions." Make sure that theory is guiding you. Notice that Appendix A in the sample term contains a theoretical rationale for each question. Make sure you do the same. We want the reader to come away with a sense that you can think through a useful model and write a series of questions that would measure the variables necessary to estimate this model.