```
 NEW FILE.
DATASET NAME DataSet1 WINDOW=FRONT.
PRESERVE.
SET DECIMAL DOT.

GET DATA  /TYPE=TXT
  /FILE="C:\Users\DELL\Desktop\Turkish oral health\turkish_adolescent_oral_health_data.cs
v"
  /ENCODING='UTF8'
  /DELIMITERS=","
  /QUALIFIER='"'
  /ARRANGEMENT=DELIMITED
  /FIRSTCASE=2
  /DATATYPEMIN PERCENTAGE=95.0
  /VARIABLES=
  group AUTO
  sex AUTO
  age AUTO
  weight AUTO
  height AUTO
  tooth_brushing AUTO
  interdental_brushing AUTO
  last_dental_visit AUTO
  gingival_bleeding AUTO
  smoking AUTO
  socioeconomic_status AUTO
  academic_performance AUTO
  home_computer AUTO
  internet_access AUTO
  age_first_use AUTO
  weekly_hours AUTO
  iat_score AUTO
  iat_category AUTO
  gingival_index AUTO
  plaque_index AUTO
  probing_depth AUTO
  bleeding_on_probing AUTO
  /MAP.
RESTORE.
CACHE.
EXECUTE.

Data written to the working file.
22 variables and 100 cases written.
Variable: group              Type: String  Format : A10
Variable: sex                Type: String  Format : A6
Variable: age                Type: Number  Format : F2
```

```
Variable: weight             Type: Number  Format : F5.1
Variable: height             Type: Number  Format : F5.1
Variable: tooth_brushing     Type: Number  Format : F1
Variable: interdental_brushing   Type: Number  Format : F1
Variable: last_dental_visit   Type: Number  Format : F1
Variable: gingival_bleeding   Type: Number  Format : F1
Variable: smoking            Type: Number  Format : F1
Variable: socioeconomic_status   Type: Number  Format : F1
Variable: academic_performance   Type: Number  Format : F1
Variable: home_computer      Type: Number  Format : F1
Variable: internet_access    Type: Number  Format : F1
Variable: age_first_use      Type: Number  Format : F1
Variable: weekly_hours       Type: Number  Format : F1
Variable: iat_score          Type: Number  Format : F19.16
Variable: iat_category       Type: Number  Format : F1
Variable: gingival_index     Type: Number  Format : F20.18
Variable: plaque_index       Type: Number  Format : F19.17
Variable: probing_depth      Type: Number  Format : F18.16
Variable: bleeding_on_probing   Type: Number  Format : F19.16

Substitute the following to build syntax for these data.
  /VARIABLES=
   group A10
   sex A6
   age F2
   weight F5.1
   height F5.1
   tooth_brushing F1
   interdental_brushing F1
   last_dental_visit F1
   gingival_bleeding F1
   smoking F1
   socioeconomic_status F1
   academic_performance F1
   home_computer F1
   internet_access F1
   age_first_use F1
   weekly_hours F1
   iat_score F19.16
   iat_category F1
   gingival_index F20.18
   plaque_index F19.17
   probing_depth F18.16
   bleeding_on_probing F19.16

DATASET NAME DataSet2 WINDOW=FRONT.

SAVE OUTFILE='C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav'
  /COMPRESSED.
```

```
* ================================================================
* ANALYSIS OF SCREEN TIME, SLEEP QUALITY,
* AND ORAL HEALTH IN TURKISH ADOLESCENTS
* ================================================================
* ----------------------------------------------------------------
* STEP 1: VARIABLE LABELING AND VALUE LABELS
* ----------------------------------------------------------------

* Create numeric group variable

RECODE group ('poor_sleep'=1) ('good_sleep'=2) INTO sleep_quality.
VARIABLE LABELS sleep_quality 'Sleep Quality Group'.
VALUE LABELS sleep_quality
  1 'Poor Sleep Quality'
  2 'Good Sleep Quality'.

* Sex variable

RECODE sex ('male'=1) ('female'=2) INTO sex_coded.
VARIABLE LABELS sex_coded 'Participant Sex'.
VALUE LABELS sex_coded
  1 'Male'
  2 'Female'.

* Tooth brushing frequency

VARIABLE LABELS tooth_brushing 'Tooth Brushing Frequency'.
VALUE LABELS tooth_brushing
  0 'None'
  1 'Once daily'
  2 'Twice or more daily'
  3 'Irregular'.

* Interdental cleaning

VARIABLE LABELS interdental_brushing 'Use of Interdental Cleaning'.
VALUE LABELS interdental_brushing
  0 'No'
  1 'Yes'.

* Last dental visit

VARIABLE LABELS last_dental_visit 'Last Dental Visit'.
VALUE LABELS last_dental_visit
  0 'Never'
  1 '6 months ago'
  2 '1 year ago'
  3 '2 years ago'
  4 '5 years or more'.
```

```
* Socioeconomic status

VARIABLE LABELS socioeconomic_status 'Socioeconomic Status'.
VALUE LABELS socioeconomic_status
  1 'Low'
  2 'Middle'
  3 'High'.

* Academic performance

VARIABLE LABELS academic_performance 'Academic Performance'.
VALUE LABELS academic_performance
  1 'Low'
  2 'Middle'
  3 'High'.

* Weekly internet hours

VARIABLE LABELS weekly_hours 'Weekly Internet Usage'.
VALUE LABELS weekly_hours
  1 '1-2 hours'
  2 '2-7 hours'
  3 '7-14 hours'
  4 '21-28 hours'
  5 '>28 hours'.

* IAT categories

VARIABLE LABELS iat_category 'Internet Addiction Classification'.
VALUE LABELS iat_category
  1 'Non-risky user (20-49)'
  2 'Risky user (50-79)'
  3 'Addicted user (80-100)'.

* Clinical periodontal parameters

VARIABLE LABELS
  gingival_index 'Gingival Index (GI)'
  plaque_index 'Plaque Index (PI)'
  probing_depth 'Probing Pocket Depth (PPD, mm)'
  bleeding_on_probing 'Bleeding on Probing (%)'.

EXECUTE.

* ----------------------------------------------------------------
* STEP 2: DESCRIPTIVE STATISTICS
* ----------------------------------------------------------------
```

```
* Overall sample characteristics

FREQUENCIES VARIABLES=sex_coded sleep_quality
  /ORDER=ANALYSIS.
```

Frequencies

Notes

Output Created		20-NOV-2025 10:00:25
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=sex_coded sleep_quality /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

```
[DataSet2] C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
```

Statistics

		Participant Sex	Sleep Quality Group
N	Valid	100	100
	Missing	0	0

Frequency Table

Participant Sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	47	47.0	47.0	47.0
	Female	53	53.0	53.0	100.0
	Total	100	100.0	100.0	

Sleep Quality Group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Poor Sleep Quality	50	50.0	50.0	50.0
	Good Sleep Quality	50	50.0	50.0	100.0
	Total	100	100.0	100.0	

```
DESCRIPTIVES VARIABLES=age weight height
  /STATISTICS=MEAN STDDEV MIN MAX.
```

Descriptives

Notes

Output Created		20-NOV-2025 10:00:25
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	All non-missing data are used.
Syntax		DESCRIPTIVES VARIABLES=age weight height /STATISTICS=MEAN STDDEV MIN MAX.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
age	100	13	20	15.55	1.585
weight	100	22.1	114.2	59.150	14.3571
height	100	129.2	194.4	164.911	11.5312
Valid N (listwise)	100				

```
 * Descriptives by sleep quality group

MEANS TABLES=age weight height BY sleep_quality
  /CELLS=MEAN COUNT STDDEV.
```

Means

Notes

Output Created		20-NOV-2025 10:00:25
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	For each dependent variable in a table, user-defined missing values for the dependent and all grouping variables are treated as missing.
	Cases Used	Cases used for each table have no missing values in any independent variable, and not all dependent variables have missing values.
Syntax		MEANS TABLES=age weight height BY sleep_quality /CELLS=MEAN COUNT STDDEV.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
age * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%
weight * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%
height * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

