Data Description and Code Book for

Mixed-Effects Location Scale Model of Physical Activity Data Set

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Introduction

This document describes the "Mixed-Effects Location Scale Model of Physical Activity" Data Set used in the article: Amber Watts, Ryan W. Walters, Lesa Hoffman, and Jonathan Templin "Intra-individual Variability of Physical Activity in Older Adults with and without Mild Alzheimer's Disease." Data were collected as part of a larger study on physical activity in older adults with and without Alzheimer's disease conducted from 2012 to 2015. The data are available in a .csv format text file that can be read into most other statistical software. This work was supported by the National Institute on Aging of the National Institutes of Health (NIA 5P30AG035982-3) and a Clinical Translational Science Award grant from National Center for Advancing Translational Sciences awarded to the University of Kansas Medical Center for Frontiers: The Heartland Institute for Clinical and Translational Research (#UL1TR000001; formerly #UL1RR033179). The contents are solely the responsibility of the authors and do not necessarily represent the official views of the NIH or NCATS.

Data Characteristics

Each row of data represents one hour of activity as monitored by an Actigraph GT3X+ accelerometer. Each participant has multiple rows of data. At least 8 hours of wear time per day and at least 4 days of valid wear time were required for inclusion in the data file. More details about the inclusion criteria and collection of data are given in the aforementioned manuscript. Variables include markers of the date and time of collection, the average vector magnitude count of activity (and the log transformation thereof), and participant demographic and health status characteristics. The file includes all the data that would be necessary to replicate the results reported in the paper by Watts, Walters, Hoffman, & Templin, Intra-individual Variability of Physical Activity in Older Adults with and without Mild Alzheimer's Disease, Public Library of Science One (forthcoming, 2016). The table below gives descriptions for each variable and explains any coding used.

Variable	Description	Coding
ID	Participant ID number	
Occasion	Occasion number within a participant	
Date	Calendar date of wear (month/day/year)	
Hour	Hour of wear (hour:min) indicating beginning of 60-minute epoch	
VMAC	Average Vector Magnitude Counts during the 60-minute epoch	
lnVMAC	Natural log of VMAC	
Day	Number of the day of observation (1=first day, 2=second day, etc.) without reference to the day of the week	
Day1	Is the present day, day 1 of observation?	1=Yes, 0=No
Day2	Is the present day, day 2 of observation?	1=Yes, 0=No
Day3	Is the present day, day 3 of observation?	1=Yes, 0=No
Day4	Is the present day, day 4 of observation?	1=Yes, 0=No
Day5	Is the present day, day 5 of observation?	1=Yes, 0=No
Day6	Is the present day, day 6 of observation?	1=Yes, 0=No
Day7	Is the present day, day 7 of observation?	1=Yes, 0=No
AD	Does the participant have a diagnosis of Alzheimer's Disease?	1=Yes, 0=No
Age	Age in years at time of enrollment in study	
Female	Is the participant a female?	1=Yes, 0=No
Educ	Years of formal education	
VO2	Maximal oxygen ventilation in L/minute during treadmill test	
BMI	Body mass index calculated as Weight in kg / height in meters squared	