Summary of nonparametric statistics analysis for the latent trait estimates of Effort/Importance in the third study for signed up students

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Table 1: Summary of Scheirer-Ray-Hare results for the latent trait estimates of Effort/Importance in the third study for signed up students

	Df	Sum Sq	H	p.value	Sig
Type					
Type:Type	1	1289.481	5.893	0.015	*
Type:CLRole	1	149.901	0.685	0.408	
Type:Type:CLRole	1	2.171	0.010	0.921	
Type:Residuals	47	9498.447			

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

Table 2: Descriptive statistic of the pair wilcoxon analysis for the latent trait estimates of Effort/Importance in the third study for signed up students

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type.greater.1	ont-gamified	24	0.40	31.33	752	452	2.43	0.007	0.340	medium
Type.greater.2	w/o-gamified	27	−0.48	21.26	574	452	2.43	0.007	0.340	medium
Type.two.sided.1	ont-gamified	24	0.40	31.33	752	452	2.43	0.014	0.340	medium
Type.two.sided.2	w/o-gamified	27	−0.48	21.26	574	452	2.43	0.014	0.340	medium
Type:CLRole.greater.1	ont-gamified.Apprentice	15	0.52	21.47	322	202	2.08	0.019	0.356	medium
Type:CLRole.greater.2	w/o-gamified.Apprentice	19	−0.48	14.37	273	202	2.08	0.019	0.356	medium
Type:CLRole.two.sided.1	ont-gamified.Apprentice	15	0.52	21.47	322	202	2.08	0.037	0.356	medium
Type:CLRole.two.sided.2	w/o-gamified.Apprentice	19	−0.48	14.37	273	202	2.08	0.037	0.356	medium
Type:CLRole.greater.11	ont-gamified.Apprentice	15	0.52	14.07	211	91	2.01	0.022	0.420	medium
Type:CLRole.greater.21	w/o-gamified.Master	8	−0.62	8.12	65	91	2.01	0.022	0.420	medium
Type:CLRole.two.sided.11	ont-gamified.Apprentice	15	0.52	14.07	211	91	2.01	0.044	0.420	medium
Type:CLRole.two.sided.21	w/o-gamified.Master	8	−0.62	8.12	65	91	2.01	0.044	0.420	medium

Table 3: Full descriptive statistic of the pair wilcoxon analysis for the latent trait estimates of Effort/Importance in the third study for signed up students

