



# **HCHS/SOL Physical Activity – Actical Data Dictionary**

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Version 1.1**

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## Table of Contents

1	Overview .....	3
2	PA_CNTS dataset (counts per minute at the day level) .....	5
3	PA_DERV dataset (Actical derived variables at the participant level) .....	6
3.1	ID .....	7
3.2	ACTICALID (Actical device identification number) .....	7
3.3	ACTICAL_DATE (First day that Actical starts recording cnts/min) .....	7
3.4	ON_DATE (Date participant starts wearing the Actical (Day 1)) .....	7
3.5	CLINICDAY (Actical initialized to start recording counts on clinic visit date) .....	7
3.6	ADHERENTYN (Participant has at least 3 adherent ( $\geq 10$ hrs) days (1=Yes, 0=No)) .....	7
3.7	WKENDDAY_INCLUDED (Summarized activity includes at least one adherent weekend day) ....	8
3.8	N_WEAR_DAYS (Count for number of wear days) .....	8
3.9	N_ADH_DAYS (Count for number of adherent ( $\geq 10$ hrs) days) .....	8
3.10	N_ADH_WKENDDAYS (Count for number of adherent weekend days) .....	8
3.11	N_ADH_WKDAY (Count for number of adherent week days) .....	8
3.12	HRS_DAY (Average hrs/day monitor was worn) .....	8
3.13	CNTS_MIN_DAY (counts/min per day) .....	8
3.14	SED_DAY (min/day of sedentary activity ( $< 100$ counts/min)) .....	8
3.15	LIGHT_DAY (min/day of light activity (100-1534 counts/min)) .....	9
3.16	MOD_DAY (min/day of moderate activity (1535-3961 counts/min)) .....	9
3.17	VIG_DAY (min/day of vigorous activity ( $\geq 3962$ counts/minute)) .....	9
3.18	MV_DAY (min/day of moderate or vigorous activity ( $\geq 1535$ counts/min)) .....	9
3.19	MOD_WEEK (min/week of moderate activity (1535 – 3961 counts/min)) .....	9
3.20	VIG_WEEK (min/week of vigorous activity ( $\geq 3962$ counts/min)) .....	9
3.21	MV_WEEK (Total min/week of moderate or vigorous activity ( $\geq 1535$ counts/min)) .....	9
3.22	MOD_DAY_BOUT (Moderate activity in bouts (average min/day)) .....	10
3.23	VIG_DAY_BOUT (Vigorous activity in bouts (average min/day)) .....	10
3.24	MV_DAY_BOUT (Moderate or vigorous activity in bouts (average min/day)) .....	10
3.25	MOD_WEEK_BOUT (Moderate activity in bouts (average min/week)) .....	10

3.26	VIG_WEEK_BOUT (Vigorous activity in bouts (average min/week)) .....	10
3.27	MV_WEEK_BOUT (Moderate or vigorous activity in bouts (average min/week)) .....	11
3.28	PAG2008 (Activity level per 2008 PA guidelines (categorical - 4 levels)).....	11
3.29	PAG2008YN (Meets 2008 activity level guidelines (1=Yes, 0=No)).....	12
3.30	PAG2008_BOUT (Activity level per 2008 PA guidelines from bouts only (categorical - 4 levels)) 12	
3.31	PAG2008YN_BOUT (Meets 2008 activity level guidelines from bouts only (1=Yes, 0=No)).....	13
4	Modifications to NHANES macro to create BOUTS.....	13
5	References .....	13

## 1 Overview

This document contains a description of two data sets (**PA\_CNTS** and **PA\_DERV**) containing objectively measured physical activity (counts/min) from the Actical accelerometer.

**PA\_CNTS** is a dataset with multiple records per participant (key fields are ID and DAY); one record per ID per worn DAY. Thus each ID has between 1 and 6 records, depending on the number of days they wore the Actical. Day 1 is the day after the clinic visit. The number of hours the Actical was worn on a given day can take values from 0 to 24 hours, except for day 1 which started at 5:00am. The file has the original counts (variables CNT1 to CNT1440) for each minute (epoch length) of a calendar day ( $24 \times 60 = 1440$ ) where CNT1 corresponds to counts at midnight (12:00am), CNT720 corresponds to counts at noon (11:59 am), and CNT1440 corresponds to counts at 11:59pm. The file is large and may take a very long time to manipulate. The count variables (CNT1 – CNT1440) have special missing values to denote the reason for the missing data (Table 1.1).

