**Data 1: Hypothesis testing of soft furnishing among different areas of residence.**

**Null Hypothesis (H₀):** There is no significant difference in the number of soft furnishings across all rooms among the different areas of residence.

Result:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factor** | **Df** | **Pillai’s trace** | **Approx. F** | **Num Df** | **Den Df** | **Pr(>F)** |
| Area of Residence | 2 | 0.24046 | 2.5692 | 10 | 188 | 0.006189\*\* |
| Residuals | 97 |  |  |  |  |  |

By conducting the MANOVA test at a 90% significance level, the obtained p-value is 0.006189. Since this p-value is less than the significance level, we **reject the null hypothesis**.

Conclusion: Based on the study, there is evidence to suggest that there is a significant difference in the number of soft furnishings across all rooms among the different areas of residence.

**Null Hypothesis (H₀):** There is no significant difference in the number of soft furnishings in the living room/bed room/kitchen/dining room/bath room among the different areas of residence.

Result: Furnishings in different rooms for the factor area of residence is following

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Response** | **Factor** | **Df** | **Sum Sq** | **Mean Sq** | **F value** | **Pr(>F)** |
| Living Room | Area of Residence | 2 | 0.67 | 0.3363 | 0.0623 | 0.9396 |
|  | Residuals | 97 | 523.44 | 5.3963 |  |  |
| Bedroom | Area of Residence | 2 | 30.86 | 15.4307 | 2.4535 | 0.09131 |
|  | Residuals | 97 | 610.05 | 6.2892 |  |  |
| Kitchen | Area of Residence | 2 | 26.682 | 13.3411 | 4.7053 | 0.01121\* |
|  | Residuals | 97 | 275.028 | 2.8353 |  |  |
| Dining Room | Area of Residence | 2 | 27.80 | 13.9019 | 2.3081 | 0.1049 |
|  | Residuals | 97 | 584.24 | 6.0231 |  |  |
| Bathroom | Area of Residence | 2 | 2.701 | 1.35069 | 3.1159 | 0.04881\* |
|  | Residuals | 97 | 42.049 | 0.43349 |  |  |

At 95% confidence level , the p-values for **Living room, Bedroom, and Dining room** is to be 0.9396, 0.09131and 0.1049, respectively. Hence it is greater than 0.05, **accepts the null hypothesis**. Hence there is no significant difference in number of soft furnishings in the living room, bedroom and dining room among different areas of residence.

Also in the case of **Kitchen and Bathroom**, the p-values are 0.01121 and 0.04881 respectively. Thus **rejects the null hypothesis**, indicating that there is a significant difference in the number of soft furnishings in the kitchen and bathroom among different areas of residence.

Now Conducting pairwise t-tests to explore the relationship between different areas of residence:

|  |  |  |  |
| --- | --- | --- | --- |
| **Response** | **Factor** | **City Corporation** | **Municipality** |
| Living Room | Municipality | 1 | - |
|  | Panchayat | 1 | 1 |
| Bedroom | Municipality | 0.14 | - |
|  | Panchayat | 1.00 | 0.13 |
| Kitchen | Municipality | 0.016 | - |
|  | Panchayat | 1.000 | 0.018 |
| Dining Room | Municipality | 0.99 | - |
|  | Panchayat | 1.00 | 0.13 |
| Bathroom | Municipality | 0.651 | - |
|  | Panchayat | 0.045 | 1.000 |

**Kitchen:** There is a significant difference in soft furnishings between municipality and city, as well as between panchayat and municipality. No significant difference exists between panchayat and city.

**Bathroom:** There is a significant difference in the mean number of soft furnishings between panchayat and city. No significant difference exists between municipality and city, nor between municipality and panchayat.

**Data 2: Hypothesis testing of soft furnishing among different socio economic statuses.**

**Null Hypothesis (H₀):** There is no significant difference in the number of soft furnishings across all rooms among different socio-economic statuses.

Result:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Factor** | **Df** | **Pillai’s trace** | **Approx. F** | **Num Df** | **Den Df** | **Pr(>F)** |
| Area of Residence | 4 | 0.39503 | 2.0601 | 20 | 376 | 0.004966\*\* |
| Residuals | 95 |  |  |  |  |  |

By conducting the MANOVA test at a 90% significance level, the obtained p-value is 0.004966. Since this p-value is less than the significance level, we **reject the null hypothesis**.

Conclusion: Based on the study, there is evidence to suggest that there is a significant difference in the number of soft furnishings across all rooms among different socio-economic statuses.

Now, by conducting a 95% significance level test, the socioeconomic status for each room is shown. The p-value corresponding to the bathroom and living room is 0.01855 and 0.008876, respectively, which is less than the significance level of 0.05. Therefore, we reject the null hypothesis. Hence, it concludes that there is a significant difference in the number of soft furnishings across the living room and bathroom among different socio-economic statuses.

In the case of the kitchen, dining room, and bedroom, the p-values are 0.7283, 0.1749, and 0.3156, respectively. Hence, we accept the null hypothesis, resulting in no significant difference in the number of soft furnishings across these rooms among different socio-economic statuses.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Response** | **Factor** | **Df** | **Sum Sq** | **Mean Sq** | **F value** | **Pr(>F)** |
| Living Room | Socio economic status | 4 | 60.84 | 15.2102 | 3.1191 | 0.01855\* |
|  | Residuals | 95 | 463.27 | 4.8765 |  |  |
| Bedroom | Socio economic status | 4 | 30.85 | 7.7122 | 1.201 | 0.3156 |
|  | Residuals | 95 | 610.06 | 6.4217 |  |  |
| Kitchen | Socio economic status | 4 | 6.345 | 1.5863 | 0.5102 | 0.7283 |
|  | Residuals | 95 | 295.365 | 3.1091 |  |  |
| Dining Room | Socio economic status | 4 | 39.15 | 9.7864 | 1.6228 | 0.1749 |
|  | Residuals | 95 | 572.89 | 6.0305 |  |  |
| Bathroom | Socio economic status | 4 | 5.892 | 1.47301 | 3.6012 | 0.008876\* |
|  | Residuals | 95 | 38.858 | 0.40903 |  |  |