Report

Sleep Quality Group		age	weight	height
Poor Sleep Quality	Mean	15.44	59.254	166.156
	N	50	50	50
	Std. Deviation	1.580	12.3228	11.4773
Good Sleep Quality	Mean	15.66	59.046	163.666
	N	50	50	50
	Std. Deviation	1.599	16.2660	11.5654
Total	Mean	15.55	59.150	164.911
	N	100	100	100
	Std. Deviation	1.585	14.3571	11.5312

```
 * ----------------------------------------------------------------
* STEP 3: DEMOGRAPHICS COMPARISON
* ----------------------------------------------------------------

* Chi-square test for sex distribution

CROSSTABS
  /TABLES=sex_coded BY sleep_quality
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW COLUMN
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		20-NOV-2025 10:00:25
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=sex_coded BY sleep_quality /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT ROW COLUMN /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01
	Dimensions Requested	2
	Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Participant Sex * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

Participant Sex * Sleep Quality Group Crosstabulation

			Sleep Quality Group		
			Poor Sleep Quality	Good Sleep Quality	Total
Participant Sex	Male	Count	24	23	47
		% within Participant Sex	51.1%	48.9%	100.0%
		% within Sleep Quality Group	48.0%	46.0%	47.0%
	Female	Count	26	27	53
		% within Participant Sex	49.1%	50.9%	100.0%
		% within Sleep Quality Group	52.0%	54.0%	53.0%
Total		Count	50	50	100
		% within Participant Sex	50.0%	50.0%	100.0%
		% within Sleep Quality Group	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.040[a]	1	.841		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.040	1	.841		
Fisher's Exact Test				1.000	.500
Linear-by-Linear Association	.040	1	.842		
N of Valid Cases	100				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 23.50.

b. Computed only for a 2x2 table

```
 * Independent samples t-tests for age, weight, height

T-TEST GROUPS=sleep_quality(1 2)
  /VARIABLES=age weight height
  /CRITERIA=CI(.95).
```

T-Test

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST GROUPS=sleep_quality(1 2) /VARIABLES=age weight height /CRITERIA=CI(.95).
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.02

Group Statistics

	Sleep Quality Group	N	Mean	Std. Deviation	Std. Error Mean
age	Poor Sleep Quality	50	15.44	1.580	.223
	Good Sleep Quality	50	15.66	1.599	.226
weight	Poor Sleep Quality	50	59.254	12.3228	1.7427
	Good Sleep Quality	50	59.046	16.2660	2.3004
height	Poor Sleep Quality	50	166.156	11.4773	1.6231
	Good Sleep Quality	50	163.666	11.5654	1.6356

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	t	df
age	Equal variances assumed	.000	.997	-.692	98
	Equal variances not assumed			-.692	97.987
weight	Equal variances assumed	2.573	.112	.072	98
	Equal variances not assumed			.072	91.309
height	Equal variances assumed	.008	.927	1.081	98
	Equal variances not assumed			1.081	97.994

Independent Samples Test

		t-test for Equality of Means			
		Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence ... Lower
age	Equal variances assumed	.490	-.220	.318	-.851
	Equal variances not assumed	.490	-.220	.318	-.851
weight	Equal variances assumed	.943	.2080	2.8859	-5.5191
	Equal variances not assumed	.943	.2080	2.8859	-5.5243
height	Equal variances assumed	.283	2.4900	2.3043	-2.0828
	Equal variances not assumed	.283	2.4900	2.3043	-2.0828

Independent Samples Test

		t-test for Equality of Means: 95% Confidence Interval of the ... Upper
age	Equal variances assumed	.411
	Equal variances not assumed	.411
weight	Equal variances assumed	5.9351
	Equal variances not assumed	5.9403
height	Equal variances assumed	7.0628
	Equal variances not assumed	7.0628

Independent Samples Effect Sizes

		Standardizer[a]	Point Estimate	95% Confidence Interval Lower	95% Confidence Interval Upper
age	Cohen's d	1.589	-.138	-.531	.254
	Hedges' correction	1.602	-.137	-.526	.252
	Glass's delta	1.599	-.138	-.530	.256
weight	Cohen's d	14.4297	.014	-.378	.406
	Hedges' correction	14.5414	.014	-.375	.403
	Glass's delta	16.2660	.013	-.379	.405
height	Cohen's d	11.5214	.216	-.178	.609
	Hedges' correction	11.6106	.214	-.176	.604
	Glass's delta	11.5654	.215	-.180	.609

a. The denominator used in estimating the effect sizes.
Cohen's d uses the pooled standard deviation.
Hedges' correction uses the pooled standard deviation, plus a correction factor.
Glass's delta uses the sample standard deviation of the control group.

```
 * ------------------------------------------------------------
* STEP 4: ORAL HEALTH BEHAVIORS ANALYSIS
* ------------------------------------------------------------
```

```
* Tooth brushing frequency by sleep quality

CROSSTABS
  /TABLES=tooth_brushing BY sleep_quality
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW COLUMN EXPECTED
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=tooth_brushing BY sleep_quality /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT ROW COLUMN EXPECTED /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.03

Notes

Dimensions Requested	2
Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Tooth Brushing Frequency * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

Tooth Brushing Frequency * Sleep Quality Group Crosstabulation

			Sleep Quality ...
			Poor Sleep Quality
Tooth Brushing Frequency	None	Count	8
		Expected Count	6.0
		% within Tooth Brushing Frequency	66.7%
		% within Sleep Quality Group	16.0%
	Once daily	Count	16
		Expected Count	14.5
		% within Tooth Brushing Frequency	55.2%
		% within Sleep Quality Group	32.0%
	Twice or more daily	Count	14
		Expected Count	16.5
		% within Tooth Brushing Frequency	42.4%
		% within Sleep Quality Group	28.0%
	Irregular	Count	12
		Expected Count	13.0
		% within Tooth Brushing Frequency	46.2%
		% within Sleep Quality Group	24.0%

Tooth Brushing Frequency * Sleep Quality Group Crosstabulation

			Sleep Quality ...	
			Good Sleep Quality	Total
Tooth Brushing Frequency	None	Count	4	12
		Expected Count	6.0	12.0
		% within Tooth Brushing Frequency	33.3%	100.0%
		% within Sleep Quality Group	8.0%	12.0%
	Once daily	Count	13	29
		Expected Count	14.5	29.0
		% within Tooth Brushing Frequency	44.8%	100.0%
		% within Sleep Quality Group	26.0%	29.0%
	Twice or more daily	Count	19	33
		Expected Count	16.5	33.0
		% within Tooth Brushing Frequency	57.6%	100.0%
		% within Sleep Quality Group	38.0%	33.0%
	Irregular	Count	14	26
		Expected Count	13.0	26.0
		% within Tooth Brushing Frequency	53.8%	100.0%
		% within Sleep Quality Group	28.0%	26.0%

Tooth Brushing Frequency * Sleep Quality Group Crosstabulation

		Sleep Quality ...
		Poor Sleep Quality
Total	Count	50
	Expected Count	50.0
	% within Tooth Brushing Frequency	50.0%
	% within Sleep Quality Group	100.0%

Tooth Brushing Frequency * Sleep Quality Group Crosstabulation

		Sleep Quality ...	
		Good Sleep Quality	Total
Total	Count	50	100
	Expected Count	50.0	100.0
	% within Tooth Brushing Frequency	50.0%	100.0%
	% within Sleep Quality Group	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.555[a]	3	.465
Likelihood Ratio	2.585	3	.460
Linear-by-Linear Association	1.748	1	.186
N of Valid Cases	100		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.00.

```
 * Interdental brushing

CROSSTABS
  /TABLES=interdental_brushing BY sleep_quality
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW COLUMN
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=interdental_brushing BY sleep_quality /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT ROW COLUMN /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.02
	Dimensions Requested	2
	Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Use of Interdental Cleaning * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

Use of Interdental Cleaning * Sleep Quality Group Crosstabulation

			Sleep Quality Group	
			Poor Sleep Quality	Good Sleep Quality
Use of Interdental Cleaning	No	Count	46	50
		% within Use of Interdental Cleaning	47.9%	52.1%
		% within Sleep Quality Group	92.0%	100.0%
	Yes	Count	4	0
		% within Use of Interdental Cleaning	100.0%	0.0%
		% within Sleep Quality Group	8.0%	0.0%
Total		Count	50	50
		% within Use of Interdental Cleaning	50.0%	50.0%
		% within Sleep Quality Group	100.0%	100.0%

Use of Interdental Cleaning * Sleep Quality Group Crosstabulation

			Total
Use of Interdental Cleaning	No	Count	96
		% within Use of Interdental Cleaning	100.0%
		% within Sleep Quality Group	96.0%
	Yes	Count	4
		% within Use of Interdental Cleaning	100.0%
		% within Sleep Quality Group	4.0%
Total		Count	100
		% within Use of Interdental Cleaning	100.0%
		% within Sleep Quality Group	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.167[a]	1	.041		
Continuity Correction[b]	2.344	1	.126		
Likelihood Ratio	5.712	1	.017		
Fisher's Exact Test				.117	.059
Linear-by-Linear Association	4.125	1	.042		
N of Valid Cases	100				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.00.

b. Computed only for a 2x2 table

