Extracting Numbers from Food Handlers Results

Event Profile

First Name	JOHN
Last Name	AGENT
Primary County	Lone Star
Additional County	•
Additional County	•
Additional County	
Type of Plan	Outcome
State Goal	Goal 1 (Educate Texans for Improving Their Health, Safety, and Well-Being)
TExAS Plan Number	
TExAS Task Number	
Type of Event	Group educational event
Event Title	FOOD HANDLER CLASS
Event Date	19-SEP-2024
Economic Benefit an Explicit Go	No
CEUs Offered	CEUs not offered
Partial Cost Recovery Event	Yes
Zip Code Where the Event Occurred	79603
Scan Form ID	48259
Batch number assigned by OD	63756
Surveys Returned	13
Total Attendance	13
Survey Response Rate	100.0%

The first page of your output is standard for most results sent by the Office of Data and Accountability (ODA). It contains a profile of your event built mostly with information from your cover sheet. ODA adds the calculation of a **response rate** by comparing the **number of surveys returned** versus **attendance**. You may want to report these three pieces of information.

NOTE: For a pre-post survey like this, the number of "Surveys Returned" will only include pre and post surveys matched by an ID. For example, if you list attendance as 13, and return 11 pre and post surveys with a matching ID, and 2 post surveys <u>without</u> their matching pre surveys, then the number of "Surveys Returned" would be 11, not 13. The response rate would be 84.6%, not 100%.

			Gender		
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	3	23.1	23.1	23.1
	Female	10	76.9	76.9	100.0
	Total	13	100.0	100.0	

Preferred language								
		Frequency	Percent	Valid Percent	Cumulative Percent			
Valid	Other	13	100.0	100.0	100.0			

Highest level of education completed

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than HS	5	38.5	38.5	38.5
	HS Grad or GED	8	61.5	61.5	100.0
	Total	13	100.0	100.0	

	Habby ettimoty										
		Frequency	Percent	Valid Percent	Cumulative Percent						
Valid	African American	12	92.3	100.0	100.0						
Missing	System	1	7.7								
Total		13	100.0								

Bace/ethnicity

			Age		
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 - 24	6	46.2	46.2	46.2
	25 - 34	5	38.5	38.5	84.6
	35 - 44	2	15.4	15.4	100.0
	Total	13	100.0	100.0	

Have you ever worked in food service?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	6	46.2	46.2	46.2
	No	7	53.8	53.8	100.0
	Total	13	100.0	100.0	

In your results, you'll be seeing a lot of frequency tables (especially with the participant background section). These indicate how many people selected each answer choice and the corresponding percentage. Use the **Valid Percent** column to report percentages.

Valid Percent columns are highlighted in blue text. The Valid Percent column excludes missing values, as compared to the Percent column which includes missing values. If a survey question does not have any missing values, the percentages in these two columns will be the same. In the frequency tables above, there were no missing values in any of the participant background questions, so the percentages in Percent and Valid Percent columns were the same.

Using gender as an example, we see that 3 of 13 participants (23.1%) were male and 10 of 13 participants were female (76.9%).

	Paired Samples Correlations										
							Signifi	icance			
					N	Correlation	One-Sided p	Two-Sided p	_		
		Pair 1 Pre Test Score & Post Test Score			13	.337	.130	.261	-		
				Paired	Samples	s Test					
				Paired Diff	erences					Signif	icance
					95%	95% Confidence Interval of the Difference					
		Mean	Std. Deviation	Std. Error Mea	an L	ower	Upper	t	df	One-Sided p	Two-Sided p
Pair 1	Pre Test Score - Post Test Score	-58.000	9.574	2.65	5	-63.786	-52.214	-21.842	12	<.001	<.001

Paired Samples Statistics

13

13

Mean 29.85

87.85

Pair 1

Pre Test Score

Post Test Score

N Std. Deviation Std. Error Mean

2.645

1.811

9.538

6.530



Pet Chg = ((Post_Mean - Pre_Mean) / Pre_Mean) *
100

The first table (highlighted in blue) shows the mean test score of the pre and post-test. In this example, the mean pre-test score was 29.85 and the mean post-test score was 87.85.

The number under the "Significance- Two-Sided p" (highlighted in red) tells you whether the difference between the means is statistically significant. If the number is 0.05 or less (as it is here), then the difference is statistically significant.