**Data 3: Hypothesis testing of association between the type of furnishings in different household spaces and the frequency of cleaning.**

The contingency coefficient and chi-square test (2 sided) obtains the significance value as in the following:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Rooms** | **Daily** | **Weekly** | **Monthly** | **Yearly** | **Seasonally** |
| **Living room** | 0.287 | 0.271 | 0.243 | 0.271 | 0.271 |
| **Kitchen** | 0.231 | 0.231 | 0.242 | 0.333 | 0.314 |
| **Dining** | 0.314 | 0.252 | 0.242 | 0.314 | 0.286 |
| **Bed room** | 0.314 | 0.234 | 0.234 | 0.279 | 0.259 |
| **Bath room** | 0.213 | 0.213 | 0.213 | 0.261 | 0.238 |

**Null Hypothesis (H₀):** There is no association between the type of furnishings in different household spaces and the frequency of cleaning.

Result: The contingency coefficient and chi-square two-sided significance values obtained for different household spaces corresponding to frequency of cleaning are greater than the significance level 0.05. Therefore, **accepts the null hypothesis**. The significance values ranges from 0.2-0.4, indicates a weak association between the variables as they are closer to 0 than to 1.

Consequently, it concludes that there is no statistically significant association between the type of furnishings in different household spaces and frequency of cleaning.

**Testing of hypothesis for each household rooms:**

**Living room**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 72.000 | 64 | .230 |
| Likelihood Ratio | 39.550 | 64 | .993 |
| N of Valid Cases | 9 |  |  |
|  | | | |

Based on chi-square contingency test, the calculated value (72) is less than the tabulated chi-square value(90) for degrees of freedom 64, also the p-value is greater than critical region. Therefore, we fail to reject null hypothesis. That is, there is no association between the type of soft furnishings and frequency of cleaning of living room.

**Kitchen**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 90.000 | 81 | .231 |
| Likelihood Ratio | 46.052 | 81 | .999 |
| N of Valid Cases | 10 |  |  |
|  | | | |

Based on chi-square contingency test, the calculated value (90) is less than the tabulated chi-square value(118) for degrees of freedom 81, also the p-value is greater than critical region. Therefore, we fail to reject null hypothesis. That is, there is no association between the type of soft furnishings and frequency of cleaning of kitchen.

**Dining**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 132.000 | 121 | .233 |
| Likelihood Ratio | 59.638 | 121 | 1.000 |
| N of Valid Cases | 12 |  |  |
|  | | | |

Based on chi-square contingency test, the calculated value (132) is less than the tabulated chi-square value for degrees of freedom 121, also the p-value is greater than critical region. Therefore, there is no association between the type of soft furnishings and frequency of cleaning of Dining room.

**Bedroom**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 182.000 | 169 | .234 |
| Likelihood Ratio | 73.894 | 169 | 1.000 |
| N of Valid Cases | 14 |  |  |
|  | | | |

Based on chi-square contingency test, the calculated value (182) is less than the tabulated chi-square value for degrees of freedom 169, also the p-value is greater than critical region. Therefore, there is no association between the type of soft furnishings and frequency of cleaning of Bedroom.

**Bathroom**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 12.000 | 9 | .213 |
| Likelihood Ratio | 11.090 | 9 | .270 |
| N of Valid Cases | 4 |  |  |

Based on chi-square contingency test, the calculated value (12) is less than the tabulated chi-square value (15.5) for degrees of freedom 9, also the p-value is greater than critical region. Therefore, there is no association between the type of soft furnishings and frequency of cleaning of Bathroom.

**Data 4: Hypothesis testing of association between the type of furnishings in different household spaces and the methods of cleaning.**

The contingency coefficient and chi-square test(2 sided) obtains the significance value as in the following:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Rooms** | **Machine washing** | **Hand washing** | **Dry cleaning** | **Vacuum cleaning** | **Brushing and dusting** | **Sun drying** |
| **Living room** | 0.256 | 0.243 | 0.256 | 0.256 | 0.287 | 0.287 |
| **Kitchen** | 0.254 | 0.231 | 0.314 | 0.314 | 0.281 | 0.297 |
| **Dining** | 0.233 | 0.242 | 0.314 | 0.330 | 0.263 | 0.299 |
| **Bed room** | 0.242 | 0.259 | 0.269 | 0.301 | 0.289 | 0.269 |
| **Bath room** | 0.213 | 0.213 | 0.238 | 0.238 | 0.213 | 0.213 |

**Null Hypothesis (H₀):** There is no association between the type of furnishings in different household spaces and the methods of cleaning.

Result: The contingency coefficient and chi-square two-sided significance values obtained for different household spaces corresponding to different methods of cleaning are greater than the significance level 0.05. Therefore, **accepts the null hypothesis**. The significance values ranges from 0.2-0.4, indicates a weak association between the variables as they are closer to 0 than to 1.

Consequently, it concludes that there is no statistically significant association between the type of furnishings in different household spaces and the method of cleaning.

