

Supplementary Materials

Table S1. Results for fasting glucose (4–6 AM) outcome across three models.

Fasting Glucose (4–6 am)				Fasting Glucose (4–6 am)			Fasting Glucose (4–6 am)		
Predictors	Estimates	CI	p	Estimates	CI	p	Estimates	CI	p
(Intercept)	148.6 mg/dL (8.2 mmol/L)	94.9–202.3 (5.3–11.2 mmol/L)	<0.001	150.8 mg/dL (8.4 mmol/L)	97.0–204.6 (5.4–11.4 mmol/L)	<0.001	218.7 mg/dL (12.1 mmol/L)	–117.5–554.9 mg/dL (–6.5–30.8 mmol/L)	0.202
Condition [Almond Butter]	5.5 mg/dL (0.3 mmol/L)	–0.9–12.0 mg/dL (–0.1–0.7 mmol/L)	0.091	5.1 mg/dL (0.3 mmol/L)	–1.3–11.6 mg/dL (–0.1–0.6 mmol/L)	0.119	5.1 mg/dL (0.28 mmol/L)	–1.3–11.6 mg/dL (–0.1–0.6 mmol/L)	0.119
Week in Study [2]				–3.8 mg/dL (0.2 mmol/L)	–10.2–2.7 mg/dL (–0.6–0.2 mmol/L)	0.254	–3.8 mg/dL (–0.2 mmol/L)	–10.2–2.7 mg/dL (–0.6–0.2 mmol/L)	0.254
Age							–1.8 mg/dL (–0.1 mmol/L)	–7.7–4.1 mg/dL (–0.4–0.2 mmol/L)	0.552
Duration of Diabetes (years)							4.8 mg/dL (0.3 mmol/L)	–6.2–15.8 mg/dL (–0.3–0.9 mmol/L)	0.390
Random Effects									
σ^2	325.19			324.36			324.36		
τ_{00}	6706.96 _{part_id}			6696.47 _{part_id}			7742.64 _{part_id}		
ICC	0.95			0.95			0.96		
N	9 _{part_id}			9 _{part_id}			9 _{part_id}		
Observations	123			123			123		
Marginal R ² /Conditional R ²	0.001/0.954			0.002/0.954			0.093/0.964		

Table S2. Results for overnight glucose (12–3 AM) outcome across three models.

Overnight Glucose (12 am–3 am)	Overnight Glucose (12 am–3 am)	Overnight Glucose (12 am–3 am)
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Predictors	Estimates	CI	p	Estimates	CI	p	Estimates	CI	p
(Intercept)	147.7 mg/dL (8.2 mmol/L)	92.6–202.8 mg/dL (5.1– 11.3 mmol/L)	<0.001	150.5 mg/dL (8.4 mmol/L)	95.3–205.6 mg/dL (5.3– 11.4)	<0.001	203.6 mg/dL (11.3 mmol/L)	–146.1–553.3 mg/dL (–8.1– 30.7 mmol/L)	0.254
Condition [Almond Butter]	5.5 mg/dL (0.3 mmol/L)	–0.8–11.8 mg/dL (–0.1– 0.7 mmol/L)	0.089	5.0 mg/dL (0.3 mmol/L)	–1.4–11.3 mg/dL (–0.1–0.6 mmol/L)	0.123	5.0 mg/dL (0.3 mmol/L)	–1.4–11.3 mg/dL (–0.1– 0.6 mmol/L)	0.123
Week in Study [2]				–4.6 mg/dL (0.3 mmol/L)	–10.9–1.7 mg/dL (–0.6–0.1 mmol/L)	0.152	–4.6 mg/dL (0.3 mmol/L)	–10.9–1.7 mg/dL (–0.6– 0.1 mmol/L)	0.153
Age							–1.5 mg/dL (0.1 mmol/L)	–7.7–4.6 mg/dL (–0.4– 0.3 mmol/L)	0.630
Duration of Diabetes (years)							4.6 mg/dL (0.3 mmol/L)	–6.8–16.0 mg/dL (–0.4– 0.9 mmol/L)	0.428
Random Effects									
σ^2	313.86			311.03			311.02		
τ_{00}	7065.20 <small>part_id</small>			7048.57 <small>part_id</small>			8382.64 <small>part_id</small>		
ICC	0.96			0.96			0.96		
N	9 <small>part_id</small>			9 <small>part_id</small>			9 <small>part_id</small>		
Observations	123			123			123		
Marginal R ² /Conditional R ²	0.001/0.958			0.002/0.958			0.076/0.967		

