



Report Research: SPSS Data Analysis

-  Frequencies
-  Compare Means
-  Independent Samples T-Test
 -  Differences
 -  Significance
-  Crosstabs
 -  Differences
 -  Significance
-  Target Market Profiling - Frequencies
-  ANOVA: Analysis of Variance {Grad Students ONLY}
 -  Differences
 -  Overall significance
 -  Between group significance



Frequencies

Displays the number of respondents for each value of each variable, the percentage of the dataset accounted for by each value and cumulative percentage of increasing values.

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	FEMALE	104	52.0	52.0	52.0
	MALE	96	48.0	48.0	100.0
	Total	200	100.0	100.0	

Home country

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	United States	50	25.0	25.0	25.0
	Italy	50	25.0	25.0	50.0
	Target	50	25.0	25.0	75.0
	South Korea	50	25.0	25.0	100.0
	Total	200	100.0	100.0	

Usage Classification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Heavy user	39	19.5	19.5	19.5
	Moderate user	76	38.0	38.0	57.5
	Light user	85	42.5	42.5	100.0
	Total	200	100.0	100.0	



Compare Means

Displays the mean value of the dependent variable for each value of the Independent variable. In this case, the mean values for each of the Likert measures is displayed for each of the four countries in the dataset.

Home country		Buy beer based on price	Seek out special promotions for beer	Buy only beer with pure ingredients	Prefer low calorie beer	Prefer low alcohol beer	Prefer light color beer
United States	Mean	1.94	2.16	2.86	2.52	2.66	2.24
	N	50	50	50	50	50	50
	Std. Deviation	1.06	1.09	1.14	1.05	1.08	.87
Italy	Mean	3.14	2.84	2.06	3.02	2.84	3.56
	N	50	50	50	50	50	50
	Std. Deviation	1.32	1.50	.79	.96	1.36	1.03
Target	Mean	2.70	2.62	2.54	2.80	2.84	3.00
	N	50	50	50	50	50	50
	Std. Deviation	1.36	1.37	1.05	1.20	1.33	1.18
South Korea	Mean	2.38	2.38	2.38	2.74	2.66	2.80
	N	50	50	50	50	50	50
	Std. Deviation	1.31	1.34	1.07	.85	1.12	1.14
Total	Mean	2.54	2.50	2.46	2.77	2.75	2.90
	N	200	200	200	200	200	200
	Std. Deviation	1.33	1.35	1.06	1.03	1.22	1.16



T-Test: Differences

Displays the mean value of the dependent variable for two defined groups within the independent variable. In this case, the mean values for the Likert scale items are shown for respondents from the USA and the target country. Use this information to identify differences these mean values.

Group Statistics

	Home country	N	Mean	Std. Deviation	Std. Error Mean
Buy beer based on price	United States	50	1.94	1.06	.15
	Target	50	2.70	1.36	.19
Seek out special promotions for beer	United States	50	2.16	1.09	.15
	Target	50	2.62	1.37	.19
Buy only beer with pure ingredients	United States	50	2.86	1.14	.16
	Target	50	2.54	1.05	.15
Prefer low calorie beer	United States	50	2.52	1.05	.15
	Target	50	2.80	1.20	.17
Prefer low alcohol beer	United States	50	2.66	1.08	.15
	Target	50	2.84	1.33	.19
Prefer light color beer	United States	50	2.24	.87	.12
	Target	50	3.00	1.18	.17
Buy only favorite beer	United States	50	2.80	1.23	.17
	Target	50	3.34	1.17	.17



T-Test: Significance

- If $< .05$, treat variances as unequal, evaluate this value for significance
- If $> .05$, treat variances as equal, evaluate this value for significance

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Buy beer based on price	Equal variances assumed	11.891	.001	-3.121	98	.002	-.76	.24	-1.24	-.28
	Equal variances not assumed			-3.121	92.428	.002	-.76	.24	-1.24	-.28
Seek out special promotions for beer	Equal variances assumed	8.367	.005	-1.856	98	.066	-.46	.25	-.95	3.18E-02
	Equal variances not assumed			-1.856	93.489	.067	-.46	.25	-.95	3.21E-02
Buy only beer with pure ingredients	Equal variances assumed	.035	.815	1.455	98	.149	.32	.22	-.12	.76
	Equal variances not assumed			1.455	97.360	.149	.32	.22	-.12	.76
Prefer low calorie beer	Equal variances assumed	1.592	.210	-1.242	98	.217	-.28	.23	-.73	.17
	Equal variances not assumed			-1.242	96.500	.217	-.28	.23	-.73	.17
Prefer low alcohol beer	Equal variances assumed	2.591	.111	-.743	98	.459	-.18	.24	-.66	.30
	Equal variances not assumed			-.743	94.050	.460	-.18	.24	-.66	.30



