|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **statistics** | **parameter** | **p.value** | **Conf.int** | **estimate** | **stderr** | **alternative** | **method** | **Data.name** | **Cohen\_d** |
| -4.7917 | 62.51 | 1.057725e-05 | -187.48 | 853.93 | 27.6098 | Two.sided | Welch Two sample t-test | Msg\_group | 1.0715 |
| -77.12 | 986.24 |
| -0.1229 | 74.06 | 0.9025446 | -66.31 | 1707.45 | 31.35 | Tow.sided | Welch Two sample t-test | Img\_group | 0.0274 |
| 58.61 | 1711.31 |
| 4.8782 | 62.75 | 7.661388e-06 | 129.38 | 2071.41 | 44.92 | Two.sided | Welch Two sample t-test | Zip\_group | -1.0090 |
| 308.95 | 1852.24 |  |
| -0.0200 | 65.85 | 0.9840475 | -79.42 | 1712.75 | 39.38 | Two.sided | Two sample t-test | Pdf\_group | 0.0044 |
| 77.84 | 1713.15 |
| -7.7367 | 148.08 | 1.456405e-12 | -312.19 | 1713.15 | 32.14 | Two.sided | Welch  Two sample t-test | Zip\_pdf \_group | 1.2232 |
| -185.16 | 1961.83 |
| -0.1508 | 150.44 | 0.8803266 | -53.19 | 1709.38 | 25.01 | Two.sided | welch  Two sample t-test | Pdf\_img\_group | 0.0238 |
| 45.64 | 1713.15 |
| -2.12 | 157.98 | 0.03562798 | -778.41 | 3993.70 | 190.15 | Two.sided | Welch  Two sample t-test | Cam\_on\_off | 0.3350 |
| -27.41 | 4396.61 |  |  |

The result from welch’s statistical and cohen\_d effect size estimation.

Welch’s statistical test

* **Null Hypothesis (H0):** The null hypothesis typically states that there is no significant difference between the groups being compared.
* **Alternative Hypothesis (H1):** The alternative hypothesis is often that there is a significant difference between the groups.

**Interpretation:**

* A p-value of less than the conventional significance level of 0.05 suggests that we have enough evidence to reject the null hypothesis.

Cohen\_d statistical test:

* **Small Effect Size (d ≈ 0.2):** A small effect size suggests that the difference between groups is relatively small and may not have practical significance.
* **Medium Effect Size (d ≈ 0.5):** A medium effect size indicates a moderate difference between groups, which may be noticeable and of some practical importance.
* **Large Effect Size (d ≈ 0.8 and above):** A large effect size suggests a substantial and potentially important difference between groups