Figure S1. Individual differences in within-person variation

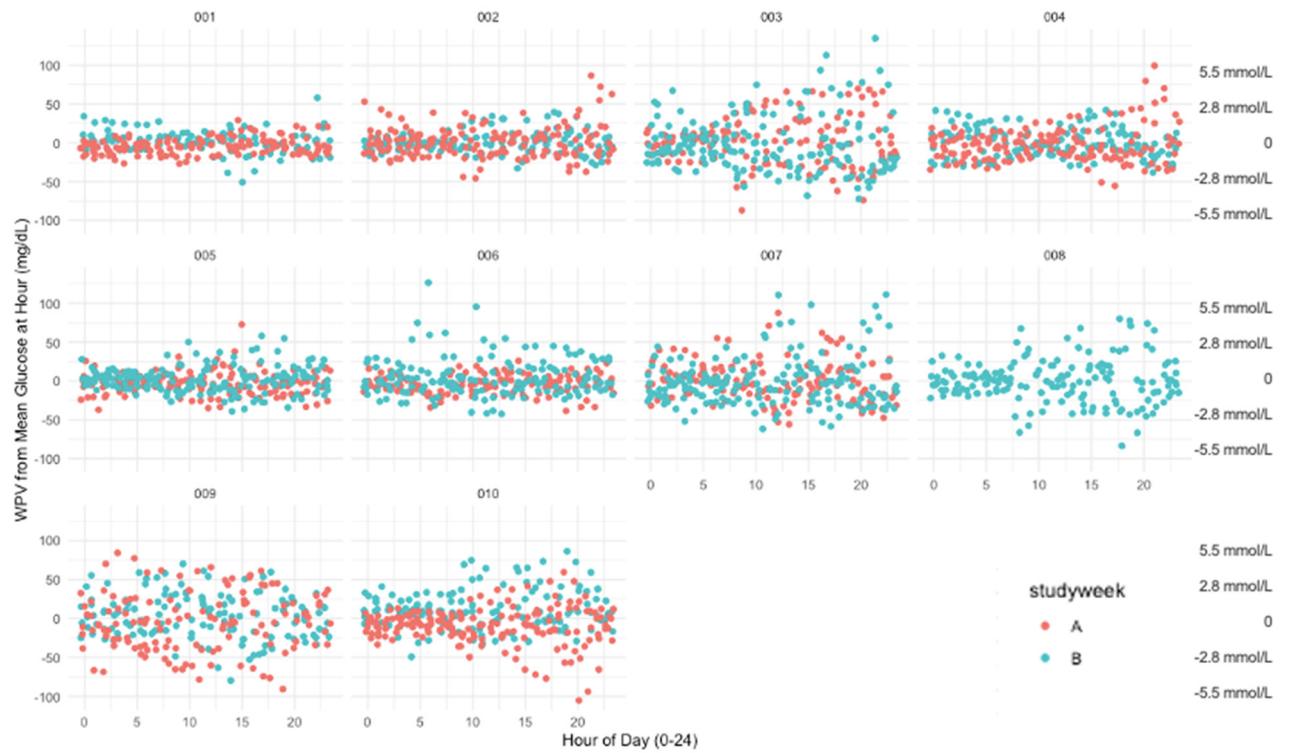


Figure S1. For each participant, and hour of the day, average glucose (mg/dL) was calculated. On the day-hour level time-series for each participant, their average glucose from the previous step was subtracted to produce a within-person variation metric (negative = value at timepoint is less than the mean for that person and hour of the day). This metric is visualized in the figure above, illustrating that in addition to significant between-person variation in glucose regulation, there are individual differences in within-person variation. Compare participant 001 and participant 006: both have mean glucose (across the entire study period) of 96 mg/dL (5.3 mmol/L); participant 001 has SD of glucose over the study period of 14.4 mg/dL (0.8 mmol/L), as compared with participant 006 that has standard deviation of glucose of 21.3 mg/dL (1.2 mmol/L). Participant 010 has an average glucose of 38 mg/dL (2.1 mmol/L) higher than both participant 001 and 006, and an SD of glucose of 31.1 mg/dL (1.7 mmol/L). A = Control, B = Almond Butter week.