

# Pregnancy Physical Activity Questionnaire

**Activity component(s) assessed:**

Household/caregiving, occupational, sports/exercise  
Sedentary, light, moderate, and vigorous activity

**Time frame of recall:**

Current trimester of pregnancy

**Original mode of administration:**

Self-administered.

**Primary source of information:**

Dr. Lisa Chasan-Taber, Sc.D.  
Biostatistics & Epidemiology  
School of Public Health & Health Sciences  
405 Arnold House  
715 North Pleasant Street  
University of Massachusetts  
Amherst, MA 01003-9304

**Primary reference:**

Chasan-Taber L, Schmidt MD, Roberts DE, Hosmer D, Markenson G, Freedson PS.  
Development and Validation of a Pregnancy Physical Activity Questionnaire. *Med Sci Sports Exer* 2004 36(10):1750-1760.

## RELIABILITY AND VALIDITY STUDIES

Table 1. Reliability studies of the Pregnancy Physical Activity Questionnaire.

Reference	Methods	Sample	Summary Results	
Chasan-Taber et al. (1)	1 week test-retest.	54 pregnant women aged 16 to 40; 68% white, 28% Hispanic, 2% black, 2% Asian.	Total activity 0.78	
	Consistency of estimates for total activity, activity type, and intensity. (Intraclass correlations)	Sedentary		0.79
		Light		0.78
		Moderate		0.82
		Vigorous		0.81
		Household/caregiving		0.86
		Occupational		0.93
Sports/exercise		0.83		

Table 2. Validation studies of the Pregnancy Physical Activity Questionnaire.

Reference	Methods	Sample	Summary Results						
Chasan-Taber et al. (1)	Relationships between activity and actigraph (criterion data. (Spearman correlations))	54 pregnant women aged 16 to 40; 68% white, 28% Hispanic, 2% black, 2% Asian.	PPAQ Measures	Actigraph Cut Points (min·d <sup>-1</sup> ) <sup>a</sup>			Average counts/min		
				Swartz et al.	Hendelman et al.	Freedson et al.			
				Total activity	0.32	0.43		0.08	0.27
				Sedentary	-0.17	-0.34		0.12	-0.10
				Light	0.10	0.22		-0.08	0.03
				Moderate	0.42	0.49		0.20	0.38
				Vigorous	0.27	0.25		0.34	0.37
				Household/Caregiving	-0.01	0.14		-0.12	-0.04
				Occupational	0.31	0.42		-0.10	0.16
Sports/Exercise	0.35	0.30	0.44	0.48					

<sup>a</sup>Activity of moderate-intensity and greater. Count cut points were as follows:  $\geq 574$  (Swartz et al. (2)),  $\geq 191$  (Hendelman et al. (3)), and  $\geq 1952$  (Freedson et al. (4)).

## INSTRUCTIONS

Instructions are listed on the questionnaire which is self-administered. Individuals are asked to select the category that best approximates the amount of time spent in 32 activities including household/caregiving, occupational, sports/exercise, and inactivity during the current trimester. At the end of the PPAQ, an open-ended section allows the respondent to add activities not already listed.

## CACULATIONS

The duration of time spent in each activity is multiplied by its intensity to arrive at a measure of average weekly energy expenditure (MET·h·week<sup>-1</sup>) attributable to each activity.

Scoring of the questionnaire is as follows:

To calculate duration:

For questions #4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 20, 21, 22 the following duration scores correspond to the duration categories: 0, 0.25, 0.75, 1.5, 2.5, 3.0. Multiply values by 7 days per week.

For questions #12, 13, 32, 33, 34, 35, 36 the following duration scores correspond to the duration categories: 0, 0.25, 1.25, 3.0, 5.0, 6.0. Multiply values by 7 days per week.

For questions #17, 18, 19, 23, 24, 25, 26, 27, 28, 29, 30, 31 the following duration scores correspond to the duration categories 0, 0.25, 0.75, 1.5, 2.5, 3.0. These values are already in weekly form.

To calculate intensity:

Field-based measurements in pregnant women (5) are used to represent activity intensity for walking and light- to moderate-intensity household tasks, and Compendium-based MET values (6) are used to estimate the intensity of the remainder of the PPAQ activities. The specific MET values assigned to each question follow (question number:MET value): 4:2.5, 5:2.0, 6:3.0, 7:2.7, 8:4.0, 9:3.0, 10:4.0, 11:1.8, 12:1.0, 13:1.1, 14:3.2, 15:2.3, 16:2.3, 17:2.8, 18:2.8, 19:4.4, 20:2.5, 21:4.0, 22:1.5, 23:3.2,

24:4.6, 25:6.5, 26:7.0, 27:3.5, 28:6.0, 29:4.5, 30:see Compendium (6), 31:see Compendium (6), 32:1.6, 33:3.0, 34:2.2, 35:4.0, 36:3.3.

Total activity = sum of (duration \* intensity) for questions #4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36.

Sedentary activity = sum of (duration \* intensity) for questions #11, 12, 13, 22, 32.

Light-intensity activity = sum of (duration \* intensity) for questions #4, 5, 7, 15, 16, 17, 18, 20, 34, and question #30 and #31 if open-ended activities are  $\leq 2.9$  METs.

Moderate-intensity activity = sum of (duration \* intensity) for questions #6, 8, 9, 10, 14, 19, 21, 23, 24, 27, 28, 29, 33, 35, 36, and question #30 and #31 if open-ended activities are  $\geq 3.0$  and  $\leq 6.0$  METs.

Vigorous-intensity activity = sum of (duration \* intensity) for questions #25, 26, and question #30 and #31 if open-ended activities are  $> 6.0$  METs.

Household/caregiving activity = sum of (duration \* intensity) for questions #4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19.

Occupational activity = sum of (duration \* intensity) for questions #32, 33, 34, 35, 36.

Sports/exercise = sum of (duration \* intensity) for questions #23, 24, 25, 26, 27, 28, 29, 30, 31.

## REFERENCES

1. Chasan-Taber L, Schmidt MD, Roberts DE, Hosmer D, Markenson G, Freedson PS. Development and Validation of a Pregnancy Physical Activity Questionnaire. *Med Sci Sports Exer* 2004 36(10):1750-1760.
2. Swartz, A.M., S.J. Strath, D.R. Bassett, JR., et al. Estimation of energy expenditure using CSA accelerometers at hip and wrist sites. *Med. Sci. Sports Exerc.* 32 (Suppl.):S450-S456, 2000.
3. Hendelman, D., K. Miller, C. Baggett, et al. Validity of accelerometry for the assessment of moderate intensity physical activity in the field. *Med. Sci. Sports Exerc.* 32(Suppl.):S442-S449, 2000.
4. Freedson, P.S., E. Melanson, and J. Sirard. Calibration of the Computer Science and Applications, Inc. accelerometer. *Med. Sci. Sports Exerc.* 30(5):777-781, 1998.
5. Roberts, D.E., M.S. Fragala, D. Pober, L. Chasan-Taber, and P.S. Freedson. Energy Cost of Physical Activities During Pregnancy. *Med. Sci. Sports Exerc.* 34:S124, 2002.
6. Ainsworth, B.E., W.L. Haskell, M.C. Whitt, et al. Compendium of physical activities: an update of activity codes and MET intensities. *Med. Sci. Sports Exerc.* 32:S498-S516, 2000.