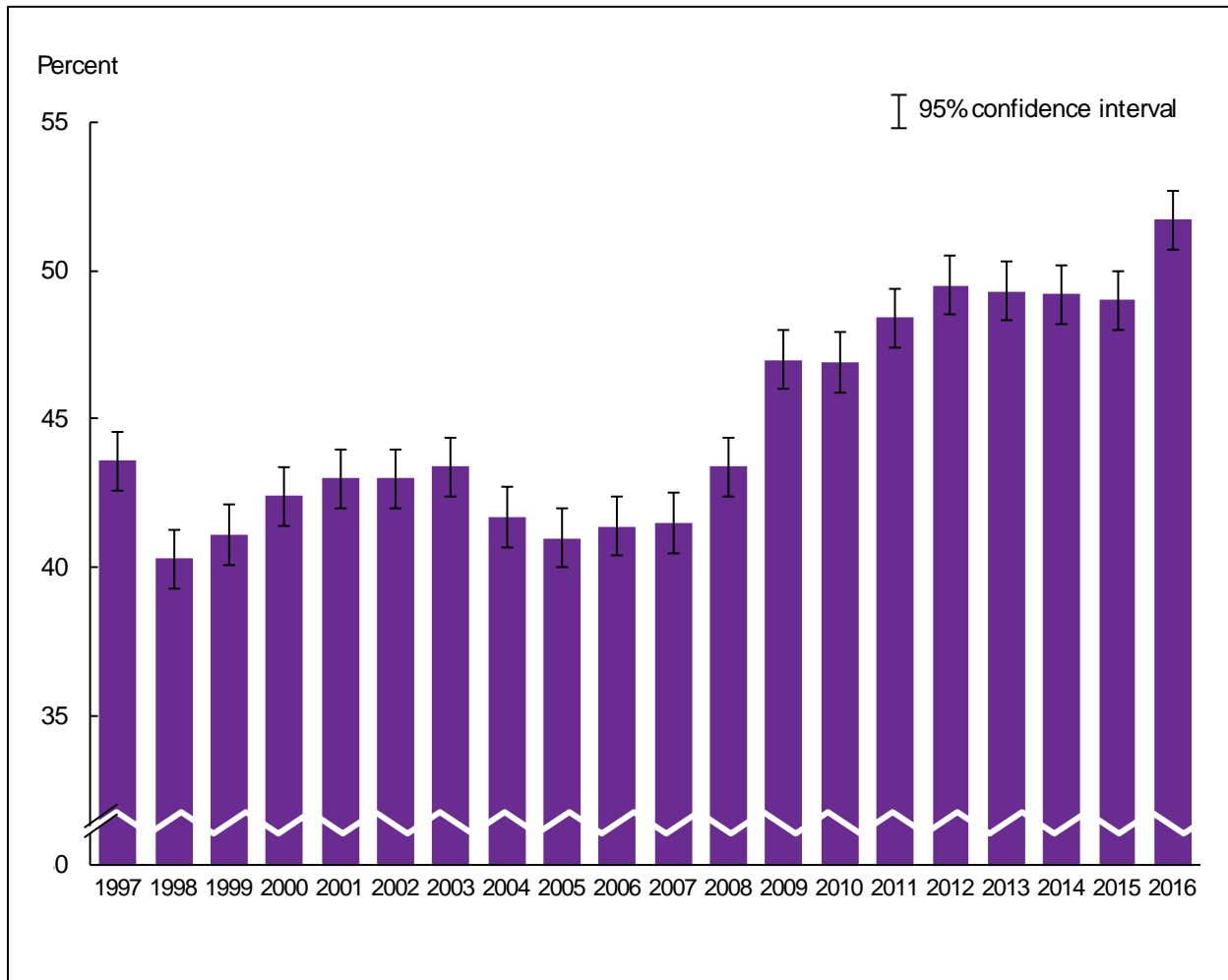


## Leisure-time physical activity

**Figure 7.1. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for aerobic activity through leisure-time aerobic activity: United States, 1997–2016**