Crosstabs: Differences

Displays distribution of categories of dependent variable across classes of independent variable. In this case, the distribution usage groups in the following countries

○ USA

○ Target

Usage Classification * Home country

Crosstab					
			Home country		Total
			United States	Target	
Usage Classification	Heavy user	Count	6	10	16
		% within Usage Classification	37.5%	62.5%	100.0%
		% within Home country	12.0%	20.0%	16.0%
	Moderate user	Count	16	18	34
		% within Usage Classification	47.1%	52.9%	100.0%
		% within Home country	32.0%	36.0%	34.0%
	Light user	Count	28	22	50
		% within Usage Classification	56.0%	44.0%	100.0%
		% within Home country	56.0%	44.0%	50.0%
Total	Count	50	50	100	
	% within Usage Classification	50.0%	50.0%	100.0%	
	% within Home country	100.0%	100.0%	100.0%	



Crosstabs: Significance

Evaluate this number 0

If $< .05$, the differences in the distributions noted in the table are statistically significant

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.838 ^a	2	.399
Likelihood Ratio	1.850	2	.397
Linear-by-Linear Association	1.819	1	.177
N of Valid Cases	100		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.00.



Target Market Profiling

Select a target market based on age and income ranges, using at least two contiguous age groups and at least three contiguous income groups

Age classification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 OR YOUNGER	6	3.0	3.0	3.0
	21-30	76	38.0	38.0	41.0
	31-40	42	21.0	21.0	62.0
	41-50	34	17.0	17.0	79.0
	51-60	20	10.0	10.0	89.0
	OVER 60	22	11.0	11.0	100.0
	Total	200	100.0	100.0	

Income classification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LESS THAN 20,000	49	24.5	24.5	24.5
	20,000-29,000	31	15.5	15.5	40.0
	30,000-39,000	28	14.0	14.0	54.0
	40,000-49,000	25	12.5	12.5	66.5
	50,000-59,000	25	12.5	12.5	79.0
	60,000-69,000	12	6.0	6.0	85.0
	70,000-79,000	14	7.0	7.0	92.0
	OVER 80,000	16	8.0	8.0	100.0
	Total	200	100.0	100.0	



Target Market Profiling

Select the variables for which at least 65% of the responses are in the two Agree categories OR the two Disagree categories.

Use these responses to profile the characteristics of your target market.

Prefer light color beer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	10	43.5	43.5	43.5
	AGREE	7	30.4	30.4	73.9
	DISAGREE	2	8.7	8.7	82.6
	STRONGLY DISAGREE	4	17.4	17.4	100.0
	Total	23	100.0	100.0	

Buy only favorite beer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STRONGLY AGREE	3	13.0	13.0	13.0
	AGREE	1	4.3	4.3	17.4
	DISAGREE	5	21.7	21.7	39.1
	STRONGLY DISAGREE	14	60.9	60.9	100.0
	Total	23	100.0	100.0	



Research Profile: Perceptions

Buy beer based on price

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid STRONGLY AGREE	3	13.0	13.0	13.0
AGREE	13	56.5	56.5	69.6
DISAGREE	4	17.4	17.4	87.0
STRONGLY DISAGREE	3	13.0	13.0	100.0
Total	23	100.0	100.0	

**Results for respondents
between 40 and 60 years old
with annual incomes between
\$30,000 and \$60,000**



Include in Profile Analysis

Buy only favorite beer

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid STRONGLY AGREE	3	13.0	13.0	13.0
AGREE	1	4.3	4.3	17.4
DISAGREE	5	21.7	21.7	39.1
STRONGLY DISAGREE	14	60.9	60.9	100.0
Total	23	100.0	100.0	

Enjoy trying new beers

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid STRONGLY AGREE	4	17.4	17.4	17.4
AGREE	5	21.7	21.7	39.1
DISAGREE	3	13.0	13.0	52.2
STRONGLY DISAGREE	11	47.8	47.8	100.0
Total	23	100.0	100.0	



