

Summary of nonparametric statistics analysis for the latent trait estimates of Satisfaction in the third study for students with effective participation

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Table 1: Summary of Scheirer-Ray-Hare results for the latent trait estimates of Satisfaction in the third study for students with effective participation

	Df	Sum Sq	H	p.value	Sig
Type					
Type:Type	1	3.914	0.024	0.877	
Type:CLRole	1	105.183	0.642	0.423	
Type:Type:CLRole	1	19.588	0.120	0.730	
Type:Residuals	40	6918.816			

Signif. codes: 0 “***” 0.01 “**” 0.05

Table 2: Full descriptive statistic of the pair wilcoxon analysis for the latent trait estimates of Satisfaction in the third study for students with effective participation

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type.less.1	ont-gamified	25	0.13	22.24	556.0	231.0	-0.15	0.442	0.023	none
Type.less.2	w/o-gamified	19	0.50	22.84	434.0	231.0	-0.15	0.442	0.023	none
Type.greater.1	ont-gamified	25	0.13	22.24	556.0	231.0	-0.15	0.563	0.023	none
Type.greater.2	w/o-gamified	19	0.50	22.84	434.0	231.0	-0.15	0.563	0.023	none
Type.two.sided.1	ont-gamified	25	0.13	22.24	556.0	231.0	-0.15	0.883	0.023	none
Type.two.sided.2	w/o-gamified	19	0.50	22.84	434.0	231.0	-0.15	0.883	0.023	none
Type.CLRole.less.1	ont-gamified.Apprentice	16	0.47	13.66	218.5	82.5	0.60	0.726	0.119	small
Type.CLRole.less.2	ont-gamified.Master	9	0.13	11.83	106.5	82.5	0.60	0.726	0.119	small
Type.CLRole.greater.1	ont-gamified.Apprentice	16	0.47	13.66	218.5	82.5	0.60	0.284	0.119	small
Type.CLRole.greater.2	ont-gamified.Master	9	0.13	11.83	106.5	82.5	0.60	0.284	0.119	small
Type.CLRole.two.sided.1	ont-gamified.Apprentice	16	0.47	13.66	218.5	82.5	0.60	0.567	0.119	small
Type.CLRole.two.sided.2	ont-gamified.Master	9	0.13	11.83	106.5	82.5	0.60	0.567	0.119	small
Type.CLRole.less.11	ont-gamified.Apprentice	16	0.47	15.38	246.0	110.0	0.26	0.607	0.049	none
Type.CLRole.less.21	w/o-gamified.Apprentice	13	0.50	14.54	189.0	110.0	0.26	0.607	0.049	none
Type.CLRole.greater.11	ont-gamified.Apprentice	16	0.47	15.38	246.0	110.0	0.26	0.402	0.049	none
Type.CLRole.greater.21	w/o-gamified.Apprentice	13	0.50	14.54	189.0	110.0	0.26	0.402	0.049	none
Type.CLRole.two.sided.11	ont-gamified.Apprentice	16	0.47	15.38	246.0	110.0	0.26	0.803	0.049	none
Type.CLRole.two.sided.21	w/o-gamified.Apprentice	13	0.50	14.54	189.0	110.0	0.26	0.803	0.049	none
Type.CLRole.less.12	ont-gamified.Apprentice	16	0.47	11.81	189.0	53.0	0.37	0.647	0.079	none
Type.CLRole.less.22	w/o-gamified.Master	6	0.47	10.67	64.0	53.0	0.37	0.647	0.079	none
Type.CLRole.greater.12	ont-gamified.Apprentice	16	0.47	11.81	189.0	53.0	0.37	0.366	0.079	none
Type.CLRole.greater.22	w/o-gamified.Master	6	0.47	10.67	64.0	53.0	0.37	0.366	0.079	none
Type.CLRole.two.sided.12	ont-gamified.Apprentice	16	0.47	11.81	189.0	53.0	0.37	0.733	0.079	none
Type.CLRole.two.sided.22	w/o-gamified.Master	6	0.47	10.67	64.0	53.0	0.37	0.733	0.079	none
Type.CLRole.less.13	ont-gamified.Master	9	0.13	9.89	89.0	44.0	-0.97	0.171	0.208	small
Type.CLRole.less.23	w/o-gamified.Apprentice	13	0.50	12.62	164.0	44.0	-0.97	0.171	0.208	small
Type.CLRole.greater.13	ont-gamified.Master	9	0.13	9.89	89.0	44.0	-0.97	0.835	0.208	small
Type.CLRole.greater.23	w/o-gamified.Apprentice	13	0.50	12.62	164.0	44.0	-0.97	0.835	0.208	small
Type.CLRole.two.sided.13	ont-gamified.Master	9	0.13	9.89	89.0	44.0	-0.97	0.340	0.208	small
Type.CLRole.two.sided.23	w/o-gamified.Apprentice	13	0.50	12.62	164.0	44.0	-0.97	0.340	0.208	small
Type.CLRole.less.14	ont-gamified.Master	9	0.13	7.67	69.0	24.0	-0.36	0.384	0.092	none
Type.CLRole.less.24	w/o-gamified.Master	6	0.47	8.50	51.0	24.0	-0.36	0.384	0.092	none
Type.CLRole.greater.14	ont-gamified.Master	9	0.13	7.67	69.0	24.0	-0.36	0.654	0.092	none
Type.CLRole.greater.24	w/o-gamified.Master	6	0.47	8.50	51.0	24.0	-0.36	0.654	0.092	none
Type.CLRole.two.sided.14	ont-gamified.Master	9	0.13	7.67	69.0	24.0	-0.36	0.771	0.092	none
Type.CLRole.two.sided.24	w/o-gamified.Master	6	0.47	8.50	51.0	24.0	-0.36	0.771	0.092	none
Type.CLRole.less.15	w/o-gamified.Apprentice	13	0.50	10.19	132.5	41.5	0.22	0.597	0.051	none
Type.CLRole.less.25	w/o-gamified.Master	6	0.47	9.58	57.5	41.5	0.22	0.597	0.051	none
Type.CLRole.greater.15	w/o-gamified.Apprentice	13	0.50	10.19	132.5	41.5	0.22	0.420	0.051	none
Type.CLRole.greater.25	w/o-gamified.Master	6	0.47	9.58	57.5	41.5	0.22	0.420	0.051	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	13	0.50	10.19	132.5	41.5	0.22	0.843	0.051	none
Type:CLRole.two.sided.25	w/o-gamified.Master	6	0.47	9.58	57.5	41.5	0.22	0.843	0.051	none