

Table: Analysis of Variance with Satterthwaite's method: LMM with expertise (Hypothesis 1b)

	Model 1			Model 2			Model 3		
	Effectiveness			Efficiency			Satisfaction		
	Mean Squared	F-Value	P-value	Mean Squared	F-Value	P-value	Mean Squared	F-Value	P-value
Representation	852.89	3.46	0.04	2655.70	5.71	0.00	3.84	12.59	0.00
Task	1313.32	5.33	0.01	4657.40	10.02	0.00	5.89	19.29	0.00
With/without prior knowledge (pk)	557.03	2.26	0.14	6.50	0.01	0.91	0.38	1.27	0.27
Representation: Task	837.63	3.40	0.01	1092.40	2.35	0.06	2.48	8.12	0.00
Representation: with pk	79.41	0.32	0.72	229.90	0.49	0.61	0.06	0.19	0.82
Task: with pk	263.17	1.07	0.34	217.00	0.47	0.63	0.00	0.01	0.98
Representation: Task: with pk	237.80	0.97	0.42	411.90	0.89	0.47	0.08	0.26	0.90
Marginal R ²	0.21			0.17			0.37		

*Note: Interaction terms as combinations of two variables are marked with ":"

Table: Analysis of Variance with Satterthwaite's method: LMM with educational degree (Hypothesis 1c)

	Model 1			Model 2			Model 3		
	Effectiveness			Efficiency			Satisfaction		
	Mean Squared	F-Value	P-value	Mean Squared	F-Value	P-value	Mean Squared	F-Value	P-value
Representation	1222.22	5.71	0.00	1483.09	3.01	0.06	2.80	9.02	0.00
Task	1845.76	8.62	0.00	1787.56	3.62	0.03	3.02	9.72	0.00
educational degree	1379.67	6.44	0.00	373.76	0.76	0.56	0.39	1.24	0.31
Representation: Task	1082.26	5.05	0.00	1019.83	2.07	0.09	1.78	5.71	0.00
Representation: educational degree	394.00	1.84	0.08	505.74	1.03	0.42	0.30	0.98	0.46
Task: educational degree	599.45	2.80	0.02	266.34	0.54	0.78	0.20	0.66	0.69
Representation: Task: educational degree	368.12	1.72	0.07	318.10	0.65	0.80	0.18	0.57	0.86
Marginal R ²	0.42			0.24			0.43		

*Note: Interaction terms as combinations of two variables are marked with ":"