

How Do People with ND and IMID Type?

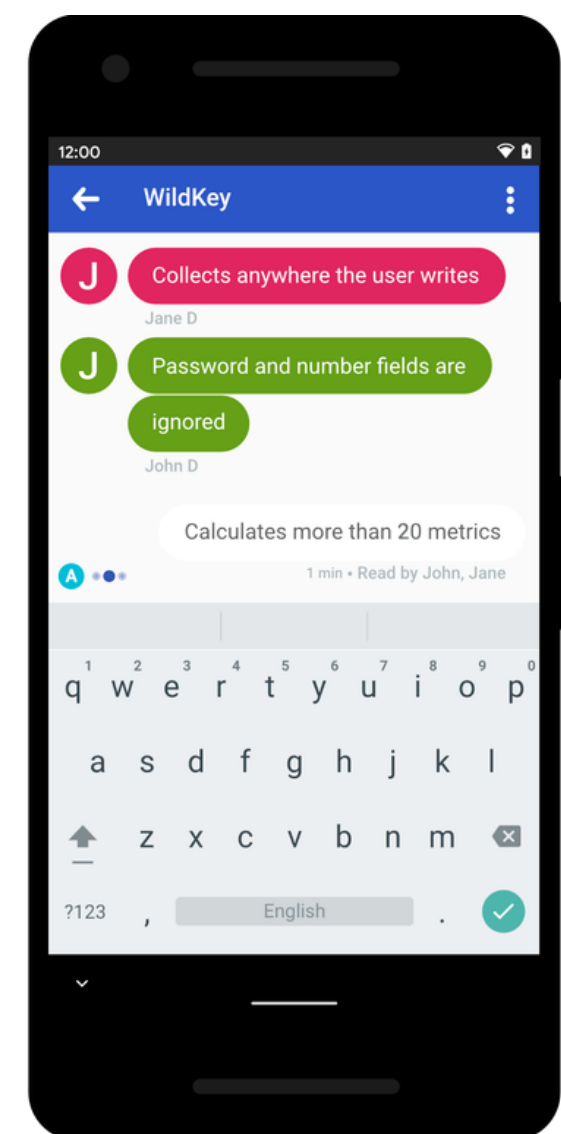
Insights into Typing Behaviours Across Neurodegenerative and Immune-Mediated Conditions

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WildKey Keyboard



Typing is one of the most frequent tasks when using digital devices

- Typing speed (words per minute)
- Errors
- Touch dynamics (flight and hold time)

Filtering action	# subject ID	# remaining typing sessions	% of remaining typing sessions
Initial number of sessions	479	427 600	100,00%
Filter rows not present in the adsL_df	382	347 690	81,31%
Rows with errors in the session (errors.session) were discarded	379	187 130	43,76%
Sessions with less than 10 characters (written characters) were removed	376	116 271	27,19%
Discard sessions in which the WPM = 0	375	113 903	26,64%
Discard sessions in which the average hold time was above one second	375	113 797	26,61%
Discard sessions outside TUPs	374	108 337	25,34%

