Explanation of the fitbit dataset

1. *Demographics (reported prior to measuring physical activity)*
    1. **g**ender (male, female)
    2. **bmi – BMI (body mass index)**
    3. **living** (living situation, living with parents, moved out)
2. *Perceived physical (reported prior to measuring physical activity)*
    1. **StapEst** (*How many steps do you think you take daily?)*
    2. **ErvFASub1[Q]** (*I think that I get enough exercise*
    (0=I do not agree at all --- 7=I completely agree)
    3. **ErvFASub2[Q]** (*How do you estimate your level of physical activities (including sports activities)?*
    0=Very low --- 7=Very high)
    4. **ErvFA** ((ErvFASub1[Q]+ ErvFASub2[Q]) / 2) (average score of 2.2 and 2.3)

3. *Shortened International Physical Activity Questionnaire (IPAQ) (completed both prior and after measuring physical activity for a week; 1 = prior to measuring week, 2 = after measuring week)*

The IPAQ is a questionnaire that estimates the energy (measure: MET, Metabolic Equivalent of Task) during a week **as a consequence of physical activity.** This means that when a person was not physically active at all during a week, the IPAQ score will be 0 MET minutes/week.

Based on the following items in the questionnaire:

*We are interested in which form(s) of physical activities people engage in during their daily life. The questions are about your physical activity during the last 7 **days**. Please answer all questions, even when you do not consider yourself to be physically active. Think about activities you do at work, in and around the house, as transportation and activities you do in your spare time as recreational, training or sport.*

*Think about all physically intense activities you performed during the last 7 **days.** Physically intense activities are activities that require severe physical exercise and increase your respiration. Only consider activities with a duration of at least 10 minutes at a time.*

a. Considering the last 7 dayson how many days did you perform physically intense activities (such as carrying a heavy load, aerobics or cycling)?

***DagZwa1 & DagZwa2** (Days a week)*
geen zware lichamelijke activiteiten ☒ ga naar vraag c

b. On the days that you performed physcially intense activities, how many time did you spend on that (on average)?
***TijdZwa1[Uur] & TijdZwa2[Uur]** (Hours a day)*
***TijdZwa1[Min] & TijdZwa2[Min]** (Minutes a day)*

Think of activities that require moderate physical activity that you have done in the past 7 days. Moderate-intensity physical activity makes you breathe a little faster than normal. Again, think only of activities that you have done for at least 10 minutes at a time.

c. Thinking about the past 7 days, on how many of these days did you engage in moderately intense physical activity, such as carrying light loads, cycling at a normal pace, or playing doubles? Do not include walking here.

***DagMat1 & DagMat2** (Days a week)*
No moderately intense physical activity ☒ go to question e

On the days you were moderately intensely physically active, how much time did you typically spend doing so?

***TijdMat1[Uur] & TijdMat2[Uur]** (Hours a day)*

***TijdMat1[Min] & TijdMat2[Min]** (Minutes a day)*

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d. Thinking about the past 7 days, on how many days did you walk at least 10 minutes at a time? This includes walking at work and home, walking to get from one place to another, and any other walking you did during recreation, sports, or leisure activities.

***DagWan1 & DagWan2** (Dagen per week)*
geen wandelen ☒ ga naar vraag g

On the days when you walked at least 10 minutes at a time, how much time did you usually spend doing so?

***TijdWan1[Uur] & TijdWan2[Uur]** (Hours a day)*

***TijdWan1[Min] & TijdWan2[Min]** (Minutes a day)*

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e. How much time did you usually spend sitting during a weekday in the past 7 days? This time may include sitting at a desk, time spent sitting with friends, reading while sitting, studying or watching TV.