```
 * Last dental visit

CROSSTABS
  /TABLES=last_dental_visit BY sleep_quality
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW COLUMN
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=last_dental_visit BY sleep_quality /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT ROW COLUMN /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.02
	Dimensions Requested	2
	Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Last Dental Visit * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

Last Dental Visit * Sleep Quality Group Crosstabulation

			Sleep Quality Group	
			Poor Sleep Quality	Good Sleep Quality
Last Dental Visit	Never	Count	8	2
		% within Last Dental Visit	80.0%	20.0%
		% within Sleep Quality Group	16.0%	4.0%
	6 months ago	Count	28	30
		% within Last Dental Visit	48.3%	51.7%
		% within Sleep Quality Group	56.0%	60.0%
	1 year ago	Count	8	3
		% within Last Dental Visit	72.7%	27.3%
		% within Sleep Quality Group	16.0%	6.0%
	2 years ago	Count	3	10
		% within Last Dental Visit	23.1%	76.9%
		% within Sleep Quality Group	6.0%	20.0%
	5 years or more	Count	3	5
		% within Last Dental Visit	37.5%	62.5%
		% within Sleep Quality Group	6.0%	10.0%
Total		Count	50	50
		% within Last Dental Visit	50.0%	50.0%
		% within Sleep Quality Group	100.0%	100.0%

Last Dental Visit * Sleep Quality Group Crosstabulation

			Total
Last Dental Visit	Never	Count	10
		% within Last Dental Visit	100.0%
		% within Sleep Quality Group	10.0%
	6 months ago	Count	58
		% within Last Dental Visit	100.0%
		% within Sleep Quality Group	58.0%
	1 year ago	Count	11
		% within Last Dental Visit	100.0%
		% within Sleep Quality Group	11.0%
	2 years ago	Count	13
		% within Last Dental Visit	100.0%
		% within Sleep Quality Group	13.0%
	5 years or more	Count	8
		% within Last Dental Visit	100.0%
		% within Sleep Quality Group	8.0%
Total		Count	100
		% within Last Dental Visit	100.0%
		% within Sleep Quality Group	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.211[a]	4	.037
Likelihood Ratio	10.764	4	.029
Linear-by-Linear Association	3.669	1	.055
N of Valid Cases	100		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 4.00.

```
 * Gingival bleeding report

CROSSTABS
  /TABLES=gingival_bleeding BY sleep_quality
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW COLUMN
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=gingival_bleeding BY sleep_quality /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT ROW COLUMN /COUNT ROUND CELL.

Notes

Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02
	Dimensions Requested	2
	Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
gingival_bleeding * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

gingival_bleeding * Sleep Quality Group Crosstabulation

			Sleep Quality Group		
			Poor Sleep Quality	Good Sleep Quality	Total
gingival_bleeding	0	Count	23	24	47
		% within gingival_bleeding	48.9%	51.1%	100.0%
		% within Sleep Quality Group	46.0%	48.0%	47.0%
	1	Count	27	26	53
		% within gingival_bleeding	50.9%	49.1%	100.0%
		% within Sleep Quality Group	54.0%	52.0%	53.0%
Total		Count	50	50	100
		% within gingival_bleeding	50.0%	50.0%	100.0%
		% within Sleep Quality Group	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.040[a]	1	.841		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.040	1	.841		
Fisher's Exact Test				1.000	.500
Linear-by-Linear Association	.040	1	.842		
N of Valid Cases	100				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 23.50.

b. Computed only for a 2x2 table

```
 * Smoking status

CROSSTABS
  /TABLES=smoking BY sleep_quality
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW COLUMN
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=smoking BY sleep_quality /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT ROW COLUMN /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.05
	Elapsed Time	00:00:00.02
	Dimensions Requested	2
	Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
smoking * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

smoking * Sleep Quality Group Crosstabulation

			Sleep Quality Group		
			Poor Sleep Quality	Good Sleep Quality	Total
smoking	0	Count	41	49	90
		% within smoking	45.6%	54.4%	100.0%
		% within Sleep Quality Group	82.0%	98.0%	90.0%
	1	Count	9	1	10
		% within smoking	90.0%	10.0%	100.0%
		% within Sleep Quality Group	18.0%	2.0%	10.0%
Total		Count	50	50	100
		% within smoking	50.0%	50.0%	100.0%
		% within Sleep Quality Group	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7.111[a]	1	.008		
Continuity Correction[b]	5.444	1	.020		
Likelihood Ratio	8.073	1	.004		
Fisher's Exact Test				.016	.008
Linear-by-Linear Association	7.040	1	.008		
N of Valid Cases	100				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.00.

b. Computed only for a 2x2 table

```
 * Socioeconomic status

CROSSTABS
  /TABLES=socioeconomic_status BY sleep_quality
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW COLUMN
```

```
/COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=socioeconomic_status BY sleep_quality /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT ROW COLUMN /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01
	Dimensions Requested	2
	Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Socioeconomic Status * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

Socioeconomic Status * Sleep Quality Group Crosstabulation

			Sleep Quality Group		
			Poor Sleep Quality	Good Sleep Quality	Total
Socioeconomic Status	Low	Count	2	3	5
		% within Socioeconomic Status	40.0%	60.0%	100.0%
		% within Sleep Quality Group	4.0%	6.0%	5.0%
	Middle	Count	38	42	80
		% within Socioeconomic Status	47.5%	52.5%	100.0%
		% within Sleep Quality Group	76.0%	84.0%	80.0%
	High	Count	10	5	15
		% within Socioeconomic Status	66.7%	33.3%	100.0%
		% within Sleep Quality Group	20.0%	10.0%	15.0%
Total		Count	50	50	100
		% within Socioeconomic Status	50.0%	50.0%	100.0%
		% within Sleep Quality Group	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.067[a]	2	.356
Likelihood Ratio	2.100	2	.350
Linear-by-Linear Association	1.876	1	.171
N of Valid Cases	100		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.50.