**Table 1.1 Description of Missing Values in PA\_CNTS**

SAS Missing Value	Description
.	Non-wear time defined by Choi's algorithm
.L	Counts from midnight to 5:00am on DAY 1 (part of data cleaning process to standardize sites due to deviations from protocol)

**PA\_DERV** is a dataset with one record per participant (key field is ID) with averaged physical activity (counts/day) for those who have at least three adherent days ( $\geq 10$  hrs). Those who do not have at least three adherent days have missing values for the averaged values and other derived variables. These data are derived from PA\_CNTS (objectively measured physical activity at the DAY level). An indicator variable (ADHERENTYN) identifies participants with at least three adherent days ( $n=12,750$ ), and another indicator variable (WKENDDAY\_INCLUDED) identifies whether a weekend day is among the adherent days ( $n=11,328$ ). Investigators can choose whether or not to require an adherent weekend day.

**Table 1.2. Sample size due to not wearing the Actical, data cleaning, or not enough days to summarize**

Description of Exclusion	Excluded	Included		
		N	%	%
HCHS/SOL Cohort	0	16,415	100	
No Actical	1,190	15,225	93	100
Difference between clinic date and Actical date >1 or missing	304	14,921	91	98
No sedentary time on all 6 days	5	14,916	91	98
Same count/min sustained repeatedly	3	14913	91	98
<3 adherent days	2,163	12,750	78	84
Depending on the manuscript, investigators may wish to require that the accelerometer was worn at least one weekend day. This exclusion is optional and is manuscript-dependent. The exclusion was not applied to the data release.				
$\geq 3$ adherent days but no weekend day	3,585	11,328	69	74

PA\_CNTS and PA\_DERV have derived variables for **minutes per day of activity levels in BOUTS**. A **bout is defined** as 10 or more consecutive minutes above the relevant threshold, with allowance of interruptions of 1 or 2 minutes either below the threshold or with one missing count within any rolling 10 minute segment of the bout. A bout is terminated when there are three minutes below the threshold. This definition is similar to what was applied to the National Health and Nutritional Examination Survey (NHANES) in Troiano et al (2008).

PA\_DERV has derived variables for meeting 2008 Physical Activity Guidelines for Americans, using the definition as it is defined in the guidelines and in the *MMWR* (Carlson et al, 2008). These are represented as ordinal (high activity, medium, low, inactive) and binary (meeting the goal of at least medium activity). There are ordinal and binary classifications based on overall counts and counts within bouts:

- Actical data based on moderate or vigorous activity at any time
- Actical data based on moderate or vigorous activity in bouts of at least 10 minutes

## 2 PA\_CNTS dataset (counts per minute at the day level)

Table 2.1. Data dictionary for PA\_CNTS<sup>1</sup> (counts/min at day level)