**Testing of hypothesis for each household rooms:Living room**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 72.000 | 64 | .230 |
| Likelihood Ratio | 39.550 | 64 | .993 |
| N of Valid Cases | 9 |  |  |
| tabulated chi square value= 79 (for sig level=0.05) | | | |

**Kitchen**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 80.000 | 72 | .242 |
| Likelihood Ratio | 43.279 | 72 | .997 |
| N of Valid Cases | 10 |  |  |
| tabulated chi square value= 90 (for sig level=0.05) | | | |

**Dining**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 132.000 | 121 | .233 |
| Likelihood Ratio | 59.638 | 121 | 1.000 |
| N of Valid Cases | 12 |  |  |

**Bedroom**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 154.000 | 143 | .250 |
| Likelihood Ratio | 68.348 | 143 | 1.000 |
| N of Valid Cases | 14 |  |  |
|  | | | |

**Bathroom**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 12.000 | 9 | .213 |
| Likelihood Ratio | 11.090 | 9 | .270 |
| N of Valid Cases | 4 |  |  |
| tabulated chi square value= 15.5 (for sig level=0.05) | | | |

Based on chi-square contingency test, the calculated value corresponding to each room is less than the tabulated chi-square value for the respective degrees of freedom, also the p-value is greater than critical region. Therefore, there is no association between the type of soft furnishings and method of cleaning of all 5 rooms(living room, kitchen, dining, bedroom, bathroom).

**R code for Data 1**

> library("readxl")> area=read\_excel(file.choose(),sheet="area")> library(dplyr)

> library(broom)

manova\_results=manova(cbind(Living\_room,Bed\_room,Kitchen,Dining\_room,Bath\_room)~Area\_of\_residence,data=area)

> summary(manova\_results)

Df Pillai approx F num Df den Df Pr(>F)

areaofresidence 2 0.24046 2.5692 10 188 0.006189 \*\*

Residuals 97

> summary.aov(manova\_results)

Response livingroom :

Df Sum Sq Mean Sq F value Pr(>F)

areaofresidence 2 0.67 0.3363 0.0623 0.9396

Residuals 97 523.44 5.3963

Response bedroom :

Df Sum Sq Mean Sq F value Pr(>F)

areaofresidence 2 30.86 15.4307 2.4535 0.09131 .

Residuals 97 610.05 6.2892

Response kitchen :

Df Sum Sq Mean Sq F value Pr(>F)

areaofresidence 2 26.682 13.3411 4.7053 0.01121 \*

Residuals 97 275.028 2.8353

Response diningroom :

Df Sum Sq Mean Sq F value Pr(>F)

areaofresidence 2 27.80 13.9019 2.3081 0.1049

Residuals 97 584.24 6.0231

Response bathroom :

Df Sum Sq Mean Sq F value Pr(>F)

areaofresidence 2 2.701 1.35069 3.1159 0.04881 \*

Residuals 97 42.049 0.43349

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

> p.t.test=pairwise.t.test(area$**Living\_room**,area$Area\_of\_residence,p.adjust.method="bonferroni")

> p.t.test

Pairwise comparisons using t tests with pooled SD

data: data$livingroom and data$areaofresidence

City corporation Municipality

Municipality 1 -

Panchayat 1 1

P value adjustment method: bonferroni

> p.t.test=pairwise.t.test(data$**bedroom**,data$areaofresidence,p.adjust.method="bonferroni")

> p.t.test

Pairwise comparisons using t tests with pooled SD

data: data$bedroom and data$areaofresidence

City corporation Municipality

Municipality 0.14 -

Panchayat 1.00 0.13

P value adjustment method: bonferroni

> p.t.test=pairwise.t.test(data$**kitchen**,data$areaofresidence,p.adjust.method="bonferroni")

> p.t.test

Pairwise comparisons using t tests with pooled SD

data: data$kitchen and data$areaofresidence

City corporation Municipality

Municipality 0.016 -

Panchayat 1.000 0.018

P value adjustment method: bonferroni

> p.t.test=pairwise.t.test(data$**diningroom**,data$areaofresidence,p.adjust.method="bonferroni")

> p.t.test

Pairwise comparisons using t tests with pooled SD

data: data$diningroom and data$areaofresidence

City corporation Municipality

Municipality 0.99 -

Panchayat 1.00 0.13

P value adjustment method: bonferroni

> p.t.test=pairwise.t.test(data$**bathroom**,data$areaofresidence,p.adjust.method="bonferroni")

> p.t.test

Pairwise comparisons using t tests with pooled SD

data: data$bathroom and data$areaofresidence

City corporation Municipality

Municipality 0.651 -

Panchayat 0.045 1.000

P value adjustment method: bonferroni

R code for Data 2

> data=read\_excel(file.choose(),sheet="socioeconomic") > manova=manova(cbind(livingroom,bedroom,kitchen,diningroom,bathroom)~sestatus,data=data)

> summary(manova)

Df Pillai approx F num Df den Df Pr(>F)

sestatus 4 0.39503 2.0601 20 376 0.004966 \*\*

Residuals 95

> summary.aov(manova)

Response livingroom :

Df Sum Sq Mean Sq F value Pr(>F)

sestatus 4 60.84 15.2102 3.1191 0.01855 \*

Residuals 95 463.27 4.8765

Response bedroom :

Df Sum Sq Mean Sq F value Pr(>F)

sestatus 4 30.85 7.7122 1.201 0.3156

Residuals 95 610.06 6.4217

Response kitchen :

Df Sum Sq Mean Sq F value Pr(>F)

sestatus 4 6.345 1.5863 0.5102 0.7283

Residuals 95 295.365 3.1091

Response diningroom :

Df Sum Sq Mean Sq F value Pr(>F)

sestatus 4 39.15 9.7864 1.6228 0.1749

Residuals 95 572.89 6.0305

Response bathroom :