```
 * Academic performance

CROSSTABS
  /TABLES=academic_performance BY sleep_quality
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW COLUMN
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=academic_performance BY sleep_quality /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT ROW COLUMN /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01
	Dimensions Requested	2
	Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Academic Performance * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

Academic Performance * Sleep Quality Group Crosstabulation

			Sleep Quality Group	
			Poor Sleep Quality	Good Sleep Quality
Academic Performance	Low	Count	0	3
		% within Academic Performance	0.0%	100.0%
		% within Sleep Quality Group	0.0%	6.0%
	Middle	Count	41	39
		% within Academic Performance	51.2%	48.8%
		% within Sleep Quality Group	82.0%	78.0%
	High	Count	9	8
		% within Academic Performance	52.9%	47.1%
		% within Sleep Quality Group	18.0%	16.0%
Total		Count	50	50
		% within Academic Performance	50.0%	50.0%
		% within Sleep Quality Group	100.0%	100.0%

Academic Performance * Sleep Quality Group Crosstabulation

			Total
Academic Performance	Low	Count	3
		% within Academic Performance	100.0%
		% within Sleep Quality Group	3.0%
	Middle	Count	80
		% within Academic Performance	100.0%
		% within Sleep Quality Group	80.0%
	High	Count	17
		% within Academic Performance	100.0%
		% within Sleep Quality Group	17.0%
Total		Count	100
		% within Academic Performance	100.0%
		% within Sleep Quality Group	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.109[a]	2	.211
Likelihood Ratio	4.268	2	.118
Linear-by-Linear Association	.878	1	.349
N of Valid Cases	100		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.50.

```
 * ------------------------------------------------------------
* STEP 5: INTERNET USE PATTERNS
```

```
* ------------------------------------------------------------

* Home computer availability

CROSSTABS
  /TABLES=home_computer BY sleep_quality
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW COLUMN
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=home_computer BY sleep_quality /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT ROW COLUMN /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01

Notes

Dimensions Requested	2
Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
home_computer * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

home_computer * Sleep Quality Group Crosstabulation

			Sleep Quality Group		
			Poor Sleep Quality	Good Sleep Quality	Total
home_computer	0	Count	8	17	25
		% within home_computer	32.0%	68.0%	100.0%
		% within Sleep Quality Group	16.0%	34.0%	25.0%
	1	Count	42	33	75
		% within home_computer	56.0%	44.0%	100.0%
		% within Sleep Quality Group	84.0%	66.0%	75.0%
Total		Count	50	50	100
		% within home_computer	50.0%	50.0%	100.0%
		% within Sleep Quality Group	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.320[a]	1	.038		
Continuity Correction[b]	3.413	1	.065		
Likelihood Ratio	4.396	1	.036		
Fisher's Exact Test				.063	.032
Linear-by-Linear Association	4.277	1	.039		
N of Valid Cases	100				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.50.

b. Computed only for a 2x2 table

```
 * Internet access frequency

CROSSTABS
  /TABLES=internet_access BY sleep_quality
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW COLUMN
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=internet_access BY sleep_quality /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT ROW COLUMN /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02
	Dimensions Requested	2
	Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
internet_access * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

internet_access * Sleep Quality Group Crosstabulation

			Sleep Quality Group		
			Poor Sleep Quality	Good Sleep Quality	Total
internet_access	0	Count	11	12	23
		% within internet_access	47.8%	52.2%	100.0%
		% within Sleep Quality Group	22.0%	24.0%	23.0%
	1	Count	39	38	77
		% within internet_access	50.6%	49.4%	100.0%
		% within Sleep Quality Group	78.0%	76.0%	77.0%
Total		Count	50	50	100
		% within internet_access	50.0%	50.0%	100.0%
		% within Sleep Quality Group	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.056[a]	1	.812		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.056	1	.812		
Fisher's Exact Test				1.000	.500
Linear-by-Linear Association	.056	1	.813		
N of Valid Cases	100				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.50.

b. Computed only for a 2x2 table

```
 * Age of first internet use

CROSSTABS
  /TABLES=age_first_use BY sleep_quality
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW COLUMN
```

```
/COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=age_first_use BY sleep_quality /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT ROW COLUMN /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01
	Dimensions Requested	2
	Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
age_first_use * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

age_first_use * Sleep Quality Group Crosstabulation

			Sleep Quality Group		
			Poor Sleep Quality	Good Sleep Quality	Total
age_first_use	0	Count	29	22	51
		% within age_first_use	56.9%	43.1%	100.0%
		% within Sleep Quality Group	58.0%	44.0%	51.0%
	1	Count	21	28	49
		% within age_first_use	42.9%	57.1%	100.0%
		% within Sleep Quality Group	42.0%	56.0%	49.0%
Total		Count	50	50	100
		% within age_first_use	50.0%	50.0%	100.0%
		% within Sleep Quality Group	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.961[a]	1	.161		
Continuity Correction[b]	1.441	1	.230		
Likelihood Ratio	1.967	1	.161		
Fisher's Exact Test				.230	.115
Linear-by-Linear Association	1.941	1	.164		
N of Valid Cases	100				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 24.50.

b. Computed only for a 2x2 table

```
 * Weekly internet usage hours (KEY FINDING)

CROSSTABS
  /TABLES=weekly_hours BY sleep_quality
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW COLUMN EXPECTED
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=weekly_hours BY sleep_quality /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT ROW COLUMN EXPECTED /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01

Notes

Dimensions Requested	2
Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Weekly Internet Usage * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

Weekly Internet Usage * Sleep Quality Group Crosstabulation

			Sleep Quality Group	
			Poor Sleep Quality	Good Sleep Quality
Weekly Internet Usage	1-2 hours	Count	3	9
		Expected Count	6.0	6.0
		% within Weekly Internet Usage	25.0%	75.0%
		% within Sleep Quality Group	6.0%	18.0%
	2-7 hours	Count	14	11
		Expected Count	12.5	12.5
		% within Weekly Internet Usage	56.0%	44.0%
		% within Sleep Quality Group	28.0%	22.0%
	7-14 hours	Count	9	18
		Expected Count	13.5	13.5
		% within Weekly Internet Usage	33.3%	66.7%
		% within Sleep Quality Group	18.0%	36.0%
	21-28 hours	Count	7	10
		Expected Count	8.5	8.5
		% within Weekly Internet Usage	41.2%	58.8%
		% within Sleep Quality Group	14.0%	20.0%

Weekly Internet Usage * Sleep Quality Group Crosstabulation

			Total
Weekly Internet Usage	1-2 hours	Count	12
		Expected Count	12.0
		% within Weekly Internet Usage	100.0%
		% within Sleep Quality Group	12.0%
	2-7 hours	Count	25
		Expected Count	25.0
		% within Weekly Internet Usage	100.0%
		% within Sleep Quality Group	25.0%
	7-14 hours	Count	27
		Expected Count	27.0
		% within Weekly Internet Usage	100.0%
		% within Sleep Quality Group	27.0%
	21-28 hours	Count	17
		Expected Count	17.0
		% within Weekly Internet Usage	100.0%
		% within Sleep Quality Group	17.0%

Weekly Internet Usage * Sleep Quality Group Crosstabulation

			Sleep Quality Group	
			Poor Sleep Quality	Good Sleep Quality
	>28 hours	Count	17	2
		Expected Count	9.5	9.5
		% within Weekly Internet Usage	89.5%	10.5%
		% within Sleep Quality Group	34.0%	4.0%
Total		Count	50	50
		Expected Count	50.0	50.0
		% within Weekly Internet Usage	50.0%	50.0%
		% within Sleep Quality Group	100.0%	100.0%

Weekly Internet Usage * Sleep Quality Group Crosstabulation

			Total
	>28 hours	Count	19
		Expected Count	19.0
		% within Weekly Internet Usage	100.0%
		% within Sleep Quality Group	19.0%
Total		Count	100
		Expected Count	100.0
		% within Weekly Internet Usage	100.0%
		% within Sleep Quality Group	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	18.732[a]	4	.001
Likelihood Ratio	20.643	4	.000
Linear-by-Linear Association	7.746	1	.005
N of Valid Cases	100		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.00.

```
 * ----------------------------------------------------------------
* STEP 6: INTERNET ADDICTION TEST ANALYSIS
* ----------------------------------------------------------------

* Compare IAT scores between groups

T-TEST GROUPS=sleep_quality(1 2)
  /VARIABLES=iat_score
  /CRITERIA=CI(.95).
```

T-Test

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST GROUPS=sleep_quality(1 2) /VARIABLES=iat_score /CRITERIA=CI(.95).
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

Group Statistics

	Sleep Quality Group	N	Mean	Std. Deviation	Std. Error Mean
iat_score	Poor Sleep Quality	50	35.55577018	22.43372121	3.172607279
	Good Sleep Quality	50	25.98580148	15.78025868	2.231665584

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	t	df
iat_score	Equal variances assumed	7.432	.008	2.467	98
	Equal variances not assumed			2.467	87.953

Independent Samples Test

		t-test for Equality of Means			
		Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence ... Lower
iat_score	Equal variances assumed	.015	9.569968700	3.878887498	1.872442699
	Equal variances not assumed	.016	9.569968700	3.878887498	1.861437843

