## Summary of nonparametric statistics analysis for the scores of Satisfaction in the third study for signed up students

Table 1: Summary of Scheirer-Ray-Hare results for the scores of Satisfaction in the third study for signed up students

	Df	Sum Sq	Н	p.value	Sig
Type					
Type:Type	1	268.166	1.173	0.279	
Type:CLRole	1	88.555	0.387	0.534	
Type:Type:CLRole	1	26.457	0.116	0.734	
Type:Residuals	48	11271.822			

Signif. codes: 0 "\*\*" 0.01 "\*" 0.05

Table 2: Full descriptive statistic of the pair wilcoxon analysis for the scores of Satisfaction in the third study for signed up students  $\frac{1}{2}$ 

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type.less.1	ont-gamified	25	4.33	28.86	721.5	396.5	1.08	0.860	0.150	small
Type.less.2	w/o-gamified	27	4.33	24.31	656.5	396.5	1.08	0.860	0.150	$\operatorname{small}$
Type.greater.1	ont-gamified	25	4.33	28.86	721.5	396.5	1.08	0.142	0.150	$\operatorname{small}$
Type.greater.2	w/o-gamified	27	4.33	24.31	656.5	396.5	1.08	0.142	0.150	$\operatorname{small}$
Type.two.sided.1	ont-gamified	25	4.33	28.86	721.5	396.5	1.08	0.283	0.150	$\operatorname{small}$
Type.two.sided.2	w/o-gamified	27	4.33	24.31	656.5	396.5	1.08	0.283	0.150	$\operatorname{small}$
Type:CLRole.less.1	ont-gamified.Apprentice	16	4.67	13.66	218.5	82.5	0.60	0.726	0.119	$\operatorname{small}$
Type:CLRole.less.2	ont-gamified.Master	9	4.33	11.83	106.5	82.5	0.60	0.726	0.119	$\operatorname{small}$
Type:CLRole.greater.1	ont-gamified.Apprentice	16	4.67	13.66	218.5	82.5	0.60	0.284	0.119	$\operatorname{small}$
Type:CLRole.greater.2	ont-gamified.Master	9	4.33	11.83	106.5	82.5	0.60	0.284	0.119	$\operatorname{small}$
Type:CLRole.two.sided.1	ont-gamified.Apprentice	16	4.67	13.66	218.5	82.5	0.60	0.567	0.119	small
Type:CLRole.two.sided.2	ont-gamified.Master	9	4.33	11.83	106.5	82.5	0.60	0.567	0.119	small
Type:CLRole.less.11	ont-gamified.Apprentice	16	4.67	20.22	323.5	187.5	1.18	0.881	0.199	small
Type:CLRole.less.21	w/o-gamified.Apprentice	19	4.33	16.13	306.5	187.5	1.18	0.881	0.199	small
Type:CLRole.greater.11	ont-gamified. Apprentice	16	4.67	20.22	323.5	187.5	1.18	0.123	0.199	small
Type:CLRole.greater.21	w/o-gamified.Apprentice	19	4.33	16.13	306.5	187.5	1.18	0.123	0.199	small
Type:CLRole.two.sided.11	ont-gamified. Apprentice	16	4.67	20.22	323.5	187.5	1.18	0.246	0.199	small
Type:CLRole.two.sided.21	w/o-gamified.Apprentice	19	4.33	16.13	306.5	187.5	1.18	0.246	0.199	small
Type:CLRole.less.12	ont-gamified. Apprentice	16	4.67	13.53	216.5	80.5	1.01	0.845	0.207	small
Type:CLRole.less.22	w/o-gamified.Master	8	4.17	10.44	83.5	80.5	1.01	0.845	0.207	small
Type:CLRole.greater.12	ont-gamified.Apprentice	16	4.67	13.53	216.5	80.5	1.01	0.163	0.207	small
Type:CLRole.greater.22	w/o-gamified.Master	8	4.17	10.44	83.5	80.5	1.01	0.163	0.207	small
Type:CLRole.two.sided.12	ont-gamified. Apprentice	16	4.67	13.53	216.5	80.5	1.01	0.326	0.207	small
Type:CLRole.two.sided.22	w/o-gamified.Master	8	4.17	10.44	83.5	80.5	1.01	0.326	0.207	small
Type:CLRole.less.13	ont-gamified.Master	9	4.33	14.83	133.5	88.5	0.15	0.562	0.028	none
Type:CLRole.less.23	w/o-gamified.Apprentice	19	4.33	14.34	272.5	88.5	0.15	0.562	0.028	none
Type:CLRole.greater.13	ont-gamified.Master	9	4.33	14.83	133.5	88.5	0.15	0.447	0.028	none
Type:CLRole.greater.23	w/o-gamified.Apprentice	19	4.33	14.34	272.5	88.5	0.15	0.447	0.028	none
Type:CLRole.two.sided.13	ont-gamified.Master	9	4.33	14.83	133.5	88.5	0.15	0.894	0.028	none
Type:CLRole.two.sided.23	w/o-gamified.Apprentice	19	4.33	14.34	272.5	88.5	0.15	0.894	0.028	none
Type:CLRole.less.14	ont-gamified.Master	9	4.33	9.44	85.0	40.0	0.39	0.664	0.094	none
Type:CLRole.less.24	w/o-gamified.Master	8	4.17	8.50	68.0	40.0	0.39	0.664	0.094	none
Type:CLRole.greater.14	ont-gamified.Master	9	4.33	9.44	85.0	40.0	0.39	0.370	0.094	none
Type:CLRole.greater.24	w/o-gamified.Master	8	4.17	8.50	68.0	40.0	0.39	0.370	0.094	none
Type:CLRole.two.sided.14	ont-gamified.Master	9	4.33	9.44	85.0	40.0	0.39	0.741	0.094	none
Type:CLRole.two.sided.24	w/o-gamified.Master	8	4.17	8.50	68.0	40.0	0.39	0.741	0.094	none
Type:CLRole.less.15	w/o-gamified.Apprentice	19	4.33	14.21	270.0	80.0	0.21	0.588	0.041	none
Type:CLRole.less.25	w/o-gamified.Master	8	4.17	13.50	108.0	80.0	0.21	0.588	0.041	none
Type:CLRole.greater.15	w/o-gamified.Master w/o-gamified.Apprentice	19	4.33	14.21	270.0	80.0	0.21	0.422	0.041	none
Type:CLRole.greater.25	w/o-gamified.Master	8	4.17	13.50	108.0	80.0	0.21	0.422	0.041	none

## Table 2: (continued)

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type:CLRole.two.sided.15	w/o-gamified.Apprentice	19	4.33	14.21	270.0	80.0	0.21	0.844	0.041	none
Type:CLRole.two.sided.25	w/o-gamified.Master	8	4.17	13.50	108.0	80.0	0.21	0.844	0.041	none