Df Sum Sq Mean Sq F value Pr(>F)

sestatus 4 5.892 1.47301 3.6012 0.008876 \*

Residuals 95 38.858 0.40903

---

Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

SPSS code for Data 3

**Living room ,**

**Items \* Daily**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 36.000a | 32 | .287 |
| Likelihood Ratio | 27.413 | 32 | .698 |
| N of Valid Cases | 9 |  |  |
| a. 45 cells (100.0%) have expected count less than 5. The minimum expected count is .11. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .894 | .287 |
| N of Valid Cases | | 9 |  |

**Items \* Weekly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 45.000a | 40 | .271 |
| Likelihood Ratio | 30.186 | 40 | .870 |
| N of Valid Cases | 9 |  |  |
| a. 54 cells (100.0%) have expected count less than 5. The minimum expected count is .11. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .913 | .271 |
| N of Valid Cases | | 9 |  |

**Items \* Monthly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 63.000a | 56 | .243 |
| Likelihood Ratio | 36.777 | 56 | .978 |
| N of Valid Cases | 9 |  |  |
| a. 72 cells (100.0%) have expected count less than 5. The minimum expected count is .11. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .935 | .243 |
| N of Valid Cases | | 9 |  |

**Items \* Yearly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 45.000a | 40 | .271 |
| Likelihood Ratio | 30.186 | 40 | .870 |
| N of Valid Cases | 9 |  |  |
| a. 54 cells (100.0%) have expected count less than 5. The minimum expected count is .11. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .913 | .271 |
| N of Valid Cases | | 9 |  |

**Items \* Seasonally**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 45.000a | 40 | .271 |
| Likelihood Ratio | 28.460 | 40 | .914 |
| N of Valid Cases | 9 |  |  |
| a. 54 cells (100.0%) have expected count less than 5. The minimum expected count is .11. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .913 | .271 |
| N of Valid Cases | | 9 |  |

**Kitchen ,**

**Items \* Daily**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 90.000a | 81 | .231 |
| Likelihood Ratio | 46.052 | 81 | .999 |
| N of Valid Cases | 10 |  |  |
| a. 100 cells (100.0%) have expected count less than 5. The minimum expected count is .10. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .949 | .231 |
| N of Valid Cases | | 10 |  |

**Items \* Weekly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 90.000a | 81 | .231 |
| Likelihood Ratio | 46.052 | 81 | .999 |
| N of Valid Cases | 10 |  |  |
| a. 100 cells (100.0%) have expected count less than 5. The minimum expected count is .10. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .949 | .231 |
| N of Valid Cases | | 10 |  |

**Items \* Monthly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 80.000a | 72 | .242 |
| Likelihood Ratio | 43.279 | 72 | .997 |
| N of Valid Cases | 10 |  |  |
| a. 90 cells (100.0%) have expected count less than 5. The minimum expected count is .10. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .943 | .242 |
| N of Valid Cases | | 10 |  |

**Items \* Yearly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 20.000a | 18 | .333 |
| Likelihood Ratio | 18.867 | 18 | .400 |
| N of Valid Cases | 10 |  |  |
| a. 30 cells (100.0%) have expected count less than 5. The minimum expected count is .10. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .816 | .333 |
| N of Valid Cases | | 10 |  |

**Items \* Seasonally**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 30.000a | 27 | .314 |
| Likelihood Ratio | 23.871 | 27 | .637 |
| N of Valid Cases | 10 |  |  |
| a. 40 cells (100.0%) have expected count less than 5. The minimum expected count is .10. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .866 | .314 |
| N of Valid Cases | | 10 |  |

**dining ,**

**Items \* Daily**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 48.000a | 44 | .314 |
| Likelihood Ratio | 34.179 | 44 | .856 |
| N of Valid Cases | 12 |  |  |
| a. 60 cells (100.0%) have expected count less than 5. The minimum expected count is .08. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .894 | .314 |
| N of Valid Cases | | 12 |  |

**Items \* Weekly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 108.000a | 99 | .252 |
| Likelihood Ratio | 54.093 | 99 | 1.000 |
| N of Valid Cases | 12 |  |  |
| a. 120 cells (100.0%) have expected count less than 5. The minimum expected count is .08. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .949 | .252 |
| N of Valid Cases | | 12 |  |

**Items \* Monthly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 120.000a | 110 | .242 |
| Likelihood Ratio | 56.865 | 110 | 1.000 |
| N of Valid Cases | 12 |  |  |
| a. 132 cells (100.0%) have expected count less than 5. The minimum expected count is .08. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .953 | .242 |
| N of Valid Cases | | 12 |  |

**Items \* Yearly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 48.000a | 44 | .314 |
| Likelihood Ratio | 29.622 | 44 | .952 |
| N of Valid Cases | 12 |  |  |
| a. 60 cells (100.0%) have expected count less than 5. The minimum expected count is .08. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .894 | .314 |
| N of Valid Cases | | 12 |  |

**Items \* Seasonally**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 72.000a | 66 | .286 |
| Likelihood Ratio | 43.002 | 66 | .987 |
| N of Valid Cases | 12 |  |  |
| a. 84 cells (100.0%) have expected count less than 5. The minimum expected count is .08. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .926 | .286 |
| N of Valid Cases | | 12 |  |

**Bedroom ,**

**Items \* Daily**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 70.000a | 65 | .314 |
| Likelihood Ratio | 40.059 | 65 | .994 |
| N of Valid Cases | 14 |  |  |
| a. 84 cells (100.0%) have expected count less than 5. The minimum expected count is .07. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .913 | .314 |
| N of Valid Cases | | 14 |  |

**Items \* Weekly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 182.000a | 169 | .234 |
| Likelihood Ratio | 73.894 | 169 | 1.000 |
| N of Valid Cases | 14 |  |  |
| a. 196 cells (100.0%) have expected count less than 5. The minimum expected count is .07. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .964 | .234 |
| N of Valid Cases | | 14 |  |

