

Table 73. Participation in leisure-time aerobic and muscle-strengthening activities that meet the 2008 federal Physical Activity Guidelines for Americans among adults aged 18 and over, by selected characteristics: United States, selected years 1998-2011

(Data are based on household interviews of a sample of the civilian noninstitutionalized population)

Characteristic	2008 Physical Activity Guidelines for Americans ¹							
	Met both aerobic activity and muscle-strengthening guidelines				Met neither aerobic activity nor muscle-strengthening guideline			
	1998	2000	2010	2011	1998	2000	2010	2011
	Percent							
18 years and over, age-adjusted ^{2,3}	14.3	15.0	20.7	21.0	56.6	54.7	49.1	47.6
18 years and over, crude ³	14.5	15.1	20.4	20.6	56.3	54.6	49.5	48.1
Age								
18-44 years.....	18.9	18.9	25.7	26.0	50.7	49.1	43.1	41.4
18-24 years.....	23.8	23.8	29.6	30.3	46.5	44.5	39.4	36.2
25-44 years.....	17.4	17.3	24.3	24.5	51.9	50.6	44.4	43.3
45-64 years.....	11.4	12.8	17.7	17.5	58.8	57.6	51.0	51.5
45-54 years.....	13.2	14.5	19.2	18.8	56.9	55.4	48.9	49.9
55-64 years.....	8.6	10.1	15.9	16.1	61.8	61.0	53.7	53.3
65 years and over.....	5.5	6.8	10.4	11.3	71.0	67.0	64.6	60.3
65-74 years.....	7.0	8.4	13.6	14.3	65.6	60.3	59.9	54.3
75 years and over.....	3.5	4.9	6.4	7.7	77.8	75.0	70.3	67.7
Sex ²								
Male.....	17.5	17.9	25.1	25.0	50.8	49.6	43.8	43.5
Female.....	11.4	12.3	16.5	17.2	61.9	59.4	54.0	51.5
Sex and age								
Male:								
18-44 years.....	23.0	23.0	31.8	31.9	44.3	43.0	37.1	36.7
45-54 years.....	16.1	16.0	20.9	19.6	52.9	52.7	45.2	48.4
55-64 years.....	9.4	11.3	19.1	17.6	58.2	58.7	50.1	50.5
65-74 years.....	9.5	9.4	16.6	16.8	58.9	55.3	55.6	50.8
75 years and over.....	4.9	7.1	9.1	11.2	69.5	66.7	62.8	59.0
Female:								
18-44 years.....	14.9	15.0	19.6	20.2	56.9	55.0	49.0	46.1
45-54 years.....	10.5	13.1	17.5	17.9	60.8	57.9	52.4	51.4
55-64 years.....	7.8	9.0	13.1	14.7	65.0	63.1	57.0	56.0
65-74 years.....	5.1	7.7	11.0	12.1	70.9	64.3	63.6	57.2
75 years and over.....	2.6	3.6	4.6	5.3	83.0	80.0	75.3	73.8
Race ^{2,4}								
White only.....	14.8	15.7	21.4	21.7	55.2	53.1	47.6	46.2
Black or African American only.....	11.7	12.2	17.2	17.9	65.7	64.6	58.5	55.0
American Indian or Alaska Native only...	16.0	*10.6	*12.7	17.0	57.6	67.1	54.0	51.4
Asian only.....	13.5	14.1	17.8	16.8	59.1	55.0	51.7	52.6
Native Hawaiian or Other Pacific								
Islander only.....	---	*	*	*	---	*	*	*
2 or more races.....	---	19.0	25.9	24.1	---	52.8	45.0	45.6

Hispanic origin and race^{2,4}

Hispanic or Latino.....	9.4	9.2	14.4	15.4	67.7	66.5	60.2	56.3
Mexican.....	8.7	8.1	13.2	14.0	69.5	67.0	60.7	56.7
Not Hispanic or Latino.....	14.9	15.8	21.9	22.0	55.3	53.2	47.2	46.1
White only.....	15.5	16.5	22.9	23.1	53.6	51.4	45.0	44.0
Black or African American only.....	11.7	12.2	17.4	18.1	65.8	64.6	58.4	55.1

Education^{5,6}

No high school diploma or GED.....	4.6	4.3	7.7	7.4	76.3	74.0	69.8	68.3
High school diploma or GED.....	8.6	9.5	12.7	12.2	64.6	61.7	59.0	59.0
Some college or more.....	18.2	18.9	25.0	25.4	48.0	47.1	42.1	40.8

Percent of poverty level^{2,7}

Below 100%.....	8.0	9.3	12.0	11.7	71.3	68.0	63.9	61.5
100%-199%.....	9.0	9.0	12.7	13.9	67.1	65.5	60.6	58.7
200%-399%.....	12.6	13.2	19.2	19.5	58.0	56.8	50.6	48.6
400% or more.....	20.2	20.5	29.1	29.5	46.2	45.0	36.9	36.4