***TijdZit1[Uur] & TijdZit2[Uur]** (Hours a day)*
***TijdZit1[Min] & TijdZit2[Min]** (Minutes a day)*

Calculation total IPAQ score:

- Vraag a & b: Vigorous MET-minutes/week = 8.0 * vigorous-intensity activity minutes * vigorous-intensity days
- Vraag c & d: Moderate MET-minutes/week = 4.0 * moderate-intensity activity minutes * moderate days

- Vraag e & f: Walking MET-minutes/week = 3.3 * walking minutes * walking days

NB. In these calculations, the number of minutes that a person has been "vigorous-intensity" (i.e., high-intensity) active is calculated over the sum of the number of hours given (1 hour=60 minutes) and the number of minutes given. E.g. 1 hour and 30 minutes of vigorous-intensity activity means 90 vigorous-intensity activity minutes. This is multiplied by the number of days specified. So with 5 days this is 5 * 90 = 450 vigorous minutes/week. The MET value that belongs to vigorous-intensity activity according to tables is 8, so the total number of MET minutes/week due to high-intensity activity is 450 * 8 = 3,600.

The same happens for moderate and walking activities, which differ in the table MET values.

IPAQTOT1 and IPAQTOT2 (Total score is the sum of

Vigorous MET-minutes/week + Moderate MET-minutes/week +

Walking MET-minutes/week)

4. *Questions on attitude towards physical activity*
    1. **Attitu[1]** (*How important do you think a good condition is?* 0= Not important at all --- 7= Very important)
    2. **Attitu[2]** (*How important do you think sufficient exercise is* 0= Not important at all --- 7= Very important)
    3. **AttituTot** ((Attitu[1] + Attitu[2]) / 2) [the average of 4.1 and 4.2]
    4. **SocOmg[1]** (*How do you estimate your parent(s)/guardian(s) level of physical activity (including sports activities)?* 0=Very low --- 7=Very high)
    5. **SocOmg[2]** (*How do you estimate your best friend(s) level of physical activity (including sports activities)?* 0=Very low --- 7=Very high)
    6. **SocOmgTot** ((SocOmg[1] + SocOmg[2]) / 2) [the average of 4.4 and 4.5]

5. *Physical activity*

<u>Coding days:</u>

- Thursday: X=1
- Friday: X=2
- Saturday: X=3
- Sunday: X=4
- Monday: X=5
- Tuesday: X=6
- Wednesday: X=7

System (*System(s) used to obtain measurements*; Omron (fitness tracker), Omron & app)

Omron:

1. **StapOm[X_Aantal]** (Number of steps on day X according to the Omron)
2. **StapOm[X_Aer]** (Number of aeroob steps on day X according to the Omron)
3. **StapOm[X_Afs]** (Distance travelled on day X according to the Omron)
4. **StapOm[X_Cal]** (Number of calories burned on day X according to the Omron)
5. **wear[X]** (*Did you wear the Omron more than 10 hours on day X?, Yes, No, Unsure*)
6. **Reden[X]** (*Why did you not wear the Omron the entire day on day X?*) → All in Dutch, as this will probably not be useful for your research questions, I have not translated the responses to this question. Please let me know if you do require it.
7. **Locatie[X]** (*Where did you wear the Omron? (belt/waistband, pocket pants, pocket shirt, etc.)*) → All in Dutch, as I have not heard that anyone will require this information, I have not translated the responses to this question. Please let me know if you do require it.

App:

8. **StapApp[X_Aantal]** (Number of steps on day X according to the App)
9. **CommentApp[X]** → All in Dutch, as this will probably not be useful for your research questions, I have not translated the responses to this question. Please let me know if you do require it.

Outliers have been checked (and removed when values were considered impossible) for:
bmi (max 40)
StapEst (max 30000)
erv_fa
erv_fa_sub1_q
erv_fa_sub2_q
attitu_1
attitu_2
attitu_tot
soc_omg_1
soc_omg_2
ipaqtot1 (max 30000)
ipaqtot2 (max 30000)
stap_om_1_aantal up to and including stap_om_7_aantal (max 30000)
stap_om_1_aer up to and including stap_om_7_aer (max 20000)
stap_om_1_afs up to and including stap_om_7_afs (max 12500)
stap_app_1_aantal up to and including stap_app_7_aantal (max 30000)