Supplementary materials for: Pointing models for users operating under different speed accuracy strategies

Anonymous authors

1 Intraclass Correlation Coefficients (ICC) for the JGP dataset (Subsection 3.3)

1.1 Pearson's r

	Type	Description	ICC	F	df1	df2	pval	CI95%
0	ICC1	Single raters absolute	0.278121	2.541096	14	45	0.009083	[0.04 0.59]
1	ICC2	Single random raters	0.284798	2.679707	14	42	0.006876	[0.05 0.59]
2	ICC3	Single fixed raters	0.295738	2.679707	14	42	0.006876	[0.05 0.61]
3	ICC1k	Average raters absolute	0.606469	2.541096	14	45	0.009083	[0.15 0.85]
4	ICC2k	Average random raters	0.614320	2.679707	14	42	0.006876	[0.18 0.85]
5	ICC3k	Average fixed raters	0.626825	2.679707	14	42	0.006876	[0.18 0.86]

1.2 Spearman's ρ

	Type	Description	ICC	F	df1	df2	pval	CI95%
0	ICC1	Single raters absolute	0.269582	2.476315	14	45	0.010850	[0.03 0.58]
1	ICC2	Single random raters	0.272642	2.534710	14	42	0.010107	[0.04 0.58]
2	ICC3	Single fixed raters	0.277288	2.534710	14	42	0.010107	[0.04 0.59]
3	ICC1k	Average raters absolute	0.596174	2.476315	14	45	0.010850	[0.12 0.85]
4	ICC2k	Average random raters	0.599896	2.534710	14	42	0.010107	[0.14 0.85]
5	ICC3k	Average fixed raters	0.605478	2.534710	14	42	0.010107	[0.13 0.85]

1.3 Kendall's τ

	Type	Description	ICC	F	df1	df2	pval	CI95%
0	ICC1	Single raters absolute	0.289989	2.633714	14	45	0.007048	[0.05 0.6]
1	ICC2	Single random raters	0.291424	2.664110	14	42	0.007166	[0.05 0.6]
2	ICC3	Single fixed raters	0.293799	2.664110	14	42	0.007166	[0.05 0.6]
3	ICC1k	Average raters absolute	0.620308	2.633714	14	45	0.007048	[0.18 0.86]
4	ICC2k	Average random raters	0.621946	2.664110	14	42	0.007166	[0.18 0.86]
5	ICC3k	Average fixed raters	0.624640	2.664110	14	42	0.007166	[0.18 0.86]

2 Association measures for the GO dataset (Subsection 4.3)

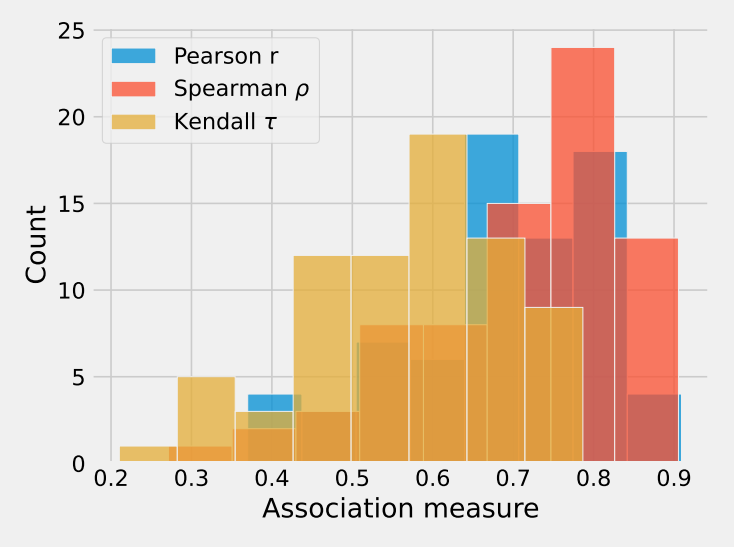

Figure 1: ¡caption¿

Table 1:

strategy	r	rho	tau
1	0.027881	0.034877	0.019789
2	0.111236	0.116360	0.085362
3	0.266716	0.262616	0.193317
4	0.093823	0.107219	0.077531
5	0.217365	0.226004	0.173897