Hispanic origin and race and
percent of poverty level^{2,4,7}

Hispanic or Latino:								
Below 100%.....	4.6	4.4	8.9	8.4	78.0	75.2	68.6	66.1
100%-199%.....	7.0	5.0	9.3	11.7	71.2	72.2	66.7	61.8
200%-399%.....	11.1	10.2	15.7	17.5	63.8	63.1	57.6	52.6
400% or more.....	17.4	19.6	28.1	27.9	55.6	52.8	42.5	40.0

Not Hispanic or Latino:

White only:								
Below 100%.....	9.9	11.7	13.7	14.4	66.9	63.5	60.5	58.7
100%-199%.....	9.6	10.3	14.1	14.9	65.1	62.6	56.4	56.3
200%-399%.....	13.1	13.9	20.0	19.5	56.1	54.7	48.6	46.9
400% or more.....	20.2	21.0	29.9	30.4	45.2	43.7	35.2	34.6

Black or African American only:

Below 100%.....	7.1	9.5	11.3	11.0	74.6	72.1	66.9	63.4
100%-199%.....	8.8	9.5	11.7	13.6	69.8	69.2	67.0	61.7
200%-399%.....	10.6	11.8	20.8	22.8	64.5	64.3	53.3	51.4
400% or more.....	21.2	17.6	26.1	25.1	54.2	54.9	47.7	44.8

Disability measure^{2,8}

Any basic actions difficulty or complex activity limitation.....	10.2	10.3	13.6	13.2	64.4	62.2	59.1	58.7
Any basic actions difficulty.....	9.8	10.3	13.8	12.7	64.8	62.1	59.2	59.2
Any complex activity limitation.....	7.7	7.2	8.9	9.7	71.9	71.2	67.2	66.7
No disability.....	16.0	17.0	24.2	24.7	52.5	50.6	43.3	41.3

Geographic region²

Northeast.....	14.2	17.0	20.2	19.5	57.0	51.8	49.1	50.9
Midwest.....	15.0	16.4	20.7	22.0	54.9	53.4	49.7	47.7
South.....	11.8	12.1	18.8	18.3	61.4	59.7	51.8	50.8
West.....	18.5	16.7	24.0	25.3	49.5	50.1	44.5	40.3

Location of residence²

Within MSA ⁹	14.9	15.7	21.8	22.1	55.8	54.1	47.8	46.2
Outside MSA ⁹	12.2	12.3	14.5	14.9	59.7	56.9	56.9	55.3

Characteristic	Met aerobic activity guideline				Met muscle-strengthening guideline			
	1998	2000	2010	2011	1998	2000	2010	2011
18 years and over, age-adjusted ^{2,3}	40.0	42.2	47.3	49.0	17.7	18.0	24.4	24.4
18 years and over, crude ³	40.3	42.4	46.9	48.4	17.9	18.1	24.0	24.0
Age								
18-44 years.....	45.7	47.7	53.8	55.8	22.5	22.1	28.8	28.8
18-24 years.....	49.3	52.2	57.2	61.2	28.0	27.2	32.8	32.9
25-44 years.....	44.6	46.3	52.5	53.8	20.8	20.5	27.4	27.3
45-64 years.....	38.2	39.7	45.2	44.9	14.4	15.5	21.5	21.1
45-54 years.....	40.1	42.1	47.6	46.4	16.2	17.0	22.6	22.4
55-64 years.....	35.3	36.1	42.1	43.2	11.5	13.1	20.1	19.5
65 years and over.....	26.0	30.1	30.5	34.9	8.6	9.8	15.4	16.2
65-74 years.....	31.7	36.8	35.9	41.0	9.7	11.3	17.9	19.2
75 years and over.....	18.7	22.1	23.9	27.4	7.2	8.0	12.3	12.5
Sex ²								
Male.....	45.4	47.4	52.1	52.7	21.2	20.8	29.1	28.7
Female.....	35.1	37.6	42.7	45.6	14.4	15.4	19.8	20.2
Sex and age								
Male:								
18-44 years.....	51.5	53.6	59.0	59.8	27.2	26.3	35.6	35.4
45-54 years.....	44.3	45.2	50.7	47.8	18.8	18.0	24.8	23.3
55-64 years.....	38.3	38.9	46.0	45.8	12.9	13.8	22.9	21.3
65-74 years.....	38.5	41.8	40.7	45.5	12.0	12.2	20.6	20.5
75 years and over.....	26.1	30.7	32.3	35.5	9.5	10.1	14.5	16.7
Female:								
18-44 years.....	40.0	42.0	48.5	51.9	17.9	17.9	22.1	22.2
45-54 years.....	36.1	39.1	44.7	45.1	13.7	16.1	20.4	21.5
55-64 years.....	32.5	33.5	38.6	40.7	10.3	12.4	17.5	17.9
65-74 years.....	26.2	32.6	31.8	37.2	7.8	10.5	15.6	18.1
75 years and over.....	14.0	16.8	18.3	21.8	5.7	6.7	10.8	9.6
Race ^{2,4}								
White only.....	41.5	44.1	48.9	50.4	18.0	18.5	24.8	25.1
Black or African American only.....	30.4	31.7	37.3	41.5	15.6	16.0	21.4	21.4
American Indian or Alaska Native only...	39.7	29.7	42.0	43.1	18.2	13.9	16.7	23.4
Asian only.....	37.1	41.7	44.2	44.8	17.2	17.2	21.9	19.3
Native Hawaiian or Other Pacific Islander only.....	---	*	*	*	---	*	*	*
2 or more races.....	---	43.9	50.2	50.9	---	22.2	30.4	28.3
Hispanic origin and race ^{2,4}								
Hispanic or Latino.....	29.1	30.8	36.2	40.1	12.7	11.9	18.1	19.0
Mexican.....	27.4	30.0	35.9	39.4	11.9	11.3	16.7	18.0
Not Hispanic or Latino.....	41.3	43.7	49.1	50.5	18.3	18.8	25.5	25.3
White only.....	43.1	45.7	51.5	52.6	18.7	19.3	26.3	26.4
Black or African American only.....	30.4	31.7	37.3	41.3	15.6	16.0	21.6	21.6
Education ^{5,6}								
No high school diploma or GED.....	21.4	23.9	27.1	28.7	7.0	6.6	10.9	10.6