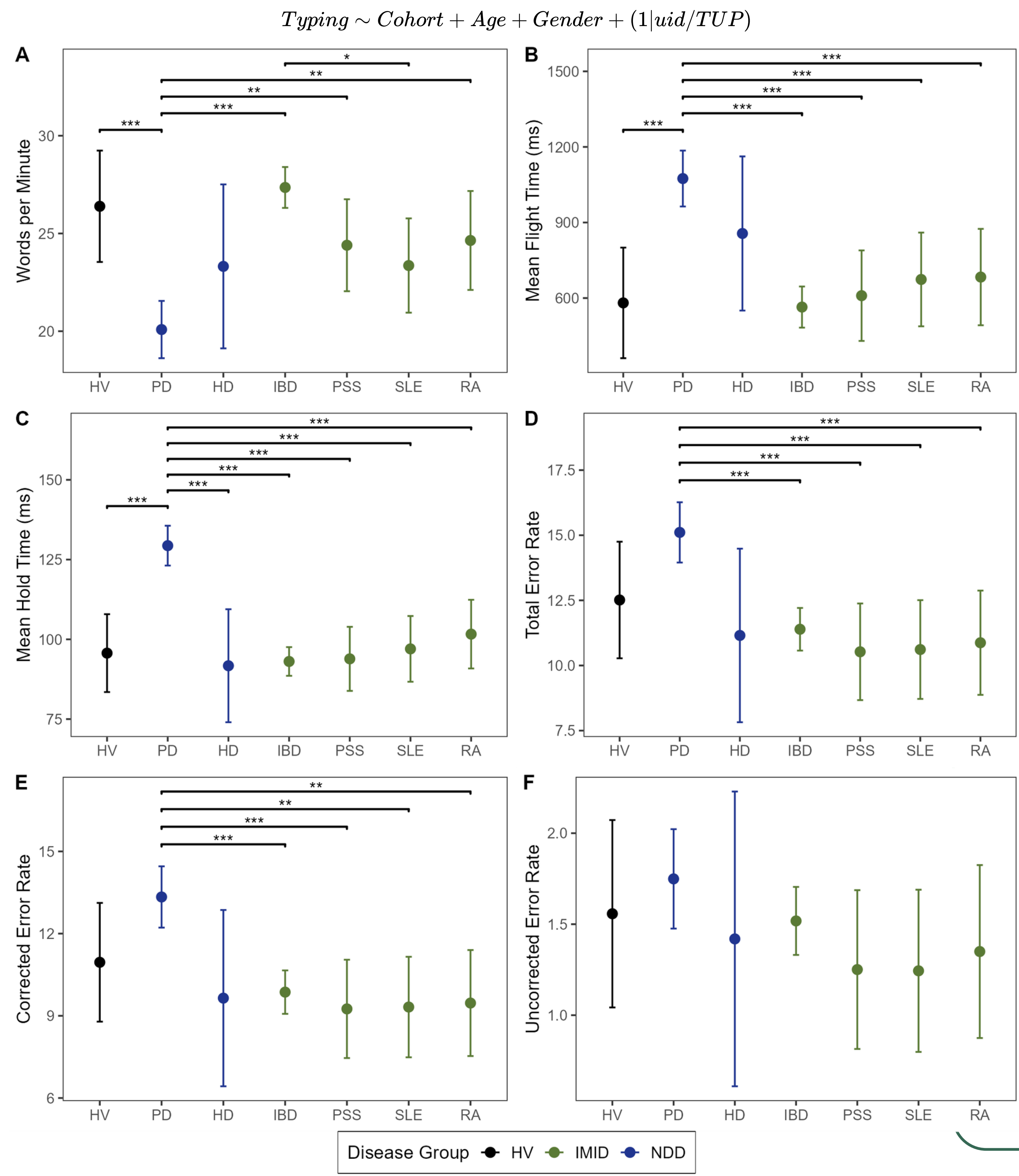
75.71% SD = 26.09%
Overall coverage

Proportion of days with at least one valid typing session recorded

Cohorts	Disease Group	N	Gender (%Female)	Age (mean, SD)	Age [min, max]	Mean Time Since Diagnosis (years, SD)
HV	-	17	706	53.65 (14.68)	[28, 80]	-
PD	NDD	149	396	64.58 (7.98)	[40, 81]	4.91 (4.66)
HD	NDD	9	556	48.44 (11.59)	[29, 64]	4.44 (7)
IBD	IMID	120	567	43.73 (11.86)	[23, 70]	14.49 (10.65)
PSS	IMID	31	871	62.16 (11.95)	[30, 79]	7.73 (6.56)
SLE	IMID	24	875	49.29 (12.61)	[28, 72]	18.5 (11.22)
RA	IMID	24	792	56.88 (12.35)	[28, 78]	9.13 (6.89)
Overall	-	374	564	55.33 (14.08)	[23, 81]	9.54 (9.29)