Research Profile: Purchase Behavior

Usage Classification

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Heavy user	4	17.4	17.4	17.4
Moderate user	7	30.4	30.4	47.8
Light user	12	52.2	52.2	100.0
Total	23	100.0	100.0	

Respondents in this segment are light to moderate beer drinkers,

Who shop once or twice weekly, and

Shopping Frequency

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Twice a month	1	4.3	4.3	4.3
Weekly	10	43.5	43.5	47.8
Twice weekly	7	30.4	30.4	78.3
Daily	5	21.7	21.7	100.0
Total	23	100.0	100.0	







Shopping Duties

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Female	12	52.2	52.2	52.2
Male	4	17.4	17.4	69.6
Both equally	7	30.4	30.4	100.0
Total	23	100.0	100.0	

Do most of the shopping themselves



Target Market Definition, Size and Projected Beer Purchases

-  Define your target market by age and income classifications in the SPSS dataset.
-  Use this definition to analyze statistical data on this market (review previous slides)
-  To calculate size of target market in number of people,
 -  Determine the number of people in your chosen age range (Data tables for [Population Pyramids](#))
 -  Multiply the result by the percentage of people in your chosen income range (SPSS Crosstabs)
-  To project beer purchases, multiply the product of the previous step by your country's per capita expenditure on beer (from World Consumers Lifestyle Databook)

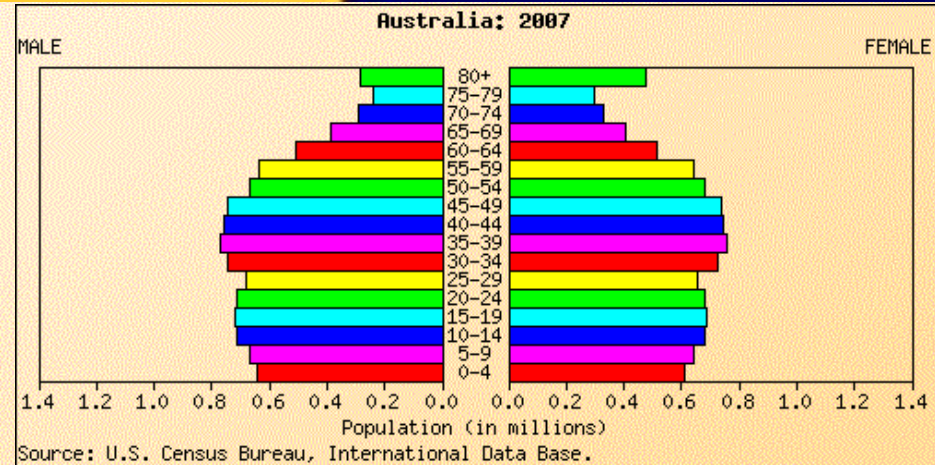


Determine target population by age

Visit the [Population Pyramid](#) site of the US Census Bureau and select the current year.

Determine the number of people in the target market you have defined, in this case,

5,840,087



Country or area/ Year/ Age	Population both sexes	Population male	Population female	Percent both sexes	Percent male	Percent female
Australia/2007						
Total, all ages	20,434,176	10,165,937	10,268,239	100.0	100.0	100.0
0- 4	1,252,833	641,772	611,061	6.1	6.3	6.0
5- 9	1,311,017	670,696	640,321	6.4	6.6	6.2
10- 14	1,388,754	710,907	677,847	6.8	7.0	6.6
15- 19	1,406,811	719,614	687,197	6.9	7.1	6.7
20- 24	1,396,286	713,008	683,278	6.8	7.0	6.7
25- 29	1,341,366	683,062	658,304	6.6	6.7	6.4
30- 34	1,466,563	743,593	722,970	7.2	7.3	7.0
35- 39	1,527,146	770,125	757,021	7.5	7.6	7.4
40- 44	1,505,016	757,120	747,896	7.4	7.4	7.3
45- 49	1,482,072	743,447	738,625	7.3	7.3	7.2
50- 54	1,347,250	669,268	677,982	6.6	6.6	6.6
55- 59	1,283,633	639,189	644,444	6.3	6.3	6.3
60- 64	1,020,578	506,642	513,936	5.0	5.0	5.0
65- 69	789,042	383,998	405,044	3.9	3.8	3.9
70- 74	622,663	291,693	330,970	3.0	2.9	3.2
75- 79	537,513	240,203	297,310	2.6	2.4	2.9
80+	755,633	281,600	474,033	3.7	2.8	4.6

Source: U.S. Census Bureau, International Data Base.