Variable	Description (and SAS label)	Levels, values or notes
ID	Participant masked ID	KEY FIELD (Character)
DAY	Consecutive day (day=1 is the day after the clinic visit)	KEY FIELD. Takes values from 1 to 6, where 1 is the day after the clinic visit
ACTICALID	Actical device identification number	Several subjects will have the same ActicalID as the Acticals were used by multiple participants
ACTICAL_DATE	Initialization date (First day that Actical starts recording cnts/min)	From 03/05/2008 to 06/30/2011
ON_DATE	Date participant starts wearing the Actical (DAY 1)	From 03/04/2008 to 6/30/2011
CLINICDAY	Actical_date is the same as on_date (1=Yes, 0=No)	Levels: 1=Actical_date is equal to on_date; 0 otherwise
DAY_OF_WK	Day of the week (1=Sunday, 2=Monday, ..., 7=Saturday)	Levels: 1=Sunday, 2=Monday, ..., 7=Saturday
WEEKDAY	Week day indicator (1= Monday to Friday, 0 = Saturday or Sunday)	Levels: 1 = Monday to Friday; 0 = Saturday or Sunday
CNTS_MIN	Average counts per minute	Summation of CNT1 to CNT1440 divided by number of minutes of the day with counts different from missing
TOTHR	Total hours monitor was worn per day	The number of hours the Actical was worn on a given day can take values from 0 to 24 hrs, except for day 1 which starts at 5:00am. Note, this variable was formerly named TOTHR_DAY.
ADHERENT	Actical was worn >= 10 hours (1= Yes, 0=No)	Levels: 1=Actical was worn at least 10 hours; 0 otherwise. Note, this variable was formerly named ADHERENT_DAY.
TOTSED	Total minutes/day of sedentary activity (<100 counts/min)	Summation of minutes <100 counts/min per day. Note, this variable was formerly named TOTSED_DAY.
TOTLIGHT	Total minutes/day of light activity (100-1534 counts/min)	Summation of minutes between 100 and 1534 counts/min per day. Note, this variable was formerly named TOTLIGHT_DAY.
TOTMOD	Total minutes/day of moderate activity (1535-3961 counts/min)	Summation of minutes between 1535 and 3961 counts/min per day. Note, this variable was formerly named TOTMOD_DAY.
TOTVIG	Total minutes/day of vigorous activity (>=3962 counts/minute)	Summation of minutes >=3962 counts/min per day. Note, this variable was formerly named TOTVIG_DAY.
TOTMV	Total minutes/day of moderate or vigorous activity (>=1535 counts/min)	Summation of minutes >=1535 counts/min per day. Note, this variable was formerly named TOTMVPA_DAY.
TOTMOD_BOUT <sup>2</sup>	Total minutes/day of moderate activity (1535-3961 counts/min) in bouts	Summation of minutes in bouts between 1535 and 3961 counts/min per day
TOTVIG_BOUT	Total minutes/day of vigorous activity (>=3962 counts/minute) in bouts	Summation of minutes in bouts >=3962 counts/min per day
TOTMV_BOUT	Total minutes/day of moderate or vigorous activity (>=1535 counts/min) in bouts	Summation of minutes in bouts >=1535 counts/min per day
N_WEAR_DAYS	Count for number of wear days	Values: 1 to 6
N_ADH_DAYS	Count for number of adherent days (>=10hrs)	Values: 0 to 6
CNT1 – CNT1440	Count per minute with missing values for non-wear time.	1,440 variables: one for each minute of the calendar day (24*60 = 1440) where CNT1 corresponds to count at midnight (12:00am), CNT720 corresponds to count at noon (12:00 pm), and CNT1440 corresponds to count at 11:59pm.

<sup>1</sup> ID and DAY are the key fields (i.e. uniquely identify each record)

<sup>2</sup> Bouts are defined by ten-minute blocks of time in which at least eight minutes are active.

### 3 PA\_DERV dataset (Actical derived variables at the participant level)

Table 3.1. Data dictionary for PA\_DERV<sup>1</sup> (counts/min at ID level)