High school diploma or GED.....	32.6	35.7	37.3	37.8	11.4	12.1	16.2	15.5
Some college or more.....	48.1	49.4	53.9	55.3	22.1	22.4	28.9	29.1
Percent of poverty level ^{2,7}								
Below 100%.....	25.9	29.3	32.2	36.1	10.8	12.3	15.8	14.2
100%-199%.....	29.9	32.0	36.0	37.8	12.0	11.5	16.1	17.5
200%-399%.....	38.8	39.9	45.5	47.8	15.9	16.5	23.1	23.1
400% or more.....	50.0	52.0	59.3	60.1	24.0	23.4	32.8	32.9
Hispanic origin and race and percent of poverty level ^{2,4,7}								
Hispanic or Latino:								
Below 100%.....	19.5	22.1	27.8	31.5	7.1	7.2	12.4	10.8
100%-199%.....	25.6	25.8	30.1	34.6	10.2	7.1	12.6	15.4
200%-399%.....	33.1	33.0	38.8	43.1	14.6	14.0	19.5	21.8
400% or more.....	40.6	45.1	53.4	56.1	21.1	21.7	32.1	32.0
Not Hispanic or Latino:								
White only:								
Below 100%.....	30.2	34.0	35.5	39.1	12.8	14.7	17.5	16.5
100%-199%.....	32.2	34.8	40.6	40.4	12.5	12.9	17.0	18.3
200%-399%.....	40.8	42.3	47.8	49.6	16.2	16.9	23.6	23.1
400% or more.....	51.0	53.4	61.0	61.9	24.0	23.8	33.5	33.7
Black or African American only:								
Below 100%.....	22.7	25.4	29.3	33.2	10.0	12.1	15.3	14.2
100%-199%.....	26.9	28.0	28.5	34.2	12.1	12.3	16.0	17.6
200%-399%.....	30.6	31.4	41.9	45.2	15.5	16.2	25.7	26.2
400% or more.....	41.7	40.3	48.5	52.0	25.4	22.4	29.8	28.4
Disability measure ^{2,8}								
Any basic actions difficulty or complex activity limitation.....	31.8	34.2	36.4	37.6	13.9	14.0	18.0	17.1
Any basic actions difficulty.....	31.3	34.0	36.6	37.0	13.6	14.2	18.1	16.6
Any complex activity limitation.....	24.4	24.9	27.9	28.8	11.5	11.3	13.9	14.2
No disability.....	44.3	46.6	53.4	55.5	19.3	19.8	27.4	27.7
Geographic region ²								
Northeast.....	39.6	45.3	46.9	45.8	17.5	20.0	24.3	22.6
Midwest.....	42.0	43.5	46.1	48.9	18.2	19.3	24.7	25.4
South.....	35.3	37.3	45.0	46.1	15.0	15.1	22.0	21.4
West.....	46.7	46.9	52.0	55.9	22.3	19.7	27.5	29.1
Location of residence ²								
Within MSA ⁹	40.8	42.9	48.7	50.3	18.3	18.6	25.4	25.6
Outside MSA ⁹	37.1	39.9	39.1	41.9	15.4	15.5	18.5	17.8

*Estimates are considered unreliable. Data preceded by an asterisk have a relative standard error (RSE) of 20%-30%. Data not shown have an RSE of greater than 30%.