Independent Samples Test

		t-test for Equality of Means	
		95% Confidence Interval of the ...	
		Upper	
iat_score	Equal variances assumed	17.26749470	
	Equal variances not assumed	17.27849956	

Independent Samples Effect Sizes

		Standardizer[a]	Point Estimate	95% Confidence Interval	
				Lower	Upper
iat_score	Cohen's d	19.39443749	.493	.094	.890
	Hedges' correction	19.54445905	.490	.093	.883
	Glass's delta	15.78025868	.606	.194	1.013

a. The denominator used in estimating the effect sizes.
Cohen's d uses the pooled standard deviation.
Hedges' correction uses the pooled standard deviation, plus a correction factor.
Glass's delta uses the sample standard deviation of the control group.

```
 * IAT category distribution

CROSSTABS
  /TABLES=iat_category BY sleep_quality
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT ROW COLUMN EXPECTED
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=iat_category BY sleep_quality /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT ROW COLUMN EXPECTED /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01
	Dimensions Requested	2
	Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Internet Addiction Classification * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

Internet Addiction Classification * Sleep Quality Group Crosstabulation

			Sleep Quality ...
			Poor Sleep Quality
Internet Addiction Classification	Non-risky user (20-49)	Count	13
		Expected Count	14.5
		% within Internet Addiction Classification	44.8%
		% within Sleep Quality Group	26.0%
	Risky user (50-79)	Count	25
		Expected Count	26.0
		% within Internet Addiction Classification	48.1%
		% within Sleep Quality Group	50.0%
	Addicted user (80-100)	Count	12
		Expected Count	9.5
		% within Internet Addiction Classification	63.2%
		% within Sleep Quality Group	24.0%
Total		Count	50
		Expected Count	50.0
		% within Internet Addiction Classification	50.0%
		% within Sleep Quality Group	100.0%

Internet Addiction Classification * Sleep Quality Group Crosstabulation

			Sleep Quality ...
			Good Sleep Quality
Internet Addiction Classification	Non-risky user (20-49)	Count	16
		Expected Count	14.5
		% within Internet Addiction Classification	55.2%
		% within Sleep Quality Group	32.0%
	Risky user (50-79)	Count	27
		Expected Count	26.0
		% within Internet Addiction Classification	51.9%
		% within Sleep Quality Group	54.0%
	Addicted user (80-100)	Count	7
		Expected Count	9.5
		% within Internet Addiction Classification	36.8%
		% within Sleep Quality Group	14.0%
Total		Count	50
		Expected Count	50.0
		% within Internet Addiction Classification	50.0%
		% within Sleep Quality Group	100.0%

Internet Addiction Classification * Sleep Quality Group Crosstabulation

			Total
Internet Addiction Classification	Non-risky user (20-49)	Count	29
		Expected Count	29.0
		% within Internet Addiction Classification	100.0%
		% within Sleep Quality Group	29.0%
	Risky user (50-79)	Count	52
		Expected Count	52.0
		% within Internet Addiction Classification	100.0%
		% within Sleep Quality Group	52.0%
	Addicted user (80-100)	Count	19
		Expected Count	19.0
		% within Internet Addiction Classification	100.0%
		% within Sleep Quality Group	19.0%
Total		Count	100
		Expected Count	100.0
		% within Internet Addiction Classification	100.0%
		% within Sleep Quality Group	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.703[a]	2	.427
Likelihood Ratio	1.719	2	.423
Linear-by-Linear Association	1.348	1	.246
N of Valid Cases	100		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.50.

```
 * Descriptive statistics for IAT by group

MEANS TABLES=iat_score BY sleep_quality
  /CELLS=MEAN COUNT STDDEV MIN MAX.
```

Means

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	For each dependent variable in a table, user-defined missing values for the dependent and all grouping variables are treated as missing.
	Cases Used	Cases used for each table have no missing values in any independent variable, and not all dependent variables have missing values.
Syntax		MEANS TABLES=iat_score BY sleep_quality /CELLS=MEAN COUNT STDDEV MIN MAX.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
iat_score * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

Report

iat_score

Sleep Quality Group	Mean	N	Std. Deviation	Minimum	Maximum
Poor Sleep Quality	35.55577018	50	22.43372121	.0000000000	83.77517192
Good Sleep Quality	25.98580148	50	15.78025868	.0000000000	67.16473627
Total	30.77078583	100	19.88648078	.0000000000	83.77517192

```
 * ------------------------------------------------------------
* STEP 7: CLINICAL PERIODONTAL PARAMETERS
* ------------------------------------------------------------

* Compare periodontal indices between groups

T-TEST GROUPS=sleep_quality(1 2)
  /VARIABLES=gingival_index plaque_index probing_depth bleeding_on_probing
  /CRITERIA=CI(.95).
```

T-Test

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST GROUPS=sleep_quality(1 2) /VARIABLES=gingival_index plaque_index probing_depth bleeding_on_probing /CRITERIA=CI(.95).
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

Group Statistics

	Sleep Quality Group	N	Mean	Std. Deviation
Gingival Index (GI)	Poor Sleep Quality	50	1.167885370	.5230223574
	Good Sleep Quality	50	.9707737772	.4107748987
Plaque Index (PI)	Poor Sleep Quality	50	1.438202348	.4175854195
	Good Sleep Quality	50	1.150057244	.4760883900
Probing Pocket Depth (PPD, mm)	Poor Sleep Quality	50	1.876477450	.2873640972
	Good Sleep Quality	50	1.799161331	.2528484548
Bleeding on Probing (%)	Poor Sleep Quality	50	45.66676190	25.03535695
	Good Sleep Quality	50	35.89337749	14.04895079

Group Statistics

	Sleep Quality Group	Std. Error Mean
Gingival Index (GI)	Poor Sleep Quality	.0739665311
	Good Sleep Quality	.0580923433
Plaque Index (PI)	Poor Sleep Quality	.0590554964
	Good Sleep Quality	.0673290658
Probing Pocket Depth (PPD, mm)	Poor Sleep Quality	.0406394204
	Good Sleep Quality	.0357581714
Bleeding on Probing (%)	Poor Sleep Quality	3.540534134
	Good Sleep Quality	1.986821674

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of
		F	Sig.	t
Gingival Index (GI)	Equal variances assumed	1.986	.162	2.096
	Equal variances not assumed			2.096
Plaque Index (PI)	Equal variances assumed	.103	.749	3.217
	Equal variances not assumed			3.217
Probing Pocket Depth (PPD, mm)	Equal variances assumed	.471	.494	1.428
	Equal variances not assumed			1.428
Bleeding on Probing (%)	Equal variances assumed	20.768	.000	2.407
	Equal variances not assumed			2.407

Independent Samples Test

		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
Gingival Index (GI)	Equal variances assumed	98	.039	.1971115929
	Equal variances not assumed	92.789	.039	.1971115929
Plaque Index (PI)	Equal variances assumed	98	.002	.2881451037
	Equal variances not assumed	96.362	.002	.2881451037
Probing Pocket Depth (PPD, mm)	Equal variances assumed	98	.156	.0773161186
	Equal variances not assumed	96.438	.156	.0773161186
Bleeding on Probing (%)	Equal variances assumed	98	.018	9.773384409
	Equal variances not assumed	77.077	.018	9.773384409

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Gingival Index (GI)	Equal variances assumed	.0940519435	.0104685720	.3837546138
	Equal variances not assumed	.0940519435	.0103374687	.3838857170
Plaque Index (PI)	Equal variances assumed	.0895586665	.1104188447	.4658713627
	Equal variances not assumed	.0895586665	.1103810838	.4659091236
Probing Pocket Depth (PPD, mm)	Equal variances assumed	.0541314078	-.030105898	.1847381356
	Equal variances not assumed	.0541314078	-.030127648	.1847598857
Bleeding on Probing (%)	Equal variances assumed	4.059906688	1.716631718	17.83013710
	Equal variances not assumed	4.059906688	1.689205446	17.85756337

Independent Samples Effect Sizes

		Standardizer[a]	Point Estimate	95% ... Lower
Gingival Index (GI)	Cohen's d	.4702597175	.419	.022
	Hedges' correction	.4738973118	.416	.022
	Glass's delta	.4107748987	.480	.074
Plaque Index (PI)	Cohen's d	.4477933327	.643	.240
	Hedges' correction	.4512571431	.639	.238
	Glass's delta	.4760883900	.605	.193
Probing Pocket Depth (PPD, mm)	Cohen's d	.2706570389	.286	-.109
	Hedges' correction	.2727506491	.283	-.108
	Glass's delta	.2528484548	.306	-.092
Bleeding on Probing (%)	Cohen's d	20.29953344	.481	.083
	Hedges' correction	20.45655618	.478	.082
	Glass's delta	14.04895079	.696	.277

Independent Samples Effect Sizes

		95% ... Upper
Gingival Index (GI)	Cohen's d	.814
	Hedges' correction	.808
	Glass's delta	.881
Plaque Index (PI)	Cohen's d	1.044
	Hedges' correction	1.036
	Glass's delta	1.012
Probing Pocket Depth (PPD, mm)	Cohen's d	.679
	Hedges' correction	.674
	Glass's delta	.701
Bleeding on Probing (%)	Cohen's d	.878
	Hedges' correction	.871
	Glass's delta	1.108

a. The denominator used in estimating the effect sizes.
Cohen's d uses the pooled standard deviation.
Hedges' correction uses the pooled standard deviation, plus a correction factor.
Glass's delta uses the sample standard deviation of the control group.