Variable	Description (and SAS label)	Levels, values or notes
ID	Participant masked ID	KEY FIELD
ACTICALID	Actical device identification number	Several subjects will have the same ActicalID as they were used by multiple participants
ACTICAL_DATE	Initialization date (first day that Actical starts recording cnts/min)	From 03/05/2008 to 06/30/2011
ON_DATE	Date participant starts wearing the Actical (DAY 1)	From 03/04/2008 to 6/30/2011
CLINICDAY	Actical initialized to start recording counts on clinic date (1=Yes, 0=No)	Levels: 1=Actical_date is equal to on_date, 0 otherwise
ADHERENTYN	Participant has at least 3 adherent (>=10 hrs) days (1=Yes, 0=No)	Levels: 1 = Participant has at least 3 adherent (>=10 hrs) days, 0 otherwise. Note, this variable was formerly named ADHERENT.
WKENDDAY_INCLUDED	Summarized activity includes at least one adherent weekend day (1=Yes, 0=No)	Investigators might want to do sensitivity for including or not a weekend day
N_WEAR_DAYS	Count for number of wear days	Values: 1 to 6
N_ADH_DAYS	Count for number of adherent (>=10hrs) days	Values: 0 to 6
N_ADH_WKENDDAYS	Count for number of adherent weekend days	Values: 0, 1, or 2
N_ADH_WKDAY	Count for number of adherent week days	Values: 0 to 5
HRS_DAY	hrs/day monitor was worn	Variables have missing values for those participants with < 3 adherent days. HRS_DAY, SED_DAY, LIGHT_DAY, MOD_DAY, VIG_DAY and MV_DAY were formerly named TOTHR, TOTSED, TOTLIGHT, TOTMPA, TOTVPA, and TOTMVA, respectively.
CNTS_MIN_DAY	cnts/min per day monitor was worn	
SED_DAY	min/day (average) of sedentary activity (<100 counts/min)	
LIGHT_DAY	min/day of light activity (100-1534 counts/min)	
MOD_DAY	min/day (average) of moderate activity (1535-3961 counts/min)	
VIG_DAY	min/day (average) of vigorous activity (>=3962 cnts/min)	
MV_DAY	min/day (average) of moderate or vigorous activity (>=1535 counts/min)	
MOD_WEEK	min/week (average) of moderate activity (1535-3961 counts/min)	
VIG_WEEK	min/week (average) of vigorous activity (>=3962 counts/minute)	
MV_WEEK	min/week (average) of moderate or vigorous activity (>=1535 counts/min)	
MOD_DAY_BOUT <sup>2</sup>	min/day (average) of moderate activity (1535-3961 counts/min) in BOUTS	
VIG_DAY_BOUT	min/day (average) of vigorous activity (>=3962 counts/minute) in BOUTS	
MV_DAY_BOUT	min/day (average) of moderate or vigorous activity in BOUTS	
MOD_WEEK_BOUT	min/week (average) of moderate activity (1535-3961 counts/min) in BOUTS	
VIG_WEEK_BOUT	min/week (average) of vigorous activity (>=3962 counts/minute) in BOUTS	
MV_WEEK_BOUT	min/week (average) of moderate or vigorous activity (>=1535 counts/min) in BOUTS	
PAG2008	Activity level per 2008 PA guidelines (categorical - 4 levels)	Levels: 4= High, 3=Medium, 2=Low, 1=Inactive

Variable	Description (and SAS label)	Levels, values or notes
PAG2008YN	Meets 2008 activity level guidelines (1=Yes, 0=No)	Levels: 1=Yes, 0=No
PAG2008_BOUT	Activity level per 2008 PA guidelines from bouts only (categorical - 4 levels)	Levels: 4= High, 3=Medium, 2=Low, 1=Inactive
PAG2008YN_BOUT	Meets 2008 activity level guidelines from bouts only (1=Yes, 0=No)	Levels: 1=Yes, 0=No

<sup>1</sup> ID is the key field (i.e. uniquely identify each record)

<sup>2</sup> Bouts are defined by ten-minute blocks of time in which at least eight minutes are active.

The following section provides the definitions, calculation methods and source variables for the variables in PA\_DERV.

### 3.1 ID

Masked HCHS/SOL participant ID.

### 3.2 ACTICALID (Actical device identification number)

Taken from the Actical Header File.

### 3.3 ACTICAL\_DATE (First day that Actical starts recording cnts/min)

Date from the Actical Header File. This date was entered by the field center staff when preparing the device for the participant (initialization using the Actical software and Actical Reader; see MOP 2).

### 3.4 ON\_DATE (Date participant starts wearing the Actical (Day 1))

Cleaned visit date from CHKA form (Clinic Check Off Sheet Version A) to track forms and procedures.

#### Source variables:

- ACTICAL\_DATE. Date from the Actical Header File
- CHKA0A. Visit Date from the Clinic Check Off Sheet
- CHKA45A1. Activity Monitor Out Date from the Clinic Check Off Sheet
- CHKA45C1. Activity Monitor Date Out from the Clinic Check Off Sheet
- CLINDATE. Date of the participant's clinic visit from PART\_DERV

### 3.5 CLINICDAY (Actical initialized to start recording counts on clinic visit date)

This is a binary variable that determines whether or not ACTICAL\_DATE (see above) is equal to the clinic visit date.

#### Source variable(s):

- ACTICAL\_DATE AND ON\_DATE

### 3.6 ADHERENTYN (Participant has at least 3 adherent (>=10 hrs) days (1=Yes, 0=No))

Binary variable that determines whether or not a participant has at least three adherent days, based on ADHERENT from PA\_CNTS. Note that this variable was formerly named ADHERENT.

#### Source variable(s):

ADHERENT from PA\_CNTS

### **3.7 WKENDDAY\_INCLUDED (Summarized activity includes at least one adherent weekend day)**

Binary variable that identifies whether or not one of the adherent days includes a weekend day.