**Items \* Monthly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 182.000a | 169 | .234 |
| Likelihood Ratio | 73.894 | 169 | 1.000 |
| N of Valid Cases | 14 |  |  |
| a. 196 cells (100.0%) have expected count less than 5. The minimum expected count is .07. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .964 | .234 |
| N of Valid Cases | | 14 |  |

**Items \* Yearly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 112.000a | 104 | .279 |
| Likelihood Ratio | 57.938 | 104 | 1.000 |
| N of Valid Cases | 14 |  |  |
| a. 126 cells (100.0%) have expected count less than 5. The minimum expected count is .07. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .943 | .279 |
| N of Valid Cases | | 14 |  |

**Items \* Seasonally**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 140.000a | 130 | .259 |
| Likelihood Ratio | 65.576 | 130 | 1.000 |
| N of Valid Cases | 14 |  |  |
| a. 154 cells (100.0%) have expected count less than 5. The minimum expected count is .07. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .953 | .259 |
| N of Valid Cases | | 14 |  |

**Bathroom ,**

**Items \* Daily**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 12.000a | 9 | .213 |
| Likelihood Ratio | 11.090 | 9 | .270 |
| N of Valid Cases | 4 |  |  |
| a. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .25. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .866 | .213 |
| N of Valid Cases | | 4 |  |

**Items \* Weekly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 12.000a | 9 | .213 |
| Likelihood Ratio | 11.090 | 9 | .270 |
| N of Valid Cases | 4 |  |  |
| a. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .25. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .866 | .213 |
| N of Valid Cases | | 4 |  |

**Items \* Monthly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 12.000a | 9 | .213 |
| Likelihood Ratio | 11.090 | 9 | .270 |
| N of Valid Cases | 4 |  |  |
| a. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .25. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .866 | .213 |
| N of Valid Cases | | 4 |  |

**Items \* Yearly**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 4.000a | 3 | .261 |
| Likelihood Ratio | 4.499 | 3 | .212 |
| N of Valid Cases | 4 |  |  |
| a. 8 cells (100.0%) have expected count less than 5. The minimum expected count is .25. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .707 | .261 |
| N of Valid Cases | | 4 |  |

**Items \* Seasonally**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 8.000a | 6 | .238 |
| Likelihood Ratio | 8.318 | 6 | .216 |
| N of Valid Cases | 4 |  |  |
| a. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .816 | .238 |
| N of Valid Cases | | 4 |  |

SPSS code for Data 4

**Living room ,**

**Machine wash \* Items**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 54.000a | 48 | .256 |
| Likelihood Ratio | 34.005 | 48 | .937 |
| N of Valid Cases | 9 |  |  |
| a. 63 cells (100.0%) have expected count less than 5. The minimum expected count is .11. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .926 | .256 |
| N of Valid Cases | | 9 |  |

**Hand wash \* Items**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 63.000a | 56 | .243 |
| Likelihood Ratio | 36.777 | 56 | .978 |
| N of Valid Cases | 9 |  |  |
| a. 72 cells (100.0%) have expected count less than 5. The minimum expected count is .11. | | | |
| |  |  |  |  | | --- | --- | --- | --- | | **Symmetric Measures** | | | | |  | | Value | Approximate Significance | | Nominal by Nominal | Contingency Coefficient | .935 | .243 | | N of Valid Cases | | 9 |  |     **Dry cleaning \* Items** | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 54.000a | 48 | .256 |
| Likelihood Ratio | 34.005 | 48 | .937 |
| N of Valid Cases | 9 |  |  |
| a. 63 cells (100.0%) have expected count less than 5. The minimum expected count is .11. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .926 | .256 |
| N of Valid Cases | | 9 |  |

**Vacuum cleaning \* Items**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 54.000a | 48 | .256 |
| Likelihood Ratio | 34.005 | 48 | .937 |
| N of Valid Cases | 9 |  |  |
| a. 63 cells (100.0%) have expected count less than 5. The minimum expected count is .11. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .926 | .256 |
| N of Valid Cases | | 9 |  |

**Brushing and dusting \* Items**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 36.000a | 32 | .287 |
| Likelihood Ratio | 26.367 | 32 | .747 |
| N of Valid Cases | 9 |  |  |
| a. 45 cells (100.0%) have expected count less than 5. The minimum expected count is .11. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .894 | .287 |
| N of Valid Cases | | 9 |  |

**Sun drying \* Items**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 36.000a | 32 | .287 |
| Likelihood Ratio | 28.460 | 32 | .646 |
| N of Valid Cases | 9 |  |  |
| a. 45 cells (100.0%) have expected count less than 5. The minimum expected count is .11. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .894 | .287 |
| N of Valid Cases | | 9 |  |

**Kitchen,**

**Machine wash**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 70.000a | 63 | .254 |
| Likelihood Ratio | 40.507 | 63 | .988 |
| N of Valid Cases | 10 |  |  |
| a. 80 cells (100.0%) have expected count less than 5. The minimum expected count is .10. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .935 | .254 |
| N of Valid Cases | | 10 |  |

**Items \* Hand wash**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 90.000a | 81 | .231 |
| Likelihood Ratio | 46.052 | 81 | .999 |
| N of Valid Cases | 10 |  |  |
| a. 100 cells (100.0%) have expected count less than 5. The minimum expected count is .10. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .949 | .231 |
| N of Valid Cases | | 10 |  |

**Items \* Dry cleaning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 30.000a | 27 | .314 |
| Likelihood Ratio | 24.412 | 27 | .607 |
| N of Valid Cases | 10 |  |  |
| a. 40 cells (100.0%) have expected count less than 5. The minimum expected count is .10. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .866 | .314 |
| N of Valid Cases | | 10 |  |