3 Linear fits for the Gaussian bivariate fit per strategy for the GO dataset (Subsection 4.5)

3.1 $\mu_i = \mathbf{const} + x_1\,\mathbf{strategy}$

Dep. Variable:	y	**R-squared:**	0.934
Model:	OLS	**Adj. R-squared:**	0.912
Method:	Least Squares	**F-statistic:**	42.58
Date:	Tue, 10 Sep 2024	**Prob (F-statistic):**	0.00731
Time:	16:31:51	**Log-Likelihood:**	3.4797
No. Observations:	5	**AIC:**	-2.959
Df Residuals:	3	**BIC:**	-3.741
Df Model:	1		
Covariance Type:	nonrobust		

	coef	**std err**	**t**	**P> |t|**	**[0.025**	**0.975]**
const	1.2957	0.070	18.602	0.000	1.074	1.517
x1	0.6428	0.099	6.525	0.007	0.329	0.956

Omnibus:	nan	**Durbin-Watson:**	1.778
Prob(Omnibus):	nan	**Jarque-Bera (JB):**	0.441
Skew:	0.048	**Prob(JB):**	0.802
Kurtosis:	1.548	**Cond. No.**	1.41

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

3.2 $\mu_t = \mathbf{const} + x_1\,\mathbf{strategy}$

Dep. Variable:	y	**R-squared:**	0.934
Model:	OLS	**Adj. R-squared:**	0.912
Method:	Least Squares	**F-statistic:**	42.58
Date:	Tue, 10 Sep 2024	**Prob (F-statistic):**	0.00731
Time:	16:31:51	**Log-Likelihood:**	3.4797
No. Observations:	5	**AIC:**	-2.959
Df Residuals:	3	**BIC:**	-3.741
Df Model:	1		
Covariance Type:	nonrobust		

	coef	**std err**	**t**	**P> |t|**	**[0.025**	**0.975]**
const	1.2957	0.070	18.602	0.000	1.074	1.517
x1	0.6428	0.099	6.525	0.007	0.329	0.956

Omnibus:	nan	**Durbin-Watson:**	1.778
Prob(Omnibus):	nan	**Jarque-Bera (JB):**	0.441
Skew:	0.048	**Prob(JB):**	0.802
Kurtosis:	1.548	**Cond. No.**	1.41

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

3.3 $\sigma_i = \textbf{const} + x_1\,\textbf{strategy}$

Dep. Variable:	y	**R-squared:**	0.590
Model:	OLS	**Adj. R-squared:**	0.453
Method:	Least Squares	**F-statistic:**	4.317
Date:	Tue, 10 Sep 2024	**Prob (F-statistic):**	0.129
Time:	16:31:51	**Log-Likelihood:**	1.6774
No. Observations:	5	**AIC:**	0.6452
Df Residuals:	3	**BIC:**	-0.1360
Df Model:	1		
Covariance Type:	nonrobust		

	coef	**std err**	**t**	**P> |t|**	**[0.025**	**0.975]**
const	1.0564	0.100	10.576	0.002	0.739	1.374
x1	0.2935	0.141	2.078	0.129	-0.156	0.743

Omnibus:	nan	**Durbin-Watson:**	1.799
Prob(Omnibus):	nan	**Jarque-Bera (JB):**	0.816
Skew:	-0.387	**Prob(JB):**	0.665
Kurtosis:	1.178	**Cond. No.**	1.41

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

3.4 $\sigma_t = \textbf{const} + x_1\,\textbf{strategy}$

Dep. Variable:	y	**R-squared:**	0.681
Model:	OLS	**Adj. R-squared:**	0.574
Method:	Least Squares	**F-statistic:**	6.396
Date:	Tue, 10 Sep 2024	**Prob (F-statistic):**	0.0855
Time:	16:31:52	**Log-Likelihood:**	9.2180
No. Observations:	5	**AIC:**	-14.44
Df Residuals:	3	**BIC:**	-15.22
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P> |t|	[0.025	0.975]
const	0.3852	0.022	17.424	0.000	0.315	0.456
x1	0.0791	0.031	2.529	0.085	-0.020	0.179

