

## Using the Utah SHARP Web Tool for Running Item Crosstabs

The Crosstabs function on the Utah SHARP Web Tool allows you to examine responses to one question on the SHARP survey relative to responses on a second item. For example, you might be interested in knowing whether there are differences in 30 day alcohol use between youth who believe their parents would say it is “Very wrong” for them to use alcohol vs. “A little bit wrong.” Alternatively, you might be interested in knowing what percentage of past 30 day alcohol users also reported using marijuana in the past 30 days. Using the Crosstabs function can provide answers to these types of questions.

### To Run a Crosstab Report:

Identify the two SHARP items that you are interested in examining using the drop down lists (Question 1 and Question 2). For the crosstab output table to provide the information you desire, it is important that the two questions be entered in the appropriate order (i.e., reversing the order of the two items will not provide the same response frequencies). The Question 1 field serves as the primary variable of interest, while the Question 2 field serves as the contextual variable. For example, if you are interested in examining 30-day alcohol use (primary variable), in relation to parent’s attitudes about their children using alcohol (contextual variable), you would choose item Q43 for the Question 1 field, and item Q70a for the Question 2 field (see example below).

**Crosstabs**

Year:  [How to Use Crosstabs](#)

Entity Type:

Entity:

Grade:

Question 1:  [SHARP Question Reference](#)

Question 2:

State Crosstab Percentages (SHARP 2019)

Grade: All		How wrong do your parents feel it would be for YOU to: drink beer, wine, or hard liquor regularly?				Total
		Very Wrong	Wrong	A Little Bit Wrong	Not Wrong at All	
How many times have you: had beer, wine, or hard liquor during the past 30 days?	0 Occasions	96.6	79.2	63.5	58.3	94.6
	1-2 Occasions	2.4	12.6	21.6	14.0	3.5
	3-5 Occasions	0.6	4.9	8.4	10.9	1.1
	6-9 Occasions	0.2	2.3	3.9	9.0	0.5
	10-19 Occasions	0.1	0.7	1.9	5.5	0.2
	20-39 Occasions	0.0	0.2	0.3	0.7	0.0
	40+ Occasions	0.0	0.2	0.3	1.5	0.1
	Total	100.0	100.0	100.0	100.0	100.0

### **Interpreting the Output Table:**

The crosstabs output table presents the percentage of participants who indicated each response to the primary variable, *based on* their response to the contextual variable. In the example above, you can examine 30 day alcohol use responses based on perceived parental attitudes about youth alcohol use. For youth who indicated that their parents would feel it was “Not Wrong at All” for them to use alcohol only 58.3% reported not using alcohol, 14.0% indicated using 1-2 occasions, 10.9% indicated using 3-5 occasions, etc. By contrast, for youth who indicated that their parents would feel it was “Very wrong” for them to use alcohol, 96.6% reported not using alcohol, 2.4% indicated using 1-2 occasions, 0.6% indicated 3-5 times, etc.

The percentages provided *within* each column will always add up to 100% because the percentage in each cell reflects only the total number of participants who indicated the specified response to the contextual variable. In contrast, the row totals present the overall percentage of participants who indicated each response to the primary variable (e.g., 94.6% of all participants [regardless of response to perceived parental attitudes] indicated using alcohol on “0 Occasions” in the past 30 days). This highlights the importance of entering the survey items in the correct order with Question 1 as the primary variable of interest, and Question 2 as the contextual variable. (If you REVERSE the order of the variables, it provides a different perspective on the data. In this case, the table would allow you to see how participants responded to the parental disapproval item based on their alcohol use responses.)

### **Helpful Tips for Running Crosstabs:**

- 1) Use the SHARP Question Reference for a list of items that are included in the drop down box for Question 1 and Question 2. Because the items (or the order of the items) change each survey administration, there is a separate reference document for each survey year. The SHARP Question Reference link (located within the gray Crosstabs entry field area) will access the appropriate document based on the year that is selected in the Year field.
- 2) Use the question filter dropdowns (links located above both the Question 1 and Question 2 boxes) to filter the list of items in each of the Question fields to a smaller and more focused set of items.
- 3) Use the largest relevant sample for your crosstab analyses as possible. The larger the sample size for your analyses, the more reliable the observed relationships are likely to be. For example, using the total state sample will provide the most reliable results vs. using smaller geographical areas. With that said, you may need to drill down to a smaller subset of the data for the results of the analyses to be relevant. If so, just be sure to understand that your confidence in the results should be tempered as you analyze the data at smaller and smaller levels.
- 4) Pay close attention to what the data table is telling you (based on which item is specified as Question 1 and Question 2). Remember, that the order of the items DOES matter regarding interpretation. If you are not sure how to interpret the data table, please re-visit the section above in this document or reach out to the DSAMH or SEOW for technical assistance.

- 5) The Crosstabs tool is also excellent for examining the response breakout for any individual survey item. For example, if you are interested in knowing the actual frequency of 30 day alcohol use responses rather than the simpler breakout of youth who “drank any alcohol” vs. “those who did not drink,” you can run a crosstab with 30 day alcohol as Question 1 and grade (Q3) as Question 2. This will allow you to examine frequencies for each response category for the number of occasions that alcohol was used.

#### **Important Cautions for Interpreting Crosstabs:**

- 1) Most importantly, do not make assumptions about cause and effect. The crosstab tables allow you to examine the relationship between two specified variables. While it may be tempting to interpret the data as having a cause and effect relationship (e.g., Question 2 causes Question 1), the crosstab data DO NOT imply causality. The crosstab tool provides the opportunity to examine relationships in the data, but it is important NOT to make assertions from the data that are not warranted. When you find relationships between two variables, some possibilities for that relationship include:
  - a) Question 2 causes Question 1 (there is a cause and effect relationship)
  - b) Question 1 causes Question 2 (cause and effect is reversed)
  - c) Some other variable causes both Question 1 and Question 2
  - d) There is no true relationship between Question 1 and Question 2 (the relationship is an artifact of the survey – see next bullet point)
- 2) Running crosstabs is a form of data “mining.” There is a large number of items on each SHARP Survey, and sometimes relationships between items can exist by chance (not because of a true relationship between the variables). It is always good to do some reality checks when you find relationships in the data. For example:
  - a) Does the relationship hold up over time (not just for one year of the survey)?
  - b) Does the relationship seem to be systematic (e.g., is there a linear relationship or is it sporadic)?
  - c) Is there a theoretical foundation that plausibly connects the variables?
- 3) Form A only and Form B only items - The number of items collected through the SHARP Survey has increased over the years to the point where two forms of the survey are now administered each year. Most items appear on both Form A and Form B, but some items appear only on Form A, and other items appear only on Form B (please see the SHARP Question Reference document for each survey year for specific items that are only on Form A or Form B). When running crosstabs where either Question 1 or Question 2 contains an item that is on Form A or Form B only, please note that the sample size for the crosstab run is likely to be half of the total SHARP sample for the specified geography. In situations where a Form A only item AND a Form B only item are chosen for a crosstab run, the table will display “n/a” in each cell because there are no participants who would have completed both Form A and Form B only items due to their mutual exclusivity.