**Items \* Vacuum cleaning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 30.000a | 27 | .314 |
| Likelihood Ratio | 18.809 | 27 | .877 |
| N of Valid Cases | 10 |  |  |
| a. 40 cells (100.0%) have expected count less than 5. The minimum expected count is .10. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .866 | .314 |
| N of Valid Cases | | 10 |  |

**Items \* Brushing and dusting**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 50.000a | 45 | .281 |
| Likelihood Ratio | 32.868 | 45 | .911 |
| N of Valid Cases | 10 |  |  |
| a. 60 cells (100.0%) have expected count less than 5. The minimum expected count is .10. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .913 | .281 |
| N of Valid Cases | | 10 |  |

**Items \* Sun drying**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 30.000a | 27 | .314 |
| Likelihood Ratio | 18.809 | 27 | .877 |
| N of Valid Cases | 10 |  |  |
| a. 40 cells (100.0%) have expected count less than 5. The minimum expected count is .10. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .866 | .314 |
| N of Valid Cases | | 10 |  |

**Items \* Brushing and dusting**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 50.000a | 45 | .281 |
| Likelihood Ratio | 32.868 | 45 | .911 |
| N of Valid Cases | 10 |  |  |
| a. 60 cells (100.0%) have expected count less than 5. The minimum expected count is .10. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .913 | .281 |
| N of Valid Cases | | 10 |  |

**Items \* Sun drying**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 40.000a | 36 | .297 |
| Likelihood Ratio | 30.096 | 36 | .745 |
| N of Valid Cases | 10 |  |  |
| a. 50 cells (100.0%) have expected count less than 5. The minimum expected count is .10. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .894 | .297 |
| N of Valid Cases | | 10 |  |

**Dining,**

**Items \* Machine wash**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 132.000a | 121 | .233 |
| Likelihood Ratio | 59.638 | 121 | 1.000 |
| N of Valid Cases | 12 |  |  |
| a. 144 cells (100.0%) have expected count less than 5. The minimum expected count is .08. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .957 | .233 |
| N of Valid Cases | | 12 |  |

**Items \* Hand wash**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 120.000a | 110 | .242 |
| Likelihood Ratio | 56.865 | 110 | 1.000 |
| N of Valid Cases | 12 |  |  |
| a. 132 cells (100.0%) have expected count less than 5. The minimum expected count is .08. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .953 | .242 |
| N of Valid Cases | | 12 |  |

**Items \* Dry cleaning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 48.000a | 44 | .314 |
| Likelihood Ratio | 31.545 | 44 | .920 |
| N of Valid Cases | 12 |  |  |
| a. 60 cells (100.0%) have expected count less than 5. The minimum expected count is .08. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .894 | .314 |
| N of Valid Cases | | 12 |  |

**Items \* Vacuum cleaning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 36.000a | 33 | .330 |
| Likelihood Ratio | 31.407 | 33 | .547 |
| N of Valid Cases | 12 |  |  |
| a. 48 cells (100.0%) have expected count less than 5. The minimum expected count is .17. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .866 | .330 |
| N of Valid Cases | | 12 |  |

**Items \* Brushing and dusting**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 96.000a | 88 | .263 |
| Likelihood Ratio | 48.547 | 88 | 1.000 |
| N of Valid Cases | 12 |  |  |
| a. 108 cells (100.0%) have expected count less than 5. The minimum expected count is .08. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .943 | .263 |
| N of Valid Cases | | 12 |  |

**Items \* Sun drying**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 60.000a | 55 | .299 |
| Likelihood Ratio | 40.909 | 55 | .921 |
| N of Valid Cases | 12 |  |  |
| a. 72 cells (100.0%) have expected count less than 5. The minimum expected count is .08. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .913 | .299 |
| N of Valid Cases | | 12 |  |

**Bedroom,**

**Items \* Machine wash**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 168.000a | 156 | .242 |
| Likelihood Ratio | 71.121 | 156 | 1.000 |
| N of Valid Cases | 14 |  |  |
| a. 182 cells (100.0%) have expected count less than 5. The minimum expected count is .07. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .961 | .242 |
| N of Valid Cases | | 14 |  |

**Items \* Hand wash**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 140.000a | 130 | .259 |
| Likelihood Ratio | 64.529 | 130 | 1.000 |
| N of Valid Cases | 14 |  |  |
| a. 154 cells (100.0%) have expected count less than 5. The minimum expected count is .07. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .953 | .259 |
| N of Valid Cases | | 14 |  |

**Items \* Dry cleaning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 126.000a | 117 | .269 |
| Likelihood Ratio | 61.757 | 117 | 1.000 |
| N of Valid Cases | 14 |  |  |
| a. 140 cells (100.0%) have expected count less than 5. The minimum expected count is .07. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .949 | .269 |
| N of Valid Cases | | 14 |  |

**Items \* Vacuum cleaning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 84.000a | 78 | .301 |
| Likelihood Ratio | 48.435 | 78 | .997 |
| N of Valid Cases | 14 |  |  |
| a. 98 cells (100.0%) have expected count less than 5. The minimum expected count is .07. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .926 | .301 |
| N of Valid Cases | | 14 |  |

**Items \* Brushing and dusting**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 98.000a | 91 | .289 |
| Likelihood Ratio | 54.485 | 91 | .999 |
| N of Valid Cases | 14 |  |  |
| a. 112 cells (100.0%) have expected count less than 5. The minimum expected count is .07. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .935 | .289 |
| N of Valid Cases | | 14 |  |