Omnibus:	nan	**Durbin-Watson:**	1.787
Prob(Omnibus):	nan	**Jarque-Bera (JB):**	0.759
Skew:	0.358	**Prob(JB):**	0.684
Kurtosis:	1.231	**Cond. No.**	1.41

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

3.5 $\rho = \mathbf{const} + x_1$ strategy

Dep. Variable:	y	**R-squared:**	0.565
Model:	OLS	**Adj. R-squared:**	0.420
Method:	Least Squares	**F-statistic:**	3.896
Date:	Tue, 10 Sep 2024	**Prob (F-statistic):**	0.143
Time:	16:31:52	**Log-Likelihood:**	3.0488
No. Observations:	5	**AIC:**	-2.098
Df Residuals:	3	**BIC:**	-2.879
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P> |t|	[0.025	0.975]
const	0.3447	0.076	4.539	0.020	0.103	0.586
x1	0.2119	0.107	1.974	0.143	-0.130	0.554

Omnibus:	nan	**Durbin-Watson:**	1.648
Prob(Omnibus):	nan	**Jarque-Bera (JB):**	0.479
Skew:	0.485	**Prob(JB):**	0.787
Kurtosis:	1.833	**Cond. No.**	1.41

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

4 Values of the t-copula for the GO dataset, effect of strategy and participants

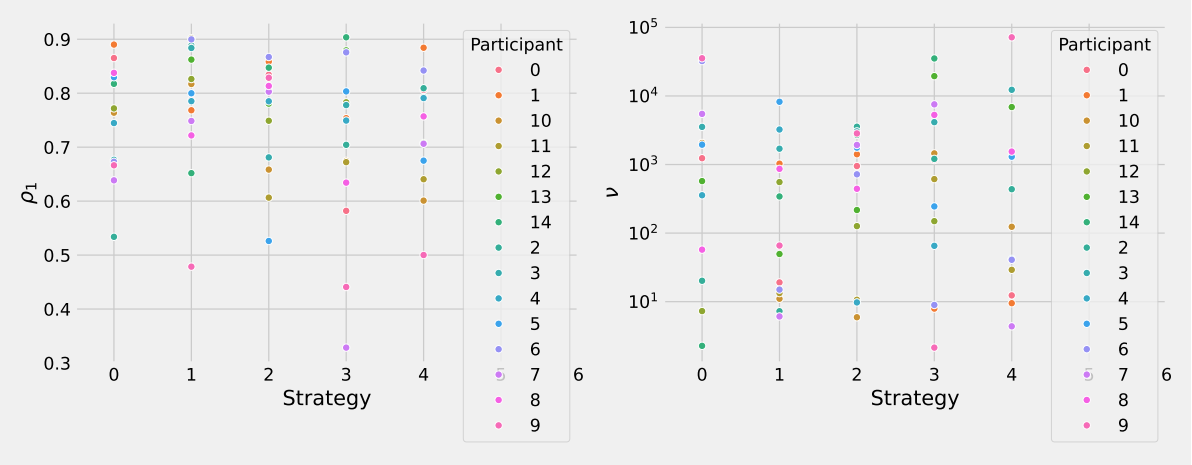

Figure 2: ¡caption¿

Table 2: Mixed Linear Model Regression Results

Model:	MixedLM	Dependent Variable:	rho1
No. Observations:	72	Method:	REML
No. Groups:	15	Scale:	0.0119
Min. group size:	4	Log-Likelihood:	46.7778
Max. group size:	5	Converged:	Yes
Mean group size:	4.8		

	Coef.	Std.Err.	z	P> |z|	[0.025	0.975]
Intercept	0.773	0.026	30.251	0.000	0.723	0.823
strategy	-0.012	0.009	-1.312	0.189	-0.030	0.006
Group Var	0.002	0.018				