---Data not available.

¹Starting with Health, United States, 2010, measures of physical activity shown in this table changed to reflect the 2008 federal Physical Activity Guidelines for Americans (available from: <http://www.health.gov/PAGuidelines/>). This table presents four measures of physical activity: the percentage of adults who met the 2008 federal guidelines for both aerobic activity and muscle strengthening; the percentage who met neither the aerobic activity guideline nor the muscle-strengthening guideline; the percentage who met the aerobic activity guideline; and

the percentage who met the muscle-strengthening guideline.

Persons who met neither the aerobic activity nor the muscle-strengthening guideline were unable to be active, were completely inactive, or had some aerobic or muscle-strengthening activities but amounts were insufficient to meet the guidelines.

The percentage of persons who met the aerobic activity guideline includes those who may or may not have also met the muscle-strengthening guideline.

Similarly, the percentage of persons who met the muscle-strengthening guideline includes those who may or may not have also met the aerobic activity guideline. The 2008 federal guidelines

recommend that for substantial health benefits adults perform 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, should be spread throughout the week. The 2008 guidelines also recommend that adults perform muscle-strengthening activities that are moderate or high intensity and involve all major muscle groups on 2 or more days a week, because these activities provide additional health benefits. See Appendix II, Physical activity, leisure-time.

²Estimates are age-adjusted to the year 2000 standard population using five age groups: 18-44 years, 45-54 years, 55-64 years, 65-74 years, and 75 years and over.

Age-adjusted estimates in this table may differ from other age-adjusted estimates based on the same data and presented elsewhere if different age groups are used in the adjustment procedure. See Appendix II, Age adjustment.

³Includes all other races not shown separately, unknown education level, and unknown disability status.

⁴The race groups, white, black, American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and 2 or more races, include persons of Hispanic and non-Hispanic origin. Persons of Hispanic origin may be of any race. Starting with 1999 data, race-specific estimates are tabulated according to the 1997 *Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity* and are not strictly comparable with estimates for earlier years. The five single-race categories

plus multiple-race categories shown in the table conform to the 1997 Standards. Starting with 1999 data, race-specific estimates are for persons who reported only one racial group; the category 2 or more races includes persons who reported more than one racial group. Prior to 1999, data were tabulated according to the 1977 Standards with four racial groups, and the Asian only category included Native Hawaiian or Other Pacific Islander. Estimates for single-race categories prior to 1999 included persons who reported one race or, if they reported more than one race, identified one race as best representing their race.

Starting with 2003 data, race responses of other race and unspecified multiple race were treated as missing, and then race was imputed if these were the only race responses.

Almost all persons with a race response of other race were of Hispanic origin.

See Appendix II, Hispanic origin; Race.

⁵Estimates are for persons 25 years of age and over and are age-adjusted to the year 2000 standard population using five age groups: 25-44 years, 45-54 years, 55-64 years, 65-74 years, and 75 years and over.

See Appendix II, Age adjustment.

⁶GED is General Educational Development high school equivalency diploma.

See Appendix II, Education.

⁷Percent of poverty level is based on family income and family size and composition using U.S. Census Bureau poverty thresholds.

Missing family income data were imputed for 1997 and beyond.

See Appendix II, Family income; Poverty; Table VI.

⁸Any basic actions difficulty or complex activity limitation is defined as having one or more of the following limitations or difficulties: movement difficulty, emotional difficulty, sensory (seeing or hearing) difficulty, cognitive difficulty, self-care (activities of daily living or instrumental activities of daily living) limitation, social limitation, or work limitation. For more information, see Appendix II, Basic actions difficulty; Complex activity limitation.

Starting with 2007 data, the hearing question, a component of the basic actions difficulty measure, was revised.

Consequently, data prior to 2007 are not comparable with data for 2007 and beyond. For more information on the impact of the revised hearing question, see Appendix II, Hearing trouble.

⁹MSA is metropolitan statistical area. Starting with 2006 data, MSA status is determined using 2000 census data and the 2000 standards for defining MSAs. For data prior to 2006, see Appendix II, Metropolitan statistical area (MSA) for the applicable standards.

NOTES: Standard errors are available in the spreadsheet version of this table. Available from: <http://www.cdc.gov/nchs/hus.htm>. Data for additional years are available. See Appendix III.

SOURCE: CDC/NCHS, National Health Interview Survey, family core and sample adult questionnaires. See Appendix I, National Health Interview Survey (NHIS).