**Items \* Sun drying**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 126.000a | 117 | .269 |
| Likelihood Ratio | 60.031 | 117 | 1.000 |
| N of Valid Cases | 14 |  |  |
| a. 140 cells (100.0%) have expected count less than 5. The minimum expected count is .07. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .949 | .269 |
| N of Valid Cases | | 14 |  |

**Bathroom,**

**Items \* Machine wash**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 12.000a | 9 | .213 |
| Likelihood Ratio | 11.090 | 9 | .270 |
| N of Valid Cases | 4 |  |  |
| a. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .25. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .866 | .213 |
| N of Valid Cases | | 4 |  |

**Items \* Hand wash**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 12.000a | 9 | .213 |
| Likelihood Ratio | 11.090 | 9 | .270 |
| N of Valid Cases | 4 |  |  |
| a. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .25. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .866 | .213 |
| N of Valid Cases | | 4 |  |

**Items \* Dry cleaning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 8.000a | 6 | .238 |
| Likelihood Ratio | 8.318 | 6 | .216 |
| N of Valid Cases | 4 |  |  |
| a. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .816 | .238 |
| N of Valid Cases | | 4 |  |

**Items \* Vacuum cleaning**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 8.000a | 6 | .238 |
| Likelihood Ratio | 8.318 | 6 | .216 |
| N of Valid Cases | 4 |  |  |
| a. 12 cells (100.0%) have expected count less than 5. The minimum expected count is .25. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .816 | .238 |
| N of Valid Cases | | 4 |  |

**Items \* Brushing and dusting**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 12.000a | 9 | .213 |
| Likelihood Ratio | 11.090 | 9 | .270 |
| N of Valid Cases | 4 |  |  |
| a. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .25. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .866 | .213 |
| N of Valid Cases | | 4 |  |

**Items \* Sun drying**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chi-Square Tests** | | | |
|  | Value | df | Asymptotic Significance (2-sided) |
| Pearson Chi-Square | 12.000a | 9 | .213 |
| Likelihood Ratio | 11.090 | 9 | .270 |
| N of Valid Cases | 4 |  |  |
| a. 16 cells (100.0%) have expected count less than 5. The minimum expected count is .25. | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Symmetric Measures** | | | |
|  | | Value | Approximate Significance |
| Nominal by Nominal | Contingency Coefficient | .866 | .213 |
| N of Valid Cases | | 4 |  |

F-test for testing hypothesis of association between soft furnishings and frequency of cleaning of each room.

1) Living room:

Based on F-test, the obtained **p-value is 0.00009999**, which is lesser than significance level. Therefore, it **rejects the null hypothesis** at 0.05 significance level for two-sided test. Therefore, there is association between the type of furnishing and frequency of cleaning for Living room.

>dliving=matrix(c(4,17,18,0,2,9,33,29,6,9,1,3,3,1,2,1,17,24,3,7,3,12,30,2,2,4,17,5,3,5,0,12,45,9,14,4,21,21,0,4,0,5,5,3,2),nrow=9,byrow=TRUE)

> f=fisher.test(dliving,simulate.p.value=TRUE,B=10000)

> f

Fisher's Exact Test for Count Data with simulated p-value (based on

10000 replicates)

data: dliving

p-value = 9.999e-05

alternative hypothesis: two.sided

> f$p.value

[1] **9.999e-05**

2) Kitchen:

Based on F-test, the obtained **p-value is 0.00009999**, which is lesser than significance level. Therefore, it **rejects the null hypothesis** at 0.05 significance level for two-sided test. Therefore, there is association between the type of furnishing and frequency of cleaning for Kitchen.

>dkitchen=matrix(c(24,36,11,0,0,60,27,2,1,0,6,13,12,2,3,25,20,6,1,1,78,17,4,0,1,7,7,1,1,1,52,21,1,0,0,4,4,0,0,1,1,8,14,1,0,5,29,16,1,2),nrow=10,byrow=TRUE)

> f=fisher.test(dkitchen,simulate.p.value=TRUE,B=10000)

> f

Fisher's Exact Test for Count Data with simulated p-value (based on

10000 replicates)

data: dkitchen

p-value = 9.999e-05

alternative hypothesis: two.sided

> f$p.value

[1] **9.999e-05**

3) Dining:

Based on F-test, the obtained **p-value is 0.00009999**, which is lesser than significance level. Therefore, it **rejects the null hypothesis** at 0.05 significance level for two-sided test. Therefore, there is association between the type of furnishing and frequency of cleaning for dining.

>ddining=matrix(c(8,31,12,0,0,1,5,3,0,0,9,11,1,0,0,8,12,10,0,2,0,20,24,6,11,1,13,21,2,7,0,4,2,1,1,0,11,18,0,2,1,15,47,7,9,0,20,17,1,4,28,52,8,0,0,0,9,10,0,1),nrow=12,byrow=TRUE)

> f=fisher.test(ddining,simulate.p.value=TRUE,B=10000)

> f

Fisher's Exact Test for Count Data with simulated p-value (based on

10000 replicates)

data: ddining

p-value = 9.999e-05

alternative hypothesis: two.sided

> f$p.value

[1] **9.999e-05**

4) Bedroom:

Based on F-test, the obtained **p-value is 0.00009999**, which is lesser than significance level. Therefore, it **rejects the null hypothesis** at 0.05 significance level for two-sided test. Therefore, there is association between the type of furnishing and frequency of cleaning for bedroom.