5 Correction on β_0 instead of λ_1 for Model 3 (Subsection 6.1)

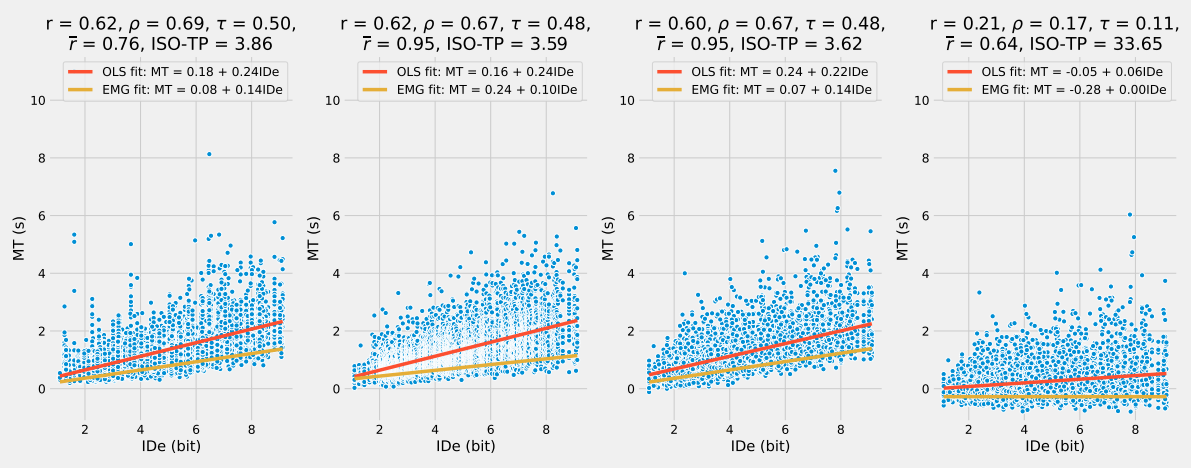

Figure 3: ¡caption¿

6 Replications of Figure 7 with different seeds (Subsection 6.1)

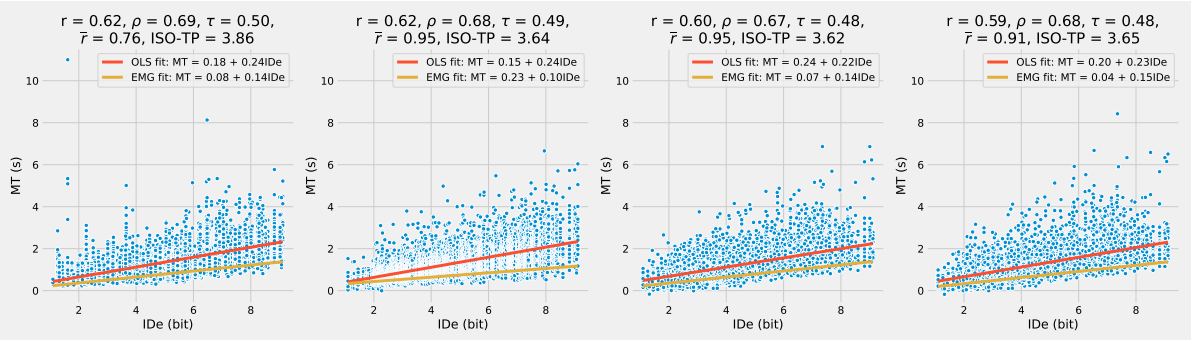

Figure 4: Seed = 777

