# Notes for the Instructor for Instructional Exercises Using the Pew 2014 Religious Landscape Survey

The data set used in these exercises is a subset of the Pew Religious Landscape Survey conducted in 2014 by the Pew Research Center. The survey was a very large telephone survey of about 35,000 adults living in all 50 states in the U.S. About 60% of all interviews were on cell phones and 40% on landlines. At least 300 interviews were conducted in each state including the District of Columbia. More information about the survey can be found on the [Pew website](http://www.pewresearch.org/). You will also find their [interactive website](http://www.pewforum.org/religious-landscape-study/) extremely useful. A similar survey of about 35,000 adults was conducted by the Pew Center in 2007 but we will be using the 2014 Pew survey in these exercises. You should consult my [Notes on the Data Set](http://www.ssric.org/files/2017-10/Notes_on_the_Data_Set_0.docx) for more information on how I created the subset used in these exercises.

## Instructional Exercises

I created five sets of instructional exercises.

* Religion\_1MR to Religion\_4MR – These exercises focus on measurement.[[1]](#footnote-1)
  + [Religion\_1MR](http://www.ssric.org/node/665) – measuring religious preference
  + [Religion\_2MR](http://www.ssric.org/node/666) – measuring religiosity
  + [Religion\_3MR](http://www.ssric.org/node/667) – measuring religious beliefs
  + [Religiion\_4MR](http://www.ssric.org/node/668) – measuring religious behavior
* Religion\_1SR, Religion\_2SR, Religion\_3ER, and Religion\_4ER – These exercises focus on the relationship of various dimensions of religion and social issues.[[2]](#footnote-2) Screen captures are included in Religion\_1SR and Religion\_3ER but not in the other two exercises in this series.
  + [Religion\_1SR](http://www.ssric.org/node/669) – two-variable analysis of religion and attitudes toward same-sex marriage.
  + [Religion\_2SR](http://www.ssric.org/node/670) – three-variable analysis of religion and attitudes toward same-sex marriage.
  + [Religion\_3ER](http://www.ssric.org/node/672) – two-variable analysis of religion and attitudes toward environmental laws and regulations.
  + [Religion\_4ER](http://www.ssric.org/node/673) – three-variable analysis of religion and attitudes toward environmental laws and regulations.
* Religion\_1RR to Religion\_3RR – These exercises compare the religion in which the respondent was raised to the respondent's current religious preference in order to measure religious mobility.[[3]](#footnote-3) Screen captures are included in Religion\_1RR but not in the other two exercises in this series.
  + [Religion\_1RR](http://www.ssric.org/node/674) – This exercise compares the religion in which respondents were raised with their current religious preference.
  + [Religion\_2RR](http://www.ssric.org/node/675) – This exercise develops an overall measure of religious mobility and looks to see where people go when they leave their religious group.
  + Religion\_3RR – This exercise develops an overall measure of religious mobility and looks to see whether mobility varies by sex and age.
* Religion\_1SPR to Religion\_3SPR – These exercises compare the religious preference of respondents with the preference of their spouse or partner.[[4]](#footnote-4) Screen captures are included in Religion\_1SPR but not in the other two exercises in this series.
  + [Religion\_1SPR](http://www.ssric.org/node/177) – This exercise compares the respondent's religious preference with spouse's and partner's preference.
  + [Religion\_2SPR](http://www.ssric.org/node/678) – This exercise develops an overall measure of religious similarity and looks more closely at respondents who are not similar to their spouses and partners in religious preference.
  + [Religion\_3SPR](http://www.ssric.org/node/679) – This exercise looks to see whether similarity and dissimilarity varies by sex and age.
* Religion\_1CR to Religion\_6CR – These exercises compare two religious groups of the student's choice.[[5]](#footnote-5)
  + [Religion\_1CR](http://www.ssric.org/node/680/edit) – This exercise is an introduction to this series.
  + [Religion\_2CR](http://www.ssric.org/node/681) – This exercise compares the religiosity (i.e., how religious people are) of the two religious groups the students choose.
  + [Religion\_3CR](http://www.ssric.org/node/682) – This exercise compares the religious beliefs of the two religious groups the students choose.
  + [Religion\_4CR](http://www.ssric.org/node/683) – This exercise compares the religious behavior of the two religions the students choose.
  + [Religion\_5CR](http://www.ssric.org/node/684) – This exercise compares the political party preference and political views of the two religious groups the students choose.
  + [Religion\_6CR](http://www.ssric.org/node/685) – This exercise compares opinions on homosexuality, same-sex marriage, abortion, and environmental laws and regulations of the two religious groups the students choose.

## Statistical Analysis

I used SPSS as the statistical package for these exercises. However, they could be converted to SAS, Stata, or any other package you prefer. The statistical tools used are relatively simple – percentages, crosstabulation, Chi Square, and measures of association.[[6]](#footnote-6) I used two measures of association – Cramer's V and Kendall's tau-b. Cramer's V is the appropriate measure of association for nominal variables and Kendall's tau-b for ordinal variables. SPSS computes other measures of association so it would be easy to modify the exercises to use your favorite measure.

If you are looking for exercises that cover a broader range of statistical tools, I have written three sets of exercises for an introductory statistics class. One set uses SPSS; another set uses PSPP, and the third set uses SDA (Survey Documentation and Analysis). I have also written a series of exercises for an [introductory research methods class](http://ssric.org/node/619) that uses SPSS.

My colleagues and I have written an online [introduction to SPSS](http://ssric.org/node/582) which is freely available on our website. I referred students to appropriate chapters in the book in these exercises. This book includes all the statistical procedures in SPSS that you are likely to use in undergraduate courses.