Source variable(s):

ADHERENT and WEEKDAY from PA\_CNTS

### **3.8 N\_WEAR\_DAYS (Count for number of wear days)**

Total number of days the Actical was worn by the participant; ranges from 1 to 6.

Source variable(s):

N\_WEAR\_DAYS from PA\_CNTS

### **3.9 N\_ADH\_DAYS (Count for number of adherent ( $\geq 10$ hrs) days)**

Number of days the participant is adherent ( $\geq 10$  hours of wear time); ranges from 0 to 6.

Source variable(s):

ADHERENT from PA\_CNTS

### **3.10 N\_ADH\_WKENDDAYS (Count for number of adherent weekend days)**

Number of weekend days that are adherent ( $\geq 10$  hours of wear time) days.

Source variable(s):

ADHERENT and WEEKDAY from PA\_CNTS

### **3.11 N\_ADH\_WKDAY (Count for number of adherent week days)**

Number of week days that are adherent ( $\geq 10$  hours of wear time) days.

Source variable(s):

ADHERENT and WEEKDAY from PA\_CNTS

### **3.12 HRS\_DAY (Average hrs/day monitor was worn)**

Average of TOTHR (hours that the monitor was worn within a day), among adherent days.

Note that this variable was formerly named TOTHR.

Source variable(s):

TOTHR and ADHERENT from PA\_CNTS

### **3.13 CNTS\_MIN\_DAY (counts/min per day)**

Average of CNTS\_MIN (averaged counts per minute within a day) among adherent days.

Source variable(s):

CNTS\_MIN and ADHERENT from PA\_CNTS

### **3.14 SED\_DAY (min/day of sedentary activity ( $< 100$ counts/min))**

Average of TOTSED (sum of sedentary minutes within a day) across adherent days. Note that this variable was formerly named TOTSED.

Source variable(s):

TOTSED and ADHERENT from PA\_CNTS

**3.15 LIGHT\_DAY (min/day of light activity (100-1534 counts/min))**

Average of TOTLIGHT (sum of light minutes within a day) across adherent days. Note that this variable was formerly named TOTLIGHT.

Source variable(s):

TOTLIGHT and ADHERENT from PA\_CNTS

**3.16 MOD\_DAY (min/day of moderate activity (1535-3961 counts/min))**

Average of TOTMOD (sum of moderate minutes within a day) across adherent days. Note that this variable was formerly named TOTMPA.

Source variable(s):

TOTMOD AND ADHERENT from PA\_CNTS

**3.17 VIG\_DAY (min/day of vigorous activity ( $\geq 3962$  counts/minute))**

Average of TOTVIG (sum of vigorous minutes within a day) across adherent days. Note that this variable was formerly named TOTVPA.

Source variable(s):

TOTVIG and ADHERENT from PA\_CNTS

**3.18 MV\_DAY (min/day of moderate or vigorous activity ( $\geq 1535$  counts/min))**

Average of TOTMV (sum of moderate or vigorous minutes within a day) across adherent days. Note that this variable was formerly named TOTMVPA.

Source variable(s):

TOTMV and ADHERENT from PA\_CNTS

**3.19 MOD\_WEEK (min/week of moderate activity (1535 – 3961 counts/min))**

Defined as MOD\_DAY \* 7 among adherent participants (ADHERENTYN=1).

Source variable(s):

MOD\_DAY and ADHERENTYN from PA\_DERV

**3.20 VIG\_WEEK (min/week of vigorous activity ( $\geq 3962$  counts/min))**

Defined as VIG\_DAY\*7 among adherent participants (ADHERENTYN=1).

Source variable(s):

VIG\_DAY and ADHERENTYN from PA\_DERV

**3.21 MV\_WEEK (Total min/week of moderate or vigorous activity ( $\geq 1535$  counts/min))**

Defined as 7\*(MOD\_DAY + 2\*VIG\_DAY) among adherent participants (ADHERENTYN=1).

The min/day of vigorous activity is multiplied by two according to the 2008 PA Guidelines for Americans. So, for example 60 min/day of moderate activity counts the same as 30 min/day of vigorous activity.