```
 * Descriptive statistics for periodontal parameters

MEANS TABLES=gingival_index plaque_index probing_depth bleeding_on_probing
  BY sleep_quality
  /CELLS=MEAN COUNT STDDEV MIN MAX.
```

Means

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	For each dependent variable in a table, user-defined missing values for the dependent and all grouping variables are treated as missing.
	Cases Used	Cases used for each table have no missing values in any independent variable, and not all dependent variables have missing values.
Syntax		MEANS TABLES=gingival_index plaque_index probing_depth bleeding_on_probing BY sleep_quality /CELLS=MEAN COUNT STDDEV MIN MAX.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Gingival Index (GI) * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%
Plaque Index (PI) * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%
Probing Pocket Depth (PPD, mm) * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%
Bleeding on Probing (%) * Sleep Quality Group	100	100.0%	0	0.0%	100	100.0%

Report

Sleep Quality Group		Gingival Index (GI)	Plaque Index (PI)	Probing Pocket Depth (PPD, mm)	Bleeding on Probing (%)
Poor Sleep Quality	Mean	1.167885370	1.438202348	1.876477450	45.66676190
	N	50	50	50	50
	Std. Deviation	.5230223574	.4175854195	.2873640972	25.03535695
	Minimum	.0000000000	.5337937984	1.228948289	.0000000000
	Maximum	2.199525051	2.227650961	2.668555428	96.77247432
Good Sleep Quality	Mean	.9707737772	1.150057244	1.799161331	35.89337749
	N	50	50	50	50
	Std. Deviation	.4107748987	.4760883900	.2528484548	14.04895079
	Minimum	.0000000000	.0000000000	1.167099177	.0000000000
	Maximum	1.774345671	2.544967330	2.439182183	66.08545724
Total	Mean	1.069329574	1.294129796	1.837819391	40.78006970
	N	100	100	100	100
	Std. Deviation	.4782486598	.4684655714	.2720750298	20.78532402
	Minimum	.0000000000	.0000000000	1.167099177	.0000000000
	Maximum	2.199525051	2.544967330	2.668555428	96.77247432

```
 * ------------------------------------------------------------
* STEP 8: CORRELATION ANALYSIS
* ------------------------------------------------------------
```

```
* Correlations between key variables

CORRELATIONS
  /VARIABLES=iat_score weekly_hours gingival_index plaque_index
    probing_depth bleeding_on_probing
  /PRINT=TWOTAIL NOSIG
  /STATISTICS DESCRIPTIVES
  /MISSING=PAIRWISE.
```

Correlations

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=iat_score weekly_hours gingival_index plaque_index probing_depth bleeding_on_probing /PRINT=TWOTAIL NOSIG /STATISTICS DESCRIPTIVES /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

Descriptive Statistics

	Mean	Std. Deviation	N
iat_score	30.77078583	19.88648078	100
Weekly Internet Usage	3.06	1.293	100
Gingival Index (GI)	1.069329574	.4782486598	100
Plaque Index (PI)	1.294129796	.4684655714	100
Probing Pocket Depth (PPD, mm)	1.837819391	.2720750298	100
Bleeding on Probing (%)	40.78006970	20.78532402	100

Correlations

		iat_score	Weekly Internet Usage	Gingival Index (GI)
iat_score	Pearson Correlation	1	.167	-.025
	Sig. (2-tailed)		.097	.807
	N	100	100	100
Weekly Internet Usage	Pearson Correlation	.167	1	-.005
	Sig. (2-tailed)	.097		.960
	N	100	100	100
Gingival Index (GI)	Pearson Correlation	-.025	-.005	1
	Sig. (2-tailed)	.807	.960	
	N	100	100	100
Plaque Index (PI)	Pearson Correlation	.122	-.013	.047
	Sig. (2-tailed)	.227	.901	.644
	N	100	100	100
Probing Pocket Depth (PPD, mm)	Pearson Correlation	.094	.062	.107
	Sig. (2-tailed)	.351	.539	.288
	N	100	100	100
Bleeding on Probing (%)	Pearson Correlation	.200*	.256*	.053
	Sig. (2-tailed)	.046	.010	.603
	N	100	100	100

Correlations

		Plaque Index (PI)	Probing Pocket Depth (PPD, mm)	Bleeding on Probing (%)
iat_score	Pearson Correlation	.122	.094	.200*
	Sig. (2-tailed)	.227	.351	.046
	N	100	100	100
Weekly Internet Usage	Pearson Correlation	-.013	.062	.256*
	Sig. (2-tailed)	.901	.539	.010
	N	100	100	100
Gingival Index (GI)	Pearson Correlation	.047	.107	.053
	Sig. (2-tailed)	.644	.288	.603
	N	100	100	100
Plaque Index (PI)	Pearson Correlation	1	.079	-.094
	Sig. (2-tailed)		.432	.355
	N	100	100	100
Probing Pocket Depth (PPD, mm)	Pearson Correlation	.079	1	.232*
	Sig. (2-tailed)	.432		.020
	N	100	100	100
Bleeding on Probing (%)	Pearson Correlation	-.094	.232*	1
	Sig. (2-tailed)	.355	.020	
	N	100	100	100

*. Correlation is significant at the 0.05 level (2-tailed).

```
 * Partial correlations controlling for confounders

PARTIAL CORR
  /VARIABLES=iat_score gingival_index plaque_index BY age tooth_brushing
  /SIGNIFICANCE=TWOTAIL
  /MISSING=LISTWISE.
```

Partial Corr

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing data for any variable listed.
Syntax		PARTIAL CORR /VARIABLES=iat_score gingival_index plaque_index BY age tooth_brushing /SIGNIFICANCE=TWOTAIL /MISSING=LISTWISE.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01

Correlations

Control Variables			iat_score	Gingival Index (GI)
age & Tooth Brushing Frequency	iat_score	Correlation	1.000	-.040
		Significance (2-tailed)	.	.699
		df	0	96
	Gingival Index (GI)	Correlation	-.040	1.000
		Significance (2-tailed)	.699	.
		df	96	0
	Plaque Index (PI)	Correlation	.095	.038
		Significance (2-tailed)	.353	.709
		df	96	96

Correlations

Control Variables			Plaque Index (PI)
age & Tooth Brushing Frequency	iat_score	Correlation	.095
		Significance (2-tailed)	.353
		df	96
	Gingival Index (GI)	Correlation	.038
		Significance (2-tailed)	.709
		df	96
	Plaque Index (PI)	Correlation	1.000
		Significance (2-tailed)	.
		df	0

```
 * ------------------------------------------------------------
* STEP 9: REGRESSION ANALYSIS
* ------------------------------------------------------------

* Linear regression: Gingival Index predicted by IAT and sleep quality

REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA COLLIN TOL
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT gingival_index
```

