Supplementary Materials:

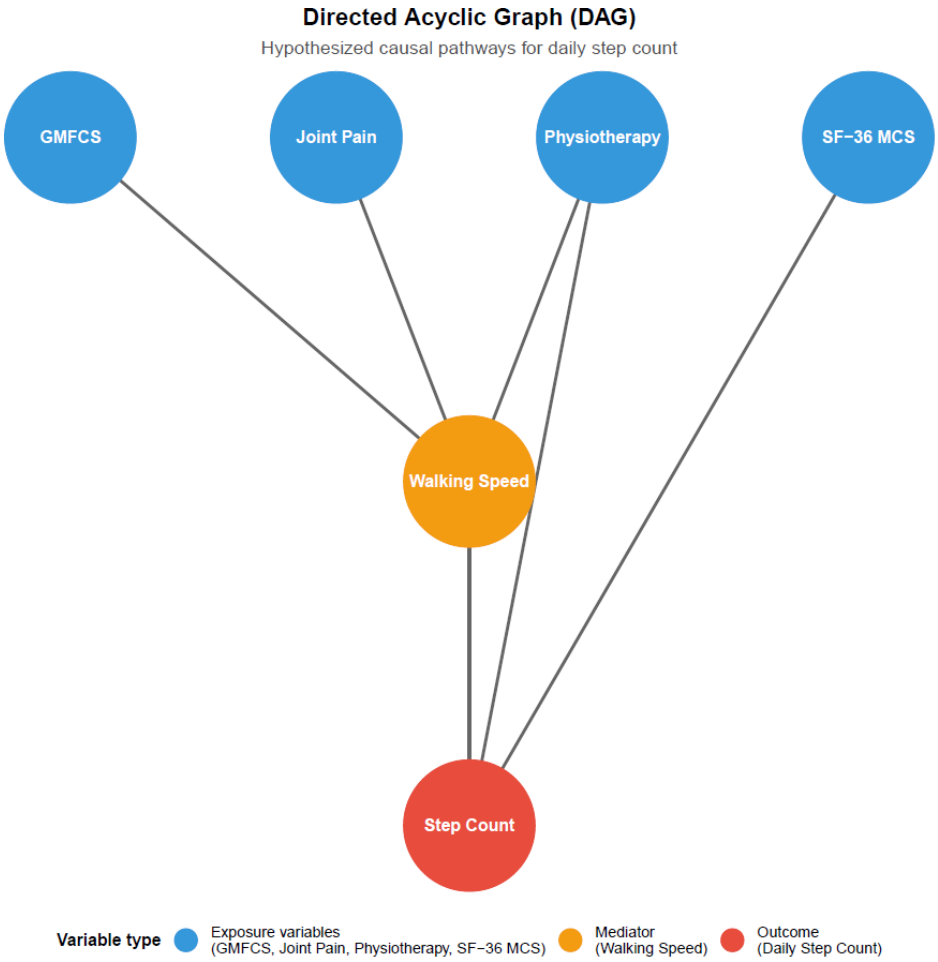


Figure S1. This Directed Acyclic Graph (DAG) illustrating hypothesized causal pathways for daily step count. Blue nodes represent exposure variables (GMFCS, joint pain, physiotherapy, SF-36 mental score), orange node represents the mediator (walking speed), and red node represents the outcome (daily step count). Arrows indicate the hypothesized direction of causality. This DAG guided variable selection for the multivariable regression model.

Table S1. Assessment of linear regression assumptions (multivariable model, n=47).

Assumption	Diagnostic method (Stata)	Statistical indicator	Results	Interpretation
Linearity	Residual vs fitted plot	Visual inspection	No systematic pattern	Assumption met
Independence of errors	Durbin-Watson test	1.93	Around 2	No autocorrelation
Homoscedasticity	Breusch-Pagan test	p=0.415	> 0.05	Constant variable
Normality of residuals	Q-Q plot Shapiro-Wilk	p= 0.744	> 0.05	Acceptable normality
Multicollinearity	Variance inflation Factor (VIF)	ranged from 1.04 to 1.29	< 5	No collinearity concern
Influential observations	Cook's distance	< 0.085	Below threshold	No influential outliers