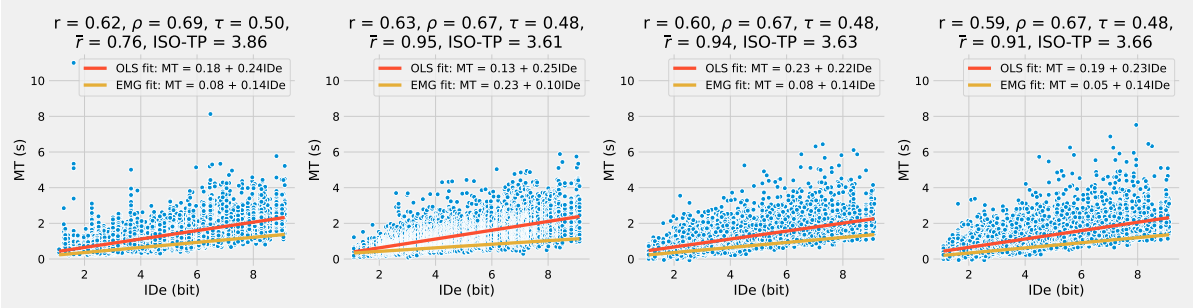

Figure 5: Seed = 999

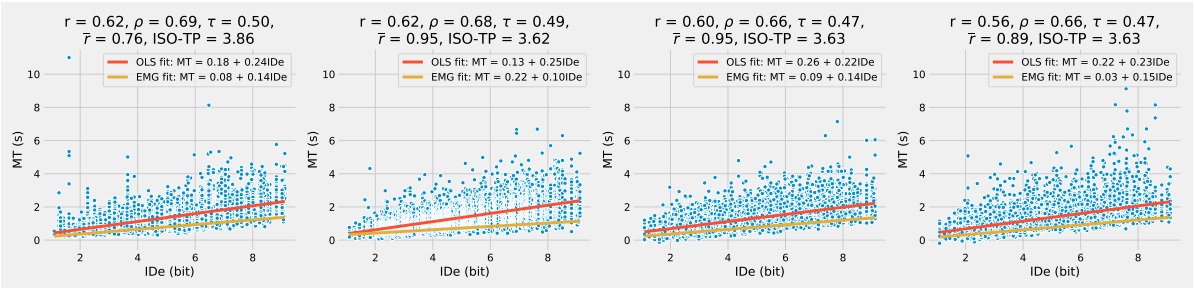

Figure 6: Seed = None

7 Participant internal consistency concerning strategies

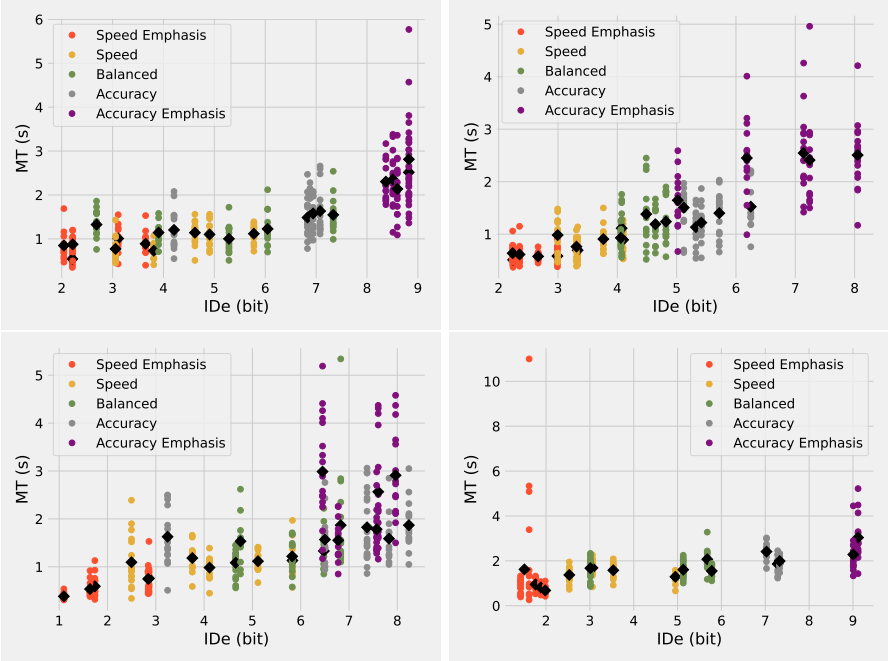

Figure 7: ¡caption¿