I show students how to use SPSS to compute the statistics we use in these exercises and provide information on how to interpret them. I do not explain how to compute them nor do I discuss the assumptions that underlie each statistic. If you want to cover this in the exercises, you will need to add that information.

There are some things that you ought to discuss with students before assigning these exercises.

* Students need to understand the difference between nominal and ordinal measures for some of the exercises. In a crosstabulation, if either variable is nominal, then V should be used. If both variables are ordinal, then tau-b should be used.
* Students also need to understand that dichotomous variables are always treated as ordinal.
* Cramer's V is always positive while Kendall's tau-b can be either positive or negative. I would tell the students to ignore the sign of tau-b. That's because the sign depends on how the variables are coded. For example, sex is a dichotomy in the data set and therefore should be treated as ordinal. It doesn't matter whether males are coded 1 and females are coded 2 **or** if females are coded 1 and males coded 2. The value of tau-b will be the same although the sign of tau-b will change.
* Students need to understand the difference between independent and dependent variables for exercises that include crosstabulation. I discuss this in the exercises but it will need reinforcement in class.
* With a sample this large, it's important to keep in mind that the larger the sample, the easier it is to get a significant Chi Square. That makes measures of association even more critical.

## Composite and Recoded Variables

These exercises refer to composite and recoded variables. Composite variables are variables that either Pew or I constructed by combining two or more variables. Recoded variables are variables for which I combined categories so as to reduce the number of categories. See the Notes on the Data Set for a list of these variables. Recoded variables have names that end in R followed by a number. Sometimes I recoded a variable in two different ways. The number distinguishes between the two recodes.

## Missing Values

I assigned missing values in the way that made the most sense to me. You can change the missing value codes as you wish.

## Notes about Specific Exercises

* Measurement exercises – These exercises are limited to frequency distributions. The focus is on how to measure different religious concepts. All four exercises include screen captures to help students learn SPSS. Exercise Religion\_3MR introduces the compute function in SPSS and exercise Religion\_4MR introduces both the select cases and the count functions in SPSS.
* Social issue exercises (i.e., same-sex marriage and environmental laws and regulations)
  + Religion\_1SR and Religion \_2SR focus on the relationship between religion and attitudes toward same-sex marriage. The first exercise uses frequency distributions and two-variable tables. The second exercise uses frequency distributions and three-variable tables and also discusses spuriousness.
  + Religion\_3ER and Religion\_4ER focus on the relationship between religion and how respondents feel about environmental laws and regulations. The third exercise uses frequency distributions and two-variable tables. The fourth exercise uses frequency distributions and three-variable tables and also discusses spuriousness and specification.
* Religion in which raised exercises – These exercises use frequency distributions and crosstabulation to discuss religious mobility.
* Religion of respondent and religion of spouse or partner exercises– These exercises use crosstabulation to compare the religious preference of the respondents and that of their spouse or partner and to develop a measure of similarity and dissimilarity.
* Compare religions exercises – These exercises compare two religious groups of the student's choice. They use frequency distributions, crosstabulations, percents, Chi Square, and Kendall's tau-b as the measure of association. Exercise\_1CR explains how to choose the two religions to compare and how to select out the respondents in these two religions. It should always be used prior to any of the other exercises in this set. There is considerable repetition in Exercises 2CR through 6CR so that you can select which comparisons you want students to make. If you use more than one of these five exercises, you will want to eliminate some of the repetitious material.

## Screen Captures

Screen captures are used in some of the exercises to help students learn how to use SPSS. In most of the exercise series, the first exercise in that series includes screen captures but not subsequent exercises in that series. There is also a [SPSS tutorial](http://ssric.org/node/582) that is freely available to help students. I refer students to different parts of this book in these exercises.

## Spreadsheets

There are two spreadsheets available which show you [which exercises use different parts of SPSS](Notes_on_the_Data_Set.docx) and various [statistical and methodological tools and concepts](http://www.ssric.org/files/2017-10/keywords_for_spss_tools.xlsx).

## Permission to Edit Exercises

I have tried to make the exercises as independent of each other as possible so you could use whichever exercise you want without having to use all the exercises in the series. This means that there is considerable repetition across the exercises. You have permission to edit the exercises in any way you want. You can delete material that is too repetitious, add material of your own, and combine exercises. I would appreciate receiving a copy of what you do so I can see how the exercises are being used. If you find any errors in the exercises, please let me know so I can correct them.

## Contacting the Author

If you would like to contact me, please email me at [ednelson@csufresno.edu](mailto:ednelson@csufresno.edu). I’m Professor Emeritus at California State University, Fresno in the Sociology department. I taught research methods, statistics, and critical thinking before retiring and now teach a critical thinking course part time.

1. The "R" in the exercise names indicates that these are exercises on religion using the 2014 Pew Religious Landscape Survey. The "M" indicates that these exercises focused on measurement. [↑](#footnote-ref-1)
2. The "S" in the exercise names indicates that these exercises focused on religion and same-sex marriage. The "E" indicates that these exercises focused on religion and environmental laws and regulations. [↑](#footnote-ref-2)
3. The "R" in the exercise names indicates the religion in which respondents were raised. [↑](#footnote-ref-3)
4. The "SP" in the exercise names indicates that we are comparing the religious preference of the respondent with that of the spouse or partner. [↑](#footnote-ref-4)
5. The "C" in the exercise names indicates that we are comparing two religions which students choose. [↑](#footnote-ref-5)
6. Not all of these statistics are used in each exercise. There is a spreadsheet available that identifies which exercises include which statistics. See the spreadsheet section later in these notes. [↑](#footnote-ref-6)