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

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1 Linear fits for the Gaussian bivariate fit per strategy for the GO dataset

1.1 $\mu_i = \textbf{const} + x_1\,\textbf{strategy}$

Dep. Variable:	y	**R-squared:**	0.989
Model:	OLS	**Adj. R-squared:**	0.985
Method:	Least Squares	**F-statistic:**	260.7
Date:	Wed, 26 Jun 2024	**Prob (F-statistic):**	0.000517
Time:	15:51:57	**Log-Likelihood:**	1.9113
No. Observations:	5	**AIC:**	0.1775
Df Residuals:	3	**BIC:**	-0.6036
Df Model:	1		
Covariance Type:	nonrobust		

	coef	**std err**	**t**	**P> |t|**	**[0.025**	**0.975]**
const	4.7274	0.095	49.594	0.000	4.424	5.031
x1	2.1766	0.135	16.146	0.001	1.748	2.606

Omnibus:	nan	**Durbin-Watson:**	2.571
Prob(Omnibus):	nan	**Jarque-Bera (JB):**	0.374
Skew:	-0.004	**Prob(JB):**	0.829
Kurtosis:	1.660	**Cond. No.**	1.41

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

1.2 $\mu_t = \textbf{const} + x_1\,\textbf{strategy}$

Dep. Variable:	y	**R-squared:**	0.953
Model:	OLS	**Adj. R-squared:**	0.937
Method:	Least Squares	**F-statistic:**	60.91
Date:	Wed, 26 Jun 2024	**Prob (F-statistic):**	0.00438
Time:	15:51:57	**Log-Likelihood:**	4.2886
No. Observations:	5	**AIC:**	-4.577
Df Residuals:	3	**BIC:**	-5.358
Df Model:	1		
Covariance Type:	nonrobust		

	coef	**std err**	**t**	**P> |t|**	**[0.025**	**0.975]**
const	1.2822	0.059	21.640	0.000	1.094	1.471
x1	0.6540	0.084	7.804	0.004	0.387	0.921

Omnibus:	nan	**Durbin-Watson:**	1.877
Prob(Omnibus):	nan	**Jarque-Bera (JB):**	0.365
Skew:	-0.012	**Prob(JB):**	0.833
Kurtosis:	1.676	**Cond. No.**	1.41

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

1.3 $\sigma_i = \textbf{const} + x_1\,\textbf{strategy}$

Dep. Variable:	y	**R-squared:**	0.527
Model:	OLS	**Adj. R-squared:**	0.370
Method:	Least Squares	**F-statistic:**	3.344
Date:	Wed, 26 Jun 2024	**Prob (F-statistic):**	0.165
Time:	15:51:57	**Log-Likelihood:**	1.2574
No. Observations:	5	**AIC:**	1.485
Df Residuals:	3	**BIC:**	0.7040
Df Model:	1		
Covariance Type:	nonrobust		

	coef	**std err**	**t**	**P> |t|**	**[0.025**	**0.975]**
const	1.0330	0.109	9.509	0.002	0.687	1.379
x1	0.2810	0.154	1.829	0.165	-0.208	0.770

Omnibus:	nan	**Durbin-Watson:**	1.842
Prob(Omnibus):	nan	**Jarque-Bera (JB):**	0.794
Skew:	-0.369	**Prob(JB):**	0.672
Kurtosis:	1.193	**Cond. No.**	1.41

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

1.4 $\sigma_t = \text{const} + x_1\,\text{strategy}$

Dep. Variable:	y	**R-squared:**	0.879
Model:	OLS	**Adj. R-squared:**	0.839
Method:	Least Squares	**F-statistic:**	21.85
Date:	Wed, 26 Jun 2024	**Prob (F-statistic):**	0.0185
Time:	15:51:57	**Log-Likelihood:**	11.223
No. Observations:	5	**AIC:**	-18.45
Df Residuals:	3	**BIC:**	-19.23
Df Model:	1		
Covariance Type:	nonrobust		

	coef	**std err**	**t**	**P> |t|**	**[0.025**	**0.975]**
const	0.3679	0.015	24.852	0.000	0.321	0.415
x1	0.0979	0.021	4.675	0.018	0.031	0.165

Omnibus:	nan	**Durbin-Watson:**	2.705
Prob(Omnibus):	nan	**Jarque-Bera (JB):**	0.437
Skew:	-0.675	**Prob(JB):**	0.804
Kurtosis:	2.476	**Cond. No.**	1.41

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

1.5 $\rho = \text{const} + x_1\,\text{strategy}$

Dep. Variable:	y	**R-squared:**	0.023
Model:	OLS	**Adj. R-squared:**	-0.303
Method:	Least Squares	**F-statistic:**	0.07043
Date:	Wed, 26 Jun 2024	**Prob (F-statistic):**	0.808
Time:	15:51:57	**Log-Likelihood:**	4.6223
No. Observations:	5	**AIC:**	-5.245
Df Residuals:	3	**BIC:**	-6.026
Df Model:	1		
Covariance Type:	nonrobust		

	coef	**std err**	**t**	**P> |t|**	**[0.025**	**0.975]**
const	0.3573	0.055	6.446	0.008	0.181	0.534
x1	0.0208	0.078	0.265	0.808	-0.229	0.270

Omnibus:	nan	**Durbin-Watson:**	2.545
Prob(Omnibus):	nan	**Jarque-Bera (JB):**	0.357
Skew:	0.137	**Prob(JB):**	0.837
Kurtosis:	1.721	**Cond. No.**	1.41

Notes:

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

2 Extra figures

2.1 The EMG and Gaussian models compared

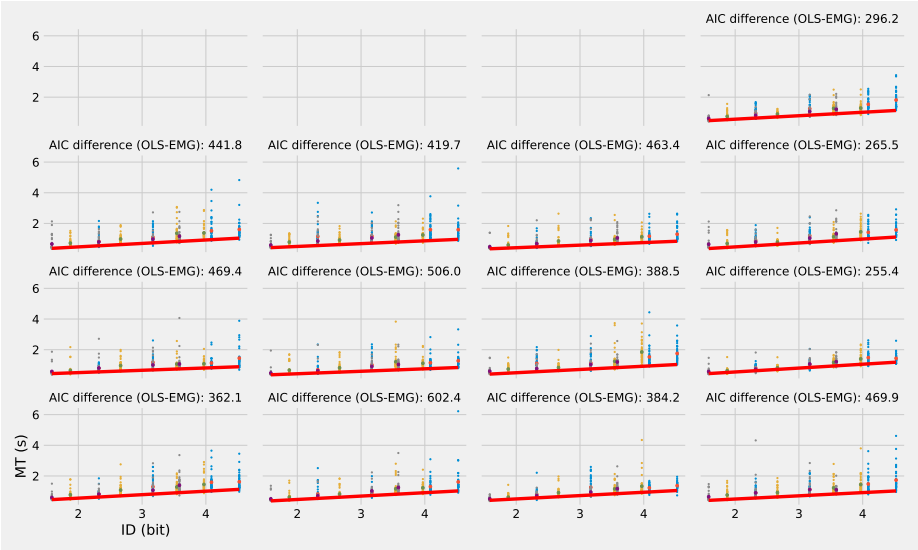

Figure 1: The EMG model fit to data from the JGP dataset. Each panel is data from a participant (first three participants removed due to them having different number of trials). For each participant, we adjusted the Gaussian model, and compared to the EMG model with AIC.