>dbedroom=matrix(c(8,39,21,13,14,1,9,6,1,2,3,80,15,0,2,3,25,17,2,3,0,4,5,0,1,3,42,36,8,11,4,75,16,0,0,0,36,35,5,7,0,10,11,3,4,0,15,54,10,12,2,22,32,4,5,0,11,14,2,3,0,8,18,2,9,0,19,20,1,4),nrow=14,byrow=TRUE)

> f=fisher.test(dbedroom,simulate.p.value=TRUE,B=10000)

> f

Fisher's Exact Test for Count Data with simulated p-value (based on

10000 replicates)

data: dbedroom

p-value = 9.999e-05

alternative hypothesis: two.sided

> f$p.value

[1] **9.999e-05**

5)Bathroom:

Based on F-test, the obtained **p-value is 0.00009999**, which is lesser than significance level. Therefore, it **rejects the null hypothesis** at 0.05 significance level for two-sided test. Therefore, there is association between the type of furnishing and frequency of cleaning for bathroom.

>dbathroom=matrix(c(12,48,18,0,3,64,32,3,1,0,33,22,5,0,0,1,1,1,0,1),nrow=4,byrow=TRUE)

> f=fisher.test(dbathroom,simulate.p.value=TRUE,B=10000)

> f

Fisher's Exact Test for Count Data with simulated p-value (based on

10000 replicates)

data: dbathroom

p-value = 9.999e-05

alternative hypothesis: two.sided

> f$p.value

[1] **9.999e-05**

F-test for testing hypothesis of association between soft furnishings and method of cleaning of each room.

1) Living room:

Based on F-test, the obtained **p-value is 0.00009999**, which is lesser than significance level. Therefore, it **rejects the null hypothesis** at 0.05 significance level for two-sided test. Therefore, there is association between the type of furnishing and method of cleaning for Living room.

>d1iving=matrix(c(10,9,3,17,31,16,19,10,5,4,3,0,2,2,0,0,5,1,7,5,3,6,15,16,23,15,1,2,6,2,7,15,0,3,5,4,39,27,9,0,3,2,6,25,4,6,5,4,6,3,2,1,3,0),nrow=9,byrow=TRUE)

> f=fisher.test(d1iving,simulate.p.value=TRUE,B=10000)

> f

Fisher's Exact Test for Count Data with simulated p-value (based on

10000 replicates)

data: d1iving

p-value = 9.999e-05

alternative hypothesis: two.sided

> f$p.value

[1] **9.999e-05**

2) Kitchen:

Based on F-test, the obtained **p-value is 0.00039996**, which is lesser than significance level. Therefore, it **rejects the null hypothesis** at 0.05 significance level for two-sided test. Therefore, there is association between the type of furnishing and method of cleaning for Kitchen.

>dkitchen=matrix(c(22,37,5,3,2,2,23,58,5,0,3,1,18,12,0,0,2,4,13,31,2,1,4,2,23,69,0,0,2,6,6,10,0,0,0,1,24,49,0,0,1,0,1,7,0,0,1,0,13,8,1,0,1,1,14,26,1,4,6,2),nrow=10,byrow=TRUE)

> f=fisher.test(dkitchen,simulate.p.value=TRUE,B=10000)

> f

Fisher's Exact Test for Count Data with simulated p-value (based on

10000 replicates)

data: dkitchen

p-value = 4e-04

alternative hypothesis: two.sided

> f$p.value

[1] **0.00039996**

> 3) Dining:

Based on F-test, the obtained **p-value is 0.00009999**, which is lesser than significance level. Therefore, it **rejects the null hypothesis** at 0.05 significance level for two-sided test. Therefore, there is association between the type of furnishing and method of cleaning for Dining.

>ddining=matrix(c(23,19,3,2,4,0,5,2,0,0,1,1,9,11,0,0,0,1,8,13,1,0,7,3,7,8,1,3,17,25,12,11,4,2,10,5,0,1,0,0,2,5,10,14,1,0,4,2,39,23,6,1,9,1,16,15,0,3,5,3,41,42,0,1,4,0,4,7,0,2,4,3),nrow=12,byrow=TRUE)

> f=fisher.test(ddining,simulate.p.value=TRUE,B=10000)

> f

Fisher's Exact Test for Count Data with simulated p-value (based on 10000 replicates)

data: ddining

p-value = 9.999e-05

alternative hypothesis: two.sided

> f$p.value

[1] **9.999e-05**

4) Bedroom:

Based on F-test, the obtained **p-value is 0.00009999**, which is lesser than significance level. Therefore, it **rejects the null hypothesis** at 0.05 significance level for two-sided test. Therefore there is association between the type of furnishing and method of cleaning for Bedroom.

>dbedroom=matrix(c(0,13,4,16,26,36,5,2,1,2,5,4,59,31,6,0,4,0,25,10,4,0,7,4,4,1,0,0,1,4,11,18,8,3,10,50,49,31,7,0,5,3,43,21,11,1,2,5,8,9,3,0,7,1,44,30,10,2,4,1,7,31,1,7,9,10,3,6,2,3,9,7,5,15,1,3,9,4,9,15,0,5,9,6),nrow=14,byrow=TRUE)

> f=fisher.test(dbedroom,simulate.p.value=TRUE,B=10000)

> f

Fisher's Exact Test for Count Data with simulated p-value (based on

10000 replicates)

data: dbedroom

p-value = **9.999e-05**

5)Bathroom:

Based on F-test, the obtained **p-value is 0.0577942**, which is greater than significance level. Therefore, it **fails to reject the null hypothesis** at 0.05 significance level for two-sided test. Therefore there is no association between the type of furnishing and method of cleaning for Bathroom.

>dbath=matrix(c(22,41,4,3,7,4,39,52,1,1,1,6,25,30,1,0,2,2,3,0,0,0,0,1),nrow=4,byrow=TRUE)

> f=fisher.test(dbath,simulate.p.value=TRUE,B=10000)

> f

Fisher's Exact Test for Count Data with simulated p-value (based on

10000 replicates)

data: dbath

p-value = 0.05779

alternative hypothesis: two.sided

> f$p.value

[1] **0.05779422**