IMPORTANT: Discard any discussion of statistical significance if the "N" value in the number of matched pre and post surveys (highlighted in green) is less than 10.

Percent change in the mean scores (highlighted in yellow) is also calculated for you using the following formula:

Percent Change = ((Post Mean - Pre Mean) / Pre Mean) * 100

In this example, there was a 194.3% increase in the mean post-test score over the mean pre-test score. This is a substantial improvement in the test mean score that shows the effectiveness of the program in increasing participant knowledge of food safety practices.

***** PERCENT_ANSWERING_CORRECTLY_ (PRE vs. POST) *****

Question	% Correct Pre	% Correct Post
8. Which describes proper hand and arm washing?	38%	100%
9. Which of the following statement about Hand Washing sinks is TRUE?	15%	54%
10. The act of removing dirt, soil, food or grease from a surface is known as:	46%	92%
11. Which of the following is an example of a situation where Cross-Contamination can occur?	15%	85%
12. Which of the following best describes the Temperature Danger Zone?	46%	100%
13. A person working with food should immediately tell their supervisor or boss if they have:	54%	85%
14. A foodborne outbreak involves at least how many people?	0%	54%
15. Food can be contaminated by:	8%	92%
16. Which of the following is an example of a ready-to-eat (RTE) food?	62%	100%
17. Where should you take the temperature of a food?	23%	85%
18. Which of the following is an example of good personal hygiene?	8%	100%
19. Which of the following is NOT a Time/Temperature Control for Safety (TCS) Food?	8%	92%
20. When working specifically with a Highly Susceptible Population, bare hand contact while food handling is permitted for some foods.	38%	92%
21. NOT properly washing produce before serving it, can cause what type of hazard?	31%	85%
22. Which of the following is NOT a way to stop Cross-Contamination?	54%	100%

The table above shows the percentage of respondents who answered each survey question correctly, pre vs. post.

For Question 10, over nine of ten participants (92%) answered the question correctly on the post-test vs. less than half (46%) on the pretest.

	Ν	Mean	Std. Deviation
Overall, how satisfied were you with the instructor's performance?	13	5.00	.000
Overall, how satisfied were you with the program?	13	5.00	.000
How satisfied were you with the instructor's knowledge of subjects, and ability to answer questions?	13	5.00	.000
How satisfied were you with the presentation of the material?	13	5.00	.000
Valid N (listwise)	13		

Descriptive Statistics

The next table displays client satisfaction information including the mean score and standard deviation for each customer satisfaction question. Means are calculated based on a 5-point scale: 1 = Not at all, 2 = Slightly, 3 = Somewhat, 4 = Mostly, 5 = Completely.

In this case, all 13 participants were completely satisfied with each program item asked about, thus the mean was 5.0 with no variance (leading to a standard deviation of 0).

	Gender	Age	Preferred language	Highest level of education completed	Have you ever worked in food service?	How long in food service?	Have you ever had any training in food safety?	Pre Test Score	Post Test Score
1	Female	18 - 24	Other	HS Grad or GED	No	-	No	27	87
2	Female	18 - 24	Other	HS Grad or GED	Yes	Less than 1 year	No	20	87
3	Female	25 - 34	Other	Less than HS	Yes	Less than 1 year	No	27	87
4	Female	35 - 44	Other	HS Grad or GED	Yes	Less than 1 year	No	20	80
5	Female	18 - 24	Other	Less than HS	No			33	87
6	Female	25 - 34	Other	HS Grad or GED	No		No	27	87
7	Female	25 - 34	Other	HS Grad or GED	Yes	Less than 1 year	No	20	87
8	Female	35 - 44	Other	HS Grad or GED	Yes	1 - 3 years	No	27	87
9	Male	25 - 34	Other	Less than HS	No		No	27	100
10	Male	25 - 34	Other	HS Grad or GED	Yes	Less than 1 year	No	27	80
11	Female	18 - 24	Other	Less than HS	No		No	53	93
12	Male	18 - 24	Other	HS Grad or GED	No		No	40	80
13	Female	18 - 24	Other	Less than HS	No		No	40	100

Listing of Individual Pre and Post Test Scores with Demographics

The remaining pages of your output contain more detailed information. The first table lists individual pre and post test scores along with their demographic information included. These data are useful if you want to search for patterns or differences in groups.