Screen for Income

Determine percent of population in the defined income range, in this case 42%

Multiply target population by this percentage to calculate number of people in target market, in this case,

$$5,840,087 * .42 = 2,452,837$$

Income classification					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LESS THAN 20,000	49	24.5	24.5	24.5
	20,000-29,000	31	15.5	15.5	40.0
	30,000-39,000	28	14.0	14.0	54.0
	40,000-49,000	25	12.5	12.5	66.5
	50,000-59,000	25	12.5	12.5	79.0
	60,000-69,000	12	6.0	6.0	85.0
	70,000-79,000	14	7.0	7.0	92.0
	OVER 80,000	16	8.0	8.0	100.0
	Total	200	100.0	100.0	



Calculate Projected Beer Purchases

Multiply TM population by Per Capita Expenditures on Beer from World Consumers Lifestyle Databook.

In this case,

$$2,452,837 * \$229.20 = \$562,190,240.40$$



Research Profile: Demographics

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid FEMALE	18	78.3	78.3	78.3
MALE	5	21.7	21.7	100.0
Total	23	100.0	100.0	

Respondents in this segment are primarily female,

Married

Marital status

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid MARRIED	21	91.3	91.3	91.3
DIVORCED	2	8.7	8.7	100.0
Total	23	100.0	100.0	

Household size

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 2	19	82.6	82.6	82.6
3	1	4.3	4.3	87.0
4	3	13.0	13.0	100.0
Total	23	100.0	100.0	

With No Children at Home



ANOVA: Differences

Displays the mean value of the dependent variable for each value of the independent variable. In this case, the mean values for each of the Likert measures is displayed for each of the four countries in the dataset.

This is the same data as the Compare Means Procedure.


		Descriptives		
		N	Mean	Std. Deviation
Buy beer based on price	United States	50	1.94	1.06
	Italy	50	3.14	1.32
	Target	50	2.70	1.36
	South Korea	50	2.38	1.31
	Total	200	2.54	1.33
Seek out special promotions for beer	United States	50	2.16	1.09
	Italy	50	2.84	1.50
	Target	50	2.62	1.37
	South Korea	50	2.38	1.34
	Total	200	2.50	1.35
Buy only beer with pure ingredients	United States	50	2.86	1.14
	Italy	50	2.06	.79
	Target	50	2.54	1.05
	South Korea	50	2.38	1.07
	Total	200	2.46	1.06

○ USA

○ Target



ANOVA: Overall Significance

Evaluate this number 

If $< .05$, the overall difference in the in the means of the groups is statistically significant

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Buy beer based on price	Between Groups	38.560	3	12.853	7.995	.000
	Within Groups	315.120	196	1.608		
	Total	353.680	199			
Seek out special promotions for beer	Between Groups	13.000	3	4.333	2.434	.066
	Within Groups	349.000	196	1.781		
	Total	362.000	199			
Buy only beer with pure ingredients	Between Groups	16.640	3	5.547	5.302	.002
	Within Groups	205.040	196	1.046		
	Total	221.680	199			
Prefer low calorie beer	Between Groups	6.340	3	2.113	2.020	.112
	Within Groups	205.080	196	1.046		
	Total	211.420	199			
Prefer low alcohol beer	Between Groups	1.620	3	.540	.358	.784
	Within Groups	295.880	196	1.510		
	Total	297.500	199			



ANOVA: Between Group Significance

Evaluate this number ○

If $< .05$, the difference in the means between this pair of groups is statistically significant.

Multiple Comparisons

Bonferroni

Dependent Variable	(I) Home country	(J) Home country	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Buy beer based on price	United States	Italy	-1.20*	.25	.000	-1.88	-.52
		Target	-.76*	.25	.018	-1.44	-.841E-02
		South Korea	-.44	.25	.506	-1.12	.24
	Italy	United States	1.20*	.25	.000	.52	1.88
		Target	.44	.25	.506	-.24	1.12
		South Korea	.76*	.25	.018	8.41E-02	1.44
	Target	United States	.76*	.25	.018	8.41E-02	1.44
		Italy	-.44	.25	.506	-1.12	.24
		South Korea	.32	.25	1.000	-.36	1.00
	South Korea	United States	.44	.25	.506	-.24	1.12
		Italy	-.76*	.25	.018	-1.44	-.841E-02
		Target	-.32	.25	1.000	-1.00	.36