Source variable(s):

MOD\_DAY, VIG\_DAY and ADHERENTYN from PA\_DERV

**3.22 MOD\_DAY\_BOUT (Moderate activity in bouts (average min/day))**

Average of TOTMOD\_BOUT (sum of moderate minutes occurring in bouts within a day) across adherent days.

Source variable(s):

TOTMOD\_BOUT and ADHERENT from PA\_CNES

**3.23 VIG\_DAY\_BOUT (Vigorous activity in bouts (average min/day))**

Average of TOTVIG\_BOUT (sum of vigorous minutes occurring in bouts within a day) across adherent days.

Source variable(s):

TOTVIG\_BOUT and ADHERENT from PA\_CNES

**3.24 MV\_DAY\_BOUT (Moderate or vigorous activity in bouts (average min/day))**

Average of TOTMV\_BOUT (sum of moderate or vigorous activity occurring in bouts within a day) across adherent days.

Source variable(s):

TOTMV\_BOUT and ADHERENT from PA\_CNES

**3.25 MOD\_WEEK\_BOUT (Moderate activity in bouts (average min/week))**

Defined as MOD\_DAY\_BOUT \* 7 among adherent participants (ADHERENTYN=1).

Source variable(s):

MOD\_DAY\_BOUT and ADHERENTYN from PA\_DERV

**3.26 VIG\_WEEK\_BOUT (Vigorous activity in bouts (average min/week))**

Defined as VIG\_DAY\_BOUT \* 7 among adherent participants (ADHERENTYN=1).

Source variable(s):

VIG\_DAY\_BOUT and ADHERENTYN from PA\_DERV

### 3.27 MV\_WEEK\_BOUT (Moderate or vigorous activity in bouts (average min/week))

Defined as  $7*(MOD\_DAY\_BOUT + 2*VIG\_DAY\_BOUT)$  among adherent participants (ADHERENTYN=1).

The min/day of vigorous activity in BOUTS is multiplied by two according to the 2008 PA Guidelines for Americans. So, for example 60 min/day in BOUTS of moderate activity counts the same as 30 min/day in BOUTS of vigorous activity.

Source variable(s):

MOD\_DAY\_BOUT, VIG\_DAY\_BOUT and ADHERENTYN from PA\_DERV

### 3.28 PAG2008 (Activity level per 2008 PA guidelines (categorical - 4 levels))

This is an ordinal variable that contains the level of physical activity per the 2008 PA guidelines (<http://www.health.gov/paguidelines/guidelines/default.aspx>). There are 4 mutually exclusive levels: high, medium, low or inactive based on all counts. This variable is defined only for participants with at least 3 adherent days (i.e. ADHERENTYN=1).

PAG2008	Definition from 2008 Physical Activity Guidelines (for adults)	Translation for HCHS/SOL study using Actical data
4 = High activity	"more than the equivalent of 300 minutes of moderate-intensity physical activity a week" or more than 150 minutes of vigorous activity, or an equivalent combination of both. Activity should be performed in episodes of at least 10 minutes.	If MOD_WEEK >=300 or VIG_WEEK >=150 or MV_WEEK >=300 then PAG2008=4;  else go to next row.
3 = Medium activity	"150 minutes up to 300 (5 hours) minutes of moderate-intensity activity a week (or 75 to 150 minutes of vigorous-intensity physical activity a week)" or the equivalent combination of moderate and vigorous activity. Activity should be performed in episodes of at least 10 minutes.	If MOD_WEEK >=150 but <300 or VIG_WEEK >=75 but <150 or MV_WEEK >=150 but <300  then PAG2008=3;  else go to next row.
2= Low activity	"activity beyond baseline but fewer than 150 minutes (2 hours and 30 minutes) of moderate-intensity physical activity a week or the equivalent amount (75 minutes, or 1 hour and 15 minutes) of vigorous-intensity activity" or the equivalent combination of moderate and vigorous activity.	If MOD_WEEK >=1 but <150 or VIG_WEEK >=1 but <75 or MV_WEEK >=1 but < 150 then PAG2008=2;  else go to next row.
1 = Inactive	"no activity beyond baseline activities of daily living"	If $0 \leq MOD\_WEEK < 1$ and $0 \leq VIG\_WEEK < 1$ then PAG2008=1; else set to missing.

