

Minimal shoes improve stability and mobility in persons with a history of falls.

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Supplementary Table S1. Mean values (SD) for the CoP metrics of postural stability according to the footwear and visual conditions (n=30)

	Conventional	Minimal	Barefoot
Eyes open			
AP velocity (mm/s)	13.4 (4.7)	9.7 (2.7)	9.0 (2.4)
AP max range (mm)	3.5 (1.2)	2.7 (1.1)	2.7 (1.0)
ML velocity (mm/s)	9.1 (4.3)	5.6 (1.9)	6.1 (2.4)
ML max range (mm)	2.4 (1.0)	1.6 (0.6)	1.7 (0.7)
Eyes closed			
AP velocity (mm/s)	18.8 (8.4)	13.2 (3.9)	11.9 (3.5)
AP max range (mm)	4.0 (1.6)	3.1 (0.9)	2.9 (1.0)
ML velocity (mm/s)	11.7 (7.1)	6.4 (2.5)	6.3 (3.2)
ML max range (mm)	2.6 (1.4)	1.7 (0.8)	1.6 (1.0)

Lower values are indicative of better postural stability; Abbreviations: AP – anterior-posterior, ML – medial-lateral; mm/s – millimetres/second; max – maximum;

Supplementary Table S2. Mean values (SD) for the spatio-temporal parameters according to the footwear and walking conditions (n=28)

	Conventional	Minimal	Barefoot
Normal walking			
Stance time (s)	0.53 (0.03)	0.54 (0.03)	0.54 (0.05)
Swing time (s)	0.46 (0.03)	0.45 (0.02)	0.44 (0.03)
Stride length (m)	1.44 (0.10)	1.40 (0.09)	1.35 (0.10)
Step length (m)	0.72 (0.04)	0.70 (0.03)	0.68 (0.04)
Cadence (steps/min.)	83.1 (5.68)	85.2 (4.87)	88.8 (5.68)
Dual-task walking			
Stance time (s)	0.54 (0.06)	0.56 (0.06)	0.55 (0.08)
Swing time (s)	0.47 (0.03)	0.44 (0.03)	0.44 (0.03)
Stride length (m)	1.43 (0.10)	1.37 (0.10)	1.32 (0.10)
Step length (m)	0.71 (0.04)	0.69 (0.04)	0.66 (0.04)
Cadence (steps/min.)	84.1 (6.10)	86.5 (6.30)	91.8 (5.95)

Abbreviations: s – seconds; m – meters, steps/min.– steps per minute

Supplementary Table S3. Means (SDs) for the TUG test (n=30) and the SEB test (n=25) according to the footwear

	SEBT (cm)				TUGT (sec)
	Anterior	Posterior	Lateral	Medial	
Conventional	36.6 (8.3)	26.6 (10.0)	49.8 (9.1)	30.7 (10.7)	7.92 (1.41)
Minimal	37.8 (7.1)	30.8 (9.8)	52.4 (8.4)	34.2 (10.0)	7.62 (1.26)
Barefoot	36.7 (7.0)	26.5 (9.1)	49.6 (9.5)	32.2 (9.5)	7.96 (1.26)

Higher values of the SEB test and lower values of the TUG test are indicative of better mobility; Abbreviations: SEBT – Star Excursion Balance test, TUGT – Timed up and Go test;