```
  /METHOD=ENTER sleep_quality iat_score weekly_hours age tooth_brushing.
```

Regression

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA COLLIN TOL /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT gingival_index /METHOD=ENTER sleep_quality iat_score weekly_hours age tooth_brushing.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.02
	Memory Required	5536 bytes
	Additional Memory Required for Residual Plots	0 bytes

Descriptive Statistics

	Mean	Std. Deviation	N
Gingival Index (GI)	1.069329574	.4782486598	100
Sleep Quality Group	1.5000	.50252	100
iat_score	30.77078583	19.88648078	100
Weekly Internet Usage	3.06	1.293	100
age	15.55	1.585	100
Tooth Brushing Frequency	1.73	.983	100

Correlations

		Gingival Index (GI)	Sleep Quality Group	iat_score
Pearson Correlation	Gingival Index (GI)	1.000	-.207	-.025
	Sleep Quality Group	-.207	1.000	-.242
	iat_score	-.025	-.242	1.000
	Weekly Internet Usage	-.005	-.280	.167
	age	.157	.070	.034
	Tooth Brushing Frequency	-.098	.133	-.126
Sig. (1-tailed)	Gingival Index (GI)	.	.019	.403
	Sleep Quality Group	.019	.	.008
	iat_score	.403	.008	.
	Weekly Internet Usage	.480	.002	.049
	age	.059	.245	.370
	Tooth Brushing Frequency	.167	.094	.105
N	Gingival Index (GI)	100	100	100
	Sleep Quality Group	100	100	100
	iat_score	100	100	100
	Weekly Internet Usage	100	100	100
	age	100	100	100
	Tooth Brushing Frequency	100	100	100

Correlations

		Weekly Internet Usage	age	Tooth Brushing Frequency
Pearson Correlation	Gingival Index (GI)	-.005	.157	-.098
	Sleep Quality Group	-.280	.070	.133
	iat_score	.167	.034	-.126
	Weekly Internet Usage	1.000	.196	-.114
	age	.196	1.000	-.182
	Tooth Brushing Frequency	-.114	-.182	1.000
Sig. (1-tailed)	Gingival Index (GI)	.480	.059	.167
	Sleep Quality Group	.002	.245	.094
	iat_score	.049	.370	.105
	Weekly Internet Usage	.	.026	.129
	age	.026	.	.035
	Tooth Brushing Frequency	.129	.035	.
N	Gingival Index (GI)	100	100	100
	Sleep Quality Group	100	100	100
	iat_score	100	100	100
	Weekly Internet Usage	100	100	100
	age	100	100	100
	Tooth Brushing Frequency	100	100	100

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Tooth Brushing Frequency, Weekly Internet Usage, iat_score, age, Sleep Quality Group[b]	.	Enter

a. Dependent Variable: Gingival Index (GI)

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.304[a]	.092	.044	.4676462298

a. Predictors: (Constant), Tooth Brushing Frequency, Weekly Internet Usage, iat_score, age, Sleep Quality Group

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.086	5	.417	1.908	.100[b]
	Residual	20.557	94	.219		
	Total	22.643	99			

a. Dependent Variable: Gingival Index (GI)

b. Predictors: (Constant), Tooth Brushing Frequency, Weekly Internet Usage, iat_score, age, Sleep Quality Group

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.781	.513		1.521	.132
	Sleep Quality Group	-.251	.101	-.264	-2.485	.015
	iat_score	-.002	.002	-.083	-.816	.417
	Weekly Internet Usage	-.040	.039	-.108	-1.023	.309
	age	.057	.031	.190	1.850	.068
	Tooth Brushing Frequency	-.025	.049	-.051	-.501	.618

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Sleep Quality Group	.856	1.168
	iat_score	.923	1.083
	Weekly Internet Usage	.866	1.155
	age	.914	1.094
	Tooth Brushing Frequency	.937	1.067

a. Dependent Variable: Gingival Index (GI)

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	Sleep Quality Group	iat_score
1	1	5.303	1.000	.00	.00	.01
	2	.326	4.031	.00	.02	.46
	3	.187	5.320	.00	.02	.37
	4	.140	6.153	.00	.23	.05
	5	.039	11.690	.05	.72	.10
	6	.005	33.686	.95	.00	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions		
		Weekly Internet Usage	age	Tooth Brushing Frequency
1	1	.00	.00	.01
	2	.02	.00	.22
	3	.15	.00	.50
	4	.43	.00	.18
	5	.40	.07	.02
	6	.00	.93	.07

a. Dependent Variable: Gingival Index (GI)

```
 * Linear regression: Plaque Index

REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA COLLIN TOL
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT plaque_index
  /METHOD=ENTER sleep_quality iat_score weekly_hours age tooth_brushing.
```

Regression

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.

Notes

Syntax		REGRESSION /DESCRIPTIVES MEAN STDDEV CORR SIG N /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA COLLIN TOL /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT plaque_index /METHOD=ENTER sleep_quality iat_score weekly_hours age tooth_brushing.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.03
	Memory Required	5536 bytes
	Additional Memory Required for Residual Plots	0 bytes

Descriptive Statistics

	Mean	Std. Deviation	N
Plaque Index (PI)	1.294129796	.4684655714	100
Sleep Quality Group	1.5000	.50252	100
iat_score	30.77078583	19.88648078	100
Weekly Internet Usage	3.06	1.293	100
age	15.55	1.585	100
Tooth Brushing Frequency	1.73	.983	100

Correlations

		Plaque Index (PI)	Sleep Quality Group	iat_score
Pearson Correlation	Plaque Index (PI)	1.000	-.309	.122
	Sleep Quality Group	-.309	1.000	-.242
	iat_score	.122	-.242	1.000
	Weekly Internet Usage	-.013	-.280	.167
	age	-.054	.070	.034
	Tooth Brushing Frequency	-.259	.133	-.126
Sig. (1-tailed)	Plaque Index (PI)	.	.001	.113
	Sleep Quality Group	.001	.	.008
	iat_score	.113	.008	.
	Weekly Internet Usage	.451	.002	.049
	age	.295	.245	.370
	Tooth Brushing Frequency	.005	.094	.105
N	Plaque Index (PI)	100	100	100
	Sleep Quality Group	100	100	100
	iat_score	100	100	100
	Weekly Internet Usage	100	100	100
	age	100	100	100
	Tooth Brushing Frequency	100	100	100

Correlations

		Weekly Internet Usage	age	Tooth Brushing Frequency
Pearson Correlation	Plaque Index (PI)	-.013	-.054	-.259
	Sleep Quality Group	-.280	.070	.133
	iat_score	.167	.034	-.126
	Weekly Internet Usage	1.000	.196	-.114
	age	.196	1.000	-.182
	Tooth Brushing Frequency	-.114	-.182	1.000
Sig. (1-tailed)	Plaque Index (PI)	.451	.295	.005
	Sleep Quality Group	.002	.245	.094
	iat_score	.049	.370	.105
	Weekly Internet Usage	.	.026	.129
	age	.026	.	.035
	Tooth Brushing Frequency	.129	.035	.
N	Plaque Index (PI)	100	100	100
	Sleep Quality Group	100	100	100
	iat_score	100	100	100
	Weekly Internet Usage	100	100	100
	age	100	100	100
	Tooth Brushing Frequency	100	100	100

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Tooth Brushing Frequency, Weekly Internet Usage, iat_score, age, Sleep Quality Group[b]	.	Enter

a. Dependent Variable: Plaque Index (PI)

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.404[a]	.163	.118	.4398754363

a. Predictors: (Constant), Tooth Brushing Frequency, Weekly Internet Usage, iat_score, age, Sleep Quality Group

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.538	5	.708	3.657	.005[b]
	Residual	18.188	94	.193		
	Total	21.727	99			

a. Dependent Variable: Plaque Index (PI)

b. Predictors: (Constant), Tooth Brushing Frequency, Weekly Internet Usage, iat_score, age, Sleep Quality Group

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.260	.483		4.680	.000
	Sleep Quality Group	-.277	.095	-.297	-2.909	.005
	iat_score	.001	.002	.042	.426	.671
	Weekly Internet Usage	-.043	.037	-.119	-1.173	.244
	age	-.016	.029	-.055	-.560	.577
	Tooth Brushing Frequency	-.113	.046	-.238	-2.438	.017

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Sleep Quality Group	.856	1.168
	iat_score	.923	1.083
	Weekly Internet Usage	.866	1.155
	age	.914	1.094
	Tooth Brushing Frequency	.937	1.067

a. Dependent Variable: Plaque Index (PI)

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	Sleep Quality Group	iat_score
1	1	5.303	1.000	.00	.00	.01
	2	.326	4.031	.00	.02	.46
	3	.187	5.320	.00	.02	.37
	4	.140	6.153	.00	.23	.05
	5	.039	11.690	.05	.72	.10
	6	.005	33.686	.95	.00	.01

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions		
		Weekly Internet Usage	age	Tooth Brushing Frequency
1	1	.00	.00	.01
	2	.02	.00	.22
	3	.15	.00	.50
	4	.43	.00	.18
	5	.40	.07	.02
	6	.00	.93	.07

a. Dependent Variable: Plaque Index (PI)

