

# 1 Summaries of Parametric Statistics Analysis for the latent trait estimates of Relevance in the third empirical study

Table 1: Summary of two-way ANOVA results for the latent trait estimates of Relevance in the third empirical study

|                  | Sum Sq | Df | F value | Pr(>F) | Sig |
|------------------|--------|----|---------|--------|-----|
| Type.(Intercept) | 0.222  | 1  | 0.505   | 0.481  |     |
| Type.Type        | 1.559  | 1  | 3.541   | 0.066  |     |
| Type.CLRole      | 1.299  | 1  | 2.950   | 0.092  |     |
| Type.Type:CLRole | 0.791  | 1  | 1.797   | 0.187  |     |
| Type.Residuals   | 20.698 | 47 |         |        |     |

Signif. codes: 0 ‘\*\*\*’ 0.01 ‘\*\*’ 0.05

Table 2: Descriptive statistics and Tukey post-hoc test results for the latent trait estimates of Relevance in the third empirical study

|  | N  | mean   | lsmean | SE    | df | lwr.CI | upr.CI | t.ratio | p.value | p.adj | g     | sig | mag |
|--|----|--------|--------|-------|----|--------|--------|---------|---------|-------|-------|-----|-----|
| Type.ont-gamified                                      | 24 | 0.181  | 0.256  | 0.140 | 47 | -0.025 | 0.538  |         |         |       |       |     |     |
| Type.w/o-gamified                                      | 27 | -0.131 | -0.116 | 0.140 | 47 | -0.397 | 0.165  |         |         |       |       |     |     |
| Type.ont-gamified - w/o-gamified                       | 51 | 0.312  | 0.372  | 0.198 |    | -0.063 | 0.686  | 1.882   | 0.066   | 0.101 | 0.450 |     |     |
| Type.ont-gamified.Apprentice                           | 15 | -0.046 | -0.046 | 0.171 | 47 | -0.391 | 0.299  |         |         |       |       |     |     |
| Type.w/o-gamified.Apprentice                           | 19 | -0.153 | -0.153 | 0.152 | 47 | -0.459 | 0.153  |         |         |       |       |     |     |
| Type.ont-gamified.Apprentice - w/o-gamified.Apprentice | 34 | 0.107  | 0.107  | 0.229 |    | -0.503 | 0.718  | 0.467   | 0.643   | 0.966 | 0.150 |     |     |
| Type.ont-gamified.Master                               | 9  | 0.559  | 0.559  | 0.221 | 47 | 0.114  | 1.004  |         |         |       |       |     |     |
| Type.w/o-gamified.Master                               | 8  | -0.079 | -0.079 | 0.235 | 47 | -0.551 | 0.393  |         |         |       |       |     |     |
| Type.ont-gamified.Master - w/o-gamified.Master         | 17 | 0.637  | 0.637  | 0.322 |    | -0.221 | 1.496  | 1.977   | 0.054   | 0.211 | 1.039 |     |     |

Signif. codes: 0 ‘\*\*\*’ 0.01 ‘\*’ 0.05