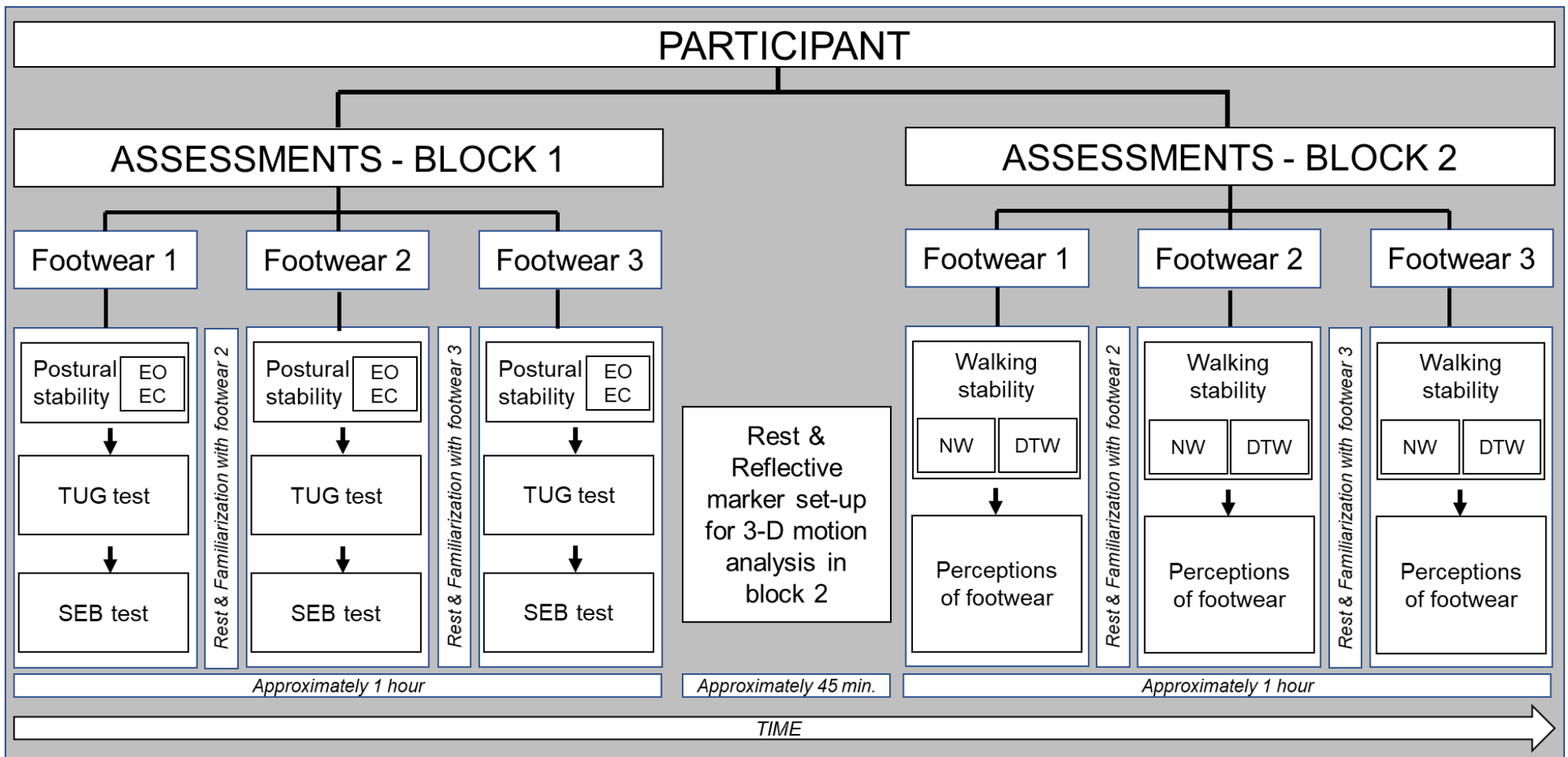
Supplementary Table S4. Means (SDs) for the perceptions according to the shoes (n=30)

Outcome	Conventional	Minimal
Attractiveness (mm)	53.2 (29.7)	60.2 (21.6)
Attractiveness for others (mm)	51.9 (26.1)	54.9 (21.5)
Comfort (mm)	71.2 (24.3)	71.0 (23.0)
Fit (mm)	68.7 (24.8)	84.8 (10.1) ¹
Ease of donning and doffing (mm)	65.6 (27.9)	68.0 (23.5)
Weight (mm)	19.4 (14.6)	10.3 (7.2) ¹
Stability (mm)	65.4 (27.6)	86.8 (9.4) ¹

Values are in millimetres on 100-mm visual analogue scales. Higher scores represent greater perceived attractiveness, attractiveness for others, comfort, fit, ease of donning and doffing, weight and stability; ¹ Significantly different from conventional shoes;



Supplementary Figure S1. A: a female conventional shoe (Go Walk 4.0-Pursuit, Skechers USA, Inc.); B: a male conventional shoe (Superior 2.0-Jeveno, Skechers USA, Inc.); C: a minimal shoe (Primus Knit, Vivobarefoot Ltd., London, UK).



Supplementary Figure S2. Schematic overview of the study protocol per participant; Abbreviations: EO – Eyes open, EC – Eyes closed, TUG – Timed Up and Go test, SEB – Star Excursion Balance test, 3-D – Three-dimensional, NW – Normal walking, DTW – Dual-task walking