```
 * ------------------------------------------------------------
* STEP 10: ADDITIONAL ANALYSES
* ------------------------------------------------------------

* Create high/low internet use groups

RECODE weekly_hours (1 2 3 4=0) (5=1) INTO high_internet_use.
VARIABLE LABELS high_internet_use 'High Internet Use (>28h/week)'.
VALUE LABELS high_internet_use
  0 ' 28 hours/week'
  1 '>28 hours/week'.

* Compare periodontal parameters by internet use level

T-TEST GROUPS=high_internet_use(0 1)
  /VARIABLES=gingival_index plaque_index
  /CRITERIA=CI(.95).
```

T-Test

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.

Notes

Syntax		T-TEST GROUPS=high_internet_use(0 1) /VARIABLES=gingival_index plaque_index /CRITERIA=CI(.95).
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.01

Group Statistics

	High Internet Use (>28h/week)	N	Mean	Std. Deviation
Gingival Index (GI)	28 hours/week	81	1.044843347	.4747151655
	>28 hours/week	19	1.173718225	.4921319151
Plaque Index (PI)	28 hours/week	81	1.285950145	.4821068927
	>28 hours/week	19	1.329000941	.4152543604

Group Statistics

	High Internet Use (>28h/week)	Std. Error Mean
Gingival Index (GI)	28 hours/week	.0527461295
	>28 hours/week	.1129028045
Plaque Index (PI)	28 hours/week	.0535674325
	>28 hours/week	.0952658838

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	t	df
Gingival Index (GI)	Equal variances assumed	.136	.713	-1.058	98
	Equal variances not assumed			-1.034	26.431
Plaque Index (PI)	Equal variances assumed	.719	.399	-.359	98
	Equal variances not assumed			-.394	30.496

Independent Samples Test

		t-test for Equality of Means		
		Sig. (2-tailed)	Mean Difference	Std. Error Difference
Gingival Index (GI)	Equal variances assumed	.293	-.128874879	.1218354932
	Equal variances not assumed	.310	-.128874879	.1246162005
Plaque Index (PI)	Equal variances assumed	.720	-.043050796	.1199437610
	Equal variances not assumed	.696	-.043050796	.1092934511

Independent Samples Test

		t-test for Equality of Means	
		95% Confidence Interval of the Difference	
		Lower	Upper
Gingival Index (GI)	Equal variances assumed	-.370653450	.1129036924
	Equal variances not assumed	-.384823786	.1270740285
Plaque Index (PI)	Equal variances assumed	-.281075286	.1949736940
	Equal variances not assumed	-.266105741	.1800041492

Independent Samples Effect Sizes

		Standardizer[a]	Point Estimate	95% Confidence Interval	
				Lower	Upper
Gingival Index (GI)	Cohen's d	.4779617424	-.270	-.770	.232
	Hedges' correction	.4816589141	-.268	-.764	.230
	Glass's delta	.4921319151	-.262	-.765	.248
Plaque Index (PI)	Cohen's d	.4705404598	-.091	-.591	.409
	Hedges' correction	.4741802258	-.091	-.586	.405
	Glass's delta	.4152543604	-.104	-.603	.398

a. The denominator used in estimating the effect sizes.
Cohen's d uses the pooled standard deviation.
Hedges' correction uses the pooled standard deviation, plus a correction factor.
Glass's delta uses the sample standard deviation of the control group.

```
 * Interaction analysis: Sleep quality × Internet use on oral health

UNIANOVA gingival_index BY sleep_quality high_internet_use
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /PLOT=PROFILE(sleep_quality*high_internet_use)
  /EMMEANS=TABLES(sleep_quality*high_internet_use)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /DESIGN=sleep_quality high_internet_use sleep_quality*high_internet_use.
```

Univariate Analysis of Variance

Notes

Output Created		20-NOV-2025 10:00:26
Comments		
Input	Data	C:\Users\DELL\Desktop\Turkish oral health\turkish_oral_health.sav
	Active Dataset	DataSet2
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	100
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		UNIANOVA gingival_index BY sleep_quality high_internet_use /METHOD=SSTYPE(3) /INTERCEPT=INCLUDE /PLOT=PROFILE (sleep_quality*high_internet_use) /EMMEANS=TABLES (sleep_quality*high_internet_use) /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY /CRITERIA=ALPHA(.05) /DESIGN=sleep_quality high_internet_use sleep_quality*high_internet_use.
Resources	Processor Time	00:00:03.83
	Elapsed Time	00:00:02.50

Between-Subjects Factors

		Value Label	N
Sleep Quality Group	1.00	Poor Sleep Quality	50
	2.00	Good Sleep Quality	50
High Internet Use (>28h/week)	.00	2 8 hours/week	81
	1.00	>28 hours/week	19

Descriptive Statistics

Dependent Variable: Gingival Index (GI)

Sleep Quality Group	High Internet Use (>28h/week)	Mean	Std. Deviation	N
Poor Sleep Quality	28 hours/week	1.151205391	.5348950465	33
	>28 hours/week	1.200264153	.5136545722	17
	Total	1.167885370	.5230223574	50
Good Sleep Quality	28 hours/week	.9717194414	.4187815678	48
	>28 hours/week	.9480778367	.1556458903	2
	Total	.9707737772	.4107748987	50
Total	28 hours/week	1.044843347	.4747151655	81
	>28 hours/week	1.173718225	.4921319151	19
	Total	1.069329574	.4782486598	100

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
Gingival Index (GI)	Based on Mean	1.225	3	96	.305
	Based on Median	1.122	3	96	.344
	Based on Median and with adjusted df	1.122	3	84.656	.345
	Based on trimmed mean	1.228	3	96	.304

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Dependent variable: Gingival Index (GI)

b. Design: Intercept + sleep_quality + high_internet_use + sleep_quality * high_internet_use

Tests of Between-Subjects Effects

Dependent Variable: Gingival Index (GI)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.999[a]	3	.333	1.478	.226
Intercept	29.910	1	29.910	132.661	.000
sleep_quality	.305	1	.305	1.355	.247
high_internet_use	.001	1	.001	.005	.945
sleep_quality * high_internet_use	.009	1	.009	.038	.845
Error	21.644	96	.225		
Total	136.990	100			
Corrected Total	22.643	99			

Tests of Between-Subjects Effects

Dependent Variable: Gingival Index (GI)

Source	Partial Eta Squared
Corrected Model	.044
Intercept	.580
sleep_quality	.014
high_internet_use	.000
sleep_quality * high_internet_use	.000
Error	
Total	
Corrected Total	

a. R Squared = .044 (Adjusted R Squared = .014)

Estimated Marginal Means

Sleep Quality Group * High Internet Use (>28h/week)

Dependent Variable: Gingival Index (GI)

Sleep Quality Group	High Internet Use (>28h/week)	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Poor Sleep Quality	28 hours/week	1.151	.083	.987	1.315
	>28 hours/week	1.200	.115	.972	1.429
Good Sleep Quality	28 hours/week	.972	.069	.836	1.108
	>28 hours/week	.948	.336	.282	1.615

Profile Plots