Final Dataset

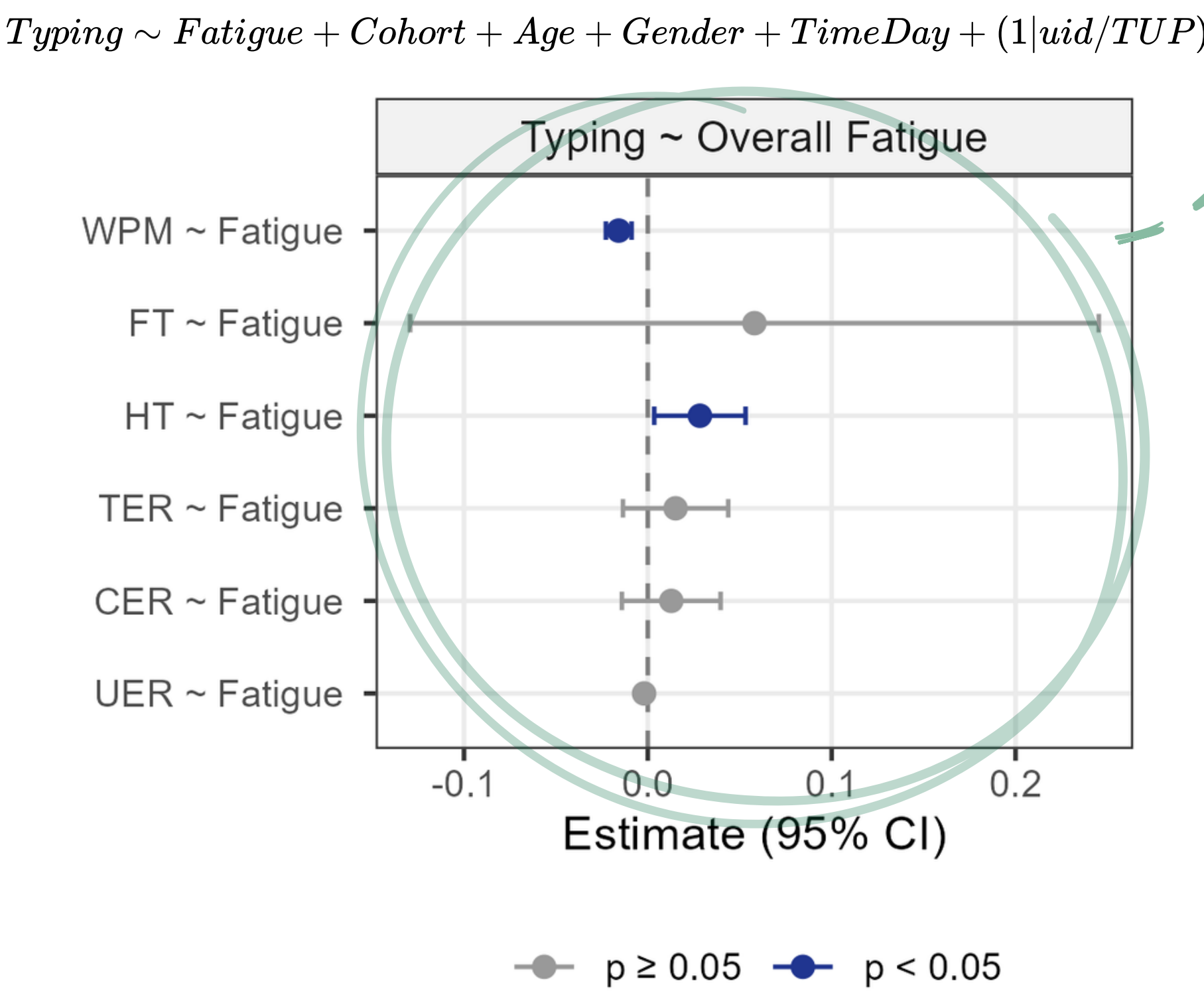
108 337 valid typing sessions from 374 participants



Participants with Parkinson's disease are slower writers (WPM) and take more time changing keys (FT).

Estimated Marginal Means (EMMs). Tukey's adjustment ($\alpha = 0.05$)
HV - Healthy Volunteers, PD - Parkinson's disease, IBD - Inflammatory Bowel Disease, PSS - Primary Sjogren's Syndrome, SLE - Systemic Lupus Erythematosus, RA - Rheumatoid arthritis, HD - Huntington's disease.

Fatigue has a negative impact on typing performance by decreasing typing speed (WPM) and increasing the time pressing a key (hold-time).



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