		Pre	e Test Sco	ore					Pos	t Test Sc	ore			
		Frequency	Percent	Valid Percent	Cumulative Percent				Frequency	Percent	Valid Percent			
Valid	53	1	7.7	7.7	7.7		Valid	100	2	15.4	15.4			
	40	2	15.4	15.4	23.1	23.1								
	33	1	7.7	7.7	30.8			93	1	1.1	7.7			
	27	6	46.2	46.2	76.9						87	7	53.8	53.8
		0	02.1	00.1	100.0			80	3	23.1	23.1			
	20	3	23.1	20.1	100.0			T	40	400.0	400.0			
	Total	13	100.0	100.0				Total	13	100.0	100.0			

These two frequency tables show the distribution of pre-test and post-test scores. In this example, the highest score on the pre-test was 53 with 1 out of the 13 participants (7.7%) having this score. Compared to the post-test, the highest score increased to a perfect 100 with 2 out of the 13 participants (15.4%) having this score. <u>All participants (100%) had a test score of 80 or higher on the post compared to none on the pre.</u>

Cumulative Percent

> 15.4 23.1 76.9 100.0

performance?						
		Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Completely	21	100.0	100.0	100.0	

Overall, how satisfied were you with the instructor's performance?

Overall, how satisfied were you with the program?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely	18	85.7	90.0	90.0
	Mostly	1	4.8	5.0	95.0
	Slightly	1	4.8	5.0	100.0
	Total	20	95.2	100.0	
Missing	Not applicable	1	4.8		
Total		21	100.0		

How satisfied were you with the instructor's knowledge of subjects, and ability to answer questions?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely	21	100.0	100.0	100.0

How satisfied were you with the presentation of the material?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Completely	19	90.5	95.0	95.0
	Mostly	1	4.8	5.0	100.0
	Total	20	95.2	100.0	
Missing	Not applicable	1	4.8		
Total		21	100.0		

Above is a sample of the frequency tables for the satisfaction questions. Use the **Valid Percent** column (in blue text) to report individual percentages. The Valid Percent column excludes missing values, as compared to the percent column which includes missing values. If a survey question does not have any missing values, the percentages in these two columns will be the same. For overall satisfaction, there was one participant who didn't answer the question. Here, 18 out of 20 valid participants (90%) were "Completely" satisfied with the program.

Cumulative Percent adds up percentages across answer choices. This is useful in reporting the percentage of participants in the top categories. For overall satisfaction, we see that 95% of participants were "Completely" or "Mostly" satisfied with the program overall.

(Pre-Post Comparison) 10. The act of removing dirt, soil, food or
grease from a surface is known as:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Pre Correct - Post Correct *	6	46.2	46.2	46.2
	Pre Incorrect - Post Correct *	6	46.2	46.2	92.3
	Pre Incorrect - Post Incorrect	1	7.7	7.7	100.0
	Total	13	100.0	100.0	

		Count	Column Valid N %
(PRE) 10. The act of removing	[CORRECT] Cleaning	6	46.2%
dirt, soil, food or grease from a surface is known as:	Sanitizing	6	46.2%
Sanado is hild milde.	Sterilizing	1	7.7%
	Rinsing	0	0.0%
	Blank	0	0.0%
(POST) 10. The act of	[CORRECT] Cleaning	12	92.3%
removing dirt, soil, food or grease from a surface is known	Sanitizing	1	7.7%
as:	Sterilizing	0	0.0%
	Rinsing	0	0.0%
	Blank	0	0.0%

The final section of your Food Handlers output presents more detailed results for all individual test questions. The example shown is for Question 10.

The first table shows how responses changed from pre-test to post-test, indicating if participants answered the question correctly or incorrectly. In the example (highlighted in blue), 6 participants answered Question 10 correctly on both the pre-test and post-test. Another 6 participants answered the question incorrectly on the pre-test but correctly answered the question on the post-test (a result you want to see). Lastly, there was 1 participant who answered incorrectly on both the pre and post-test (a result you do <u>not</u> want to see).

The second table shows the distribution of all responses for Question 10 on the pre-test and post-test. In the example (highlighted in red) 6 out of 13 (46.2%) participants answered correctly on the pre-test, whereas 12 out of 13 (92.3%) participants answered correctly on the post-test. So, on Question 10, the program was very effective in correcting participants who thought or guessed the stated definition was something other than "cleaning."

Texas A&M AgriLife Extension Service, Office of Data and Accountability, May 2025