The guidelines that we used to help define these categories are:

<http://www.health.gov/paguidelines/guidelines/summary.aspx>

- For substantial health benefits, adults should do at least 150 minutes (2 hours and 30 minutes) a week of moderate-intensity, or 75 minutes (1 hour and 15 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous intensity aerobic activity. Aerobic activity

should be performed in episodes of at least 10 minutes, and preferably, it should be spread throughout the week.

- For additional and more extensive health benefits, adults should increase their aerobic physical activity to 300 minutes (5 hours) a week of moderate intensity, or 150 minutes a week of vigorous intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity activity. Additional health benefits are gained by engaging in physical activity beyond this amount.

Source variable(s):

MOD\_WEEK, VIG\_WEEK, MV\_WEEK and ADHERENTYN from PA\_DERV

### 3.29 PAG2008YN (Meets 2008 activity level guidelines (1=Yes, 0=No))

High or medium activity level based on PAG2008 (all counts).

Source variable(s):

PAG2008 from PA\_DERV

### 3.30 PAG2008\_BOUT (Activity level per 2008 PA guidelines from bouts only (categorical - 4 levels))

This is an ordinal variable that contains the level of physical activity per the 2008 PA guidelines (<http://www.health.gov/paguidelines/guidelines/default.aspx>) using only minutes of activity from bouts. There are 4 mutually exclusive levels: high, medium, low or inactive. This variable is defined only for participants with at least 3 adherent days (i.e. ADHERENTYN=1).

PAG2008_BOUT	Definition from 2008 Physical Activity Guidelines (for adults)	Translation for HCHS/SOL study using Actical data
4 = High activity	"more than the equivalent of 300 minutes of moderate-intensity physical activity a week" or more than 150 minutes of vigorous activity, or an equivalent combination of both. Activity should be performed in episodes of at least 10 minutes.	If MOD_WEEK_BOUT >=300 or VIG_WEEK_BOUT >=150 or MV_WEEK_BOUT >=300 then PAG2008_BOUT =4;  else go to next row.
3 = Medium activity	"150 minutes up to 300 (5 hours) minutes of moderate-intensity activity a week (or 75 to 150 minutes of vigorous-intensity physical activity a week)" or the equivalent combination of moderate and vigorous activity. Activity should be performed in episodes of at least 10 minutes.	If MOD_WEEK_BOUT >=150 but <300 or VIG_WEEK_BOUT >=75 but <150 or MV_WEEK_BOUT >=150 but <300 then PAG2008_BOUT =3;  else go to next row.
2= Low activity	"activity beyond baseline but fewer than 150 minutes (2 hours and 30 minutes) of moderate-intensity physical activity a week or the equivalent amount (75 minutes, or 1 hour and 15 minutes) of vigorous-intensity activity" or the equivalent combination of moderate and vigorous activity.	If MOD_WEEK_BOUT >=1 but <150 or VIG_WEEK_BOUT >=1 but <75 or MV_WEEK_BOUT >=1 but < 150 then PAG2008_BOUT =2;  else go to next row.
1 = Inactive	"no activity beyond baseline activities of daily living"	If 0 <= MOD_WEEK_BOUT <1 and 0 <= VIG_WEEK_BOUT <1 then PAG2008_BOUT =1;  else set to missing.

Bouts defined as durations of at least 10 minutes in which 8 out of each 10 rolling minutes meets the activity criteria.

Source variable(s):

MOD\_WEEK\_BOUT, VIG\_WEEK\_BOUT, MV\_WEEK\_BOUT and ADHERENTYN from PA\_DERV

### **3.31 PAG2008YN\_BOUT (Meets 2008 activity level guidelines from bouts only (1=Yes, 0=No))**

High or medium activity based on PAG2008\_BOUT (counts within bouts only).

Source variable(s):

PAG2008\_BOUT from PA\_DERV

## **4 Modifications to NHANES macro to create BOUTS**

The SAS code to create total duration of bouts for each day (from the PA\_CNDS data) was slightly modified from the NHANES code called macro %bouts\_8of10. ([http://riskfactor.cancer.gov/tools/nhanes\\_pam/create.pam\\_perday.sas](http://riskfactor.cancer.gov/tools/nhanes_pam/create.pam_perday.sas)) to use the ACTICAL cutpoints from the Colley et al (2011) and Wong et al (2010) papers instead of the ActiGraph cutpoints used by NHANES.

## **5 References**

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