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type.less.1	ont-gamified	24	0.40	31.33	752.0	452.0	2.43	0.993	0.340	medium
Type.less.2	w/o-gamified	27	−0.48	21.26	574.0	452.0	2.43	0.993	0.340	medium
Type.greater.1	ont-gamified	24	0.40	31.33	752.0	452.0	2.43	0.007	0.340	medium
Type.greater.2	w/o-gamified	27	−0.48	21.26	574.0	452.0	2.43	0.007	0.340	medium
Type.two.sided.1	ont-gamified	24	0.40	31.33	752.0	452.0	2.43	0.014	0.340	medium
Type.two.sided.2	w/o-gamified	27	−0.48	21.26	574.0	452.0	2.43	0.014	0.340	medium
Type:CLRole.less.1	ont-gamified.Apprentice	15	0.52	13.33	200.0	80.0	0.75	0.776	0.154	small
Type:CLRole.less.2	ont-gamified.Master	9	0.02	11.11	100.0	80.0	0.75	0.776	0.154	small
Type:CLRole.greater.1	ont-gamified.Apprentice	15	0.52	13.33	200.0	80.0	0.75	0.233	0.154	small
Type:CLRole.greater.2	ont-gamified.Master	9	0.02	11.11	100.0	80.0	0.75	0.233	0.154	small
Type:CLRole.two.sided.1	ont-gamified.Apprentice	15	0.52	13.33	200.0	80.0	0.75	0.467	0.154	small
Type:CLRole.two.sided.2	ont-gamified.Master	9	0.02	11.11	100.0	80.0	0.75	0.467	0.154	small
Type:CLRole.less.11	ont-gamified.Apprentice	15	0.52	21.47	322.0	202.0	2.08	0.982	0.356	medium
Type:CLRole.less.21	w/o-gamified.Apprentice	19	−0.48	14.37	273.0	202.0	2.08	0.982	0.356	medium
Type:CLRole.greater.11	ont-gamified.Apprentice	15	0.52	21.47	322.0	202.0	2.08	0.019	0.356	medium
Type:CLRole.greater.21	w/o-gamified.Apprentice	19	−0.48	14.37	273.0	202.0	2.08	0.019	0.356	medium
Type:CLRole.two.sided.11	ont-gamified.Apprentice	15	0.52	21.47	322.0	202.0	2.08	0.037	0.356	medium
Type:CLRole.two.sided.21	w/o-gamified.Apprentice	19	−0.48	14.37	273.0	202.0	2.08	0.037	0.356	medium
Type:CLRole.less.12	ont-gamified.Apprentice	15	0.52	14.07	211.0	91.0	2.01	0.980	0.420	medium
Type:CLRole.less.22	w/o-gamified.Master	8	−0.62	8.12	65.0	91.0	2.01	0.980	0.420	medium
Type:CLRole.greater.12	ont-gamified.Apprentice	15	0.52	14.07	211.0	91.0	2.01	0.022	0.420	medium
Type:CLRole.greater.22	w/o-gamified.Master	8	−0.62	8.12	65.0	91.0	2.01	0.022	0.420	medium
Type:CLRole.two.sided.12	ont-gamified.Apprentice	15	0.52	14.07	211.0	91.0	2.01	0.044	0.420	medium
Type:CLRole.two.sided.22	w/o-gamified.Master	8	−0.62	8.12	65.0	91.0	2.01	0.044	0.420	medium
Type:CLRole.less.13	ont-gamified.Master	9	0.02	17.17	154.5	109.5	1.19	0.882	0.224	small
Type:CLRole.less.23	w/o-gamified.Apprentice	19	−0.48	13.24	251.5	109.5	1.19	0.882	0.224	small
Type:CLRole.greater.13	ont-gamified.Master	9	0.02	17.17	154.5	109.5	1.19	0.124	0.224	small
Type:CLRole.greater.23	w/o-gamified.Apprentice	19	−0.48	13.24	251.5	109.5	1.19	0.124	0.224	small
Type:CLRole.two.sided.13	nonpamified.Master	9	0.02	17.17	154.5	109.5	1.19	0.246	0.224	small
Type:CLRole.two.sided.23	w/o-gamified.Apprentice	19	−0.48	13.24	251.5	109.5	1.19	0.246	0.224	small
Type:CLRole.less.14	ont-gamified.Master	9	0.02	10.50	94.5	49.5	1.31	0.907	0.317	medium
Type:CLRole.less.24	w/o-gamified.Master	8	−0.62	7.31	58.5	49.5	1.31	0.907	0.317	medium
Type:CLRole.greater.14	ont-gamified.Master	9	0.02	10.50	94.5	49.5	1.31	0.102	0.317	medium
Type:CLRole.greater.24	w/o-gamified.Master	8	−0.62	7.31	58.5	49.5	1.31	0.102	0.317	medium
Type:CLRole.two.sided.14	ont-gamified.Master	9	0.02	10.50	94.5	49.5	1.31	0.204	0.317	medium
Type:CLRole.two.sided.24	w/o-gamified.Master	8	−0.62	7.31	58.5	49.5	1.31	0.204	0.317	medium
Type:CLRole.less.15	w/o-gamified.Apprentice	19	−0.48	14.61	277.5	87.5	0.61	0.731	0.118	small
Type:CLRole.less.25	w/o-gamified.Master	8	−0.62	12.56	100.5	87.5	0.61	0.731	0.118	small

Table 3: *(continued)*

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type:CLRole.greater.15	w/o-gamified.Apprentice	19	−0.48	14.61	277.5	87.5	0.61	0.278	0.118	small
Type:CLRole.greater.25	w/o-gamified.Master	8	−0.62	12.56	100.5	87.5	0.61	0.278	0.118	small

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type:CLRole.two.sided.15	w/o-gamified.Apprentice	19	−0.48	14.61	277.5	87.5	0.61	0.556	0.118	small
Type:CLRole.two.sided.25	w/o-gamified.Master	8	−0.62	12.56	100.5	87.5	0.61	0.556	0.118	small