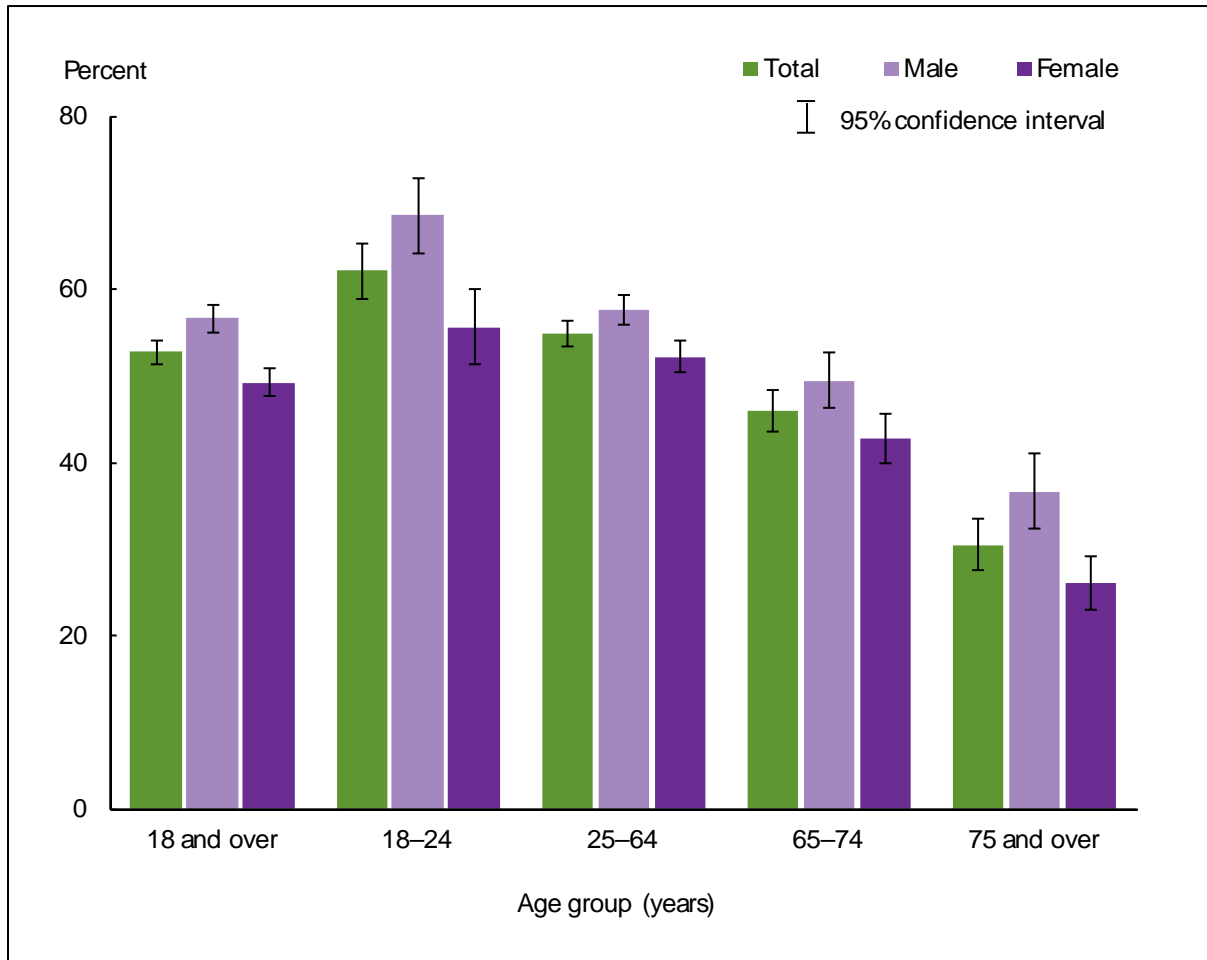


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Estimates in this figure are limited to leisure-time physical activity only. This measure reflects an estimate of leisure-time aerobic activity motivated by the 2008 federal Physical Activity Guidelines for Americans, which are being used for Healthy People 2020 Objectives (3). The 2008 guidelines refer to any kind of aerobic activity, not just leisure-time aerobic activity, so the leisure-time aerobic activity estimates in this figure may underestimate the percentage of adults who met the 2008 guidelines for aerobic activity. This figure presents the percentage of adults who met the 2008 federal guidelines for aerobic activity. The 2008 federal guidelines recommend that for substantial health benefits, adults perform at least 150 minutes a week of moderate-intensity aerobic physical activity, 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. The 2008 guidelines state that aerobic activity should be performed in episodes of at least 10 minutes and preferably should be spread throughout the week. The 2008 guidelines were applied to leisure-time activity data starting with 1997 to derive the aerobic activity estimates in this figure, allowing trend analysis. The analyses exclude persons with unknown physical activity participation (about 3% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

- For 2016, 51.7% (95% confidence interval = 50.57%–52.87%) of U.S. adults aged 18 and over met the 2008 federal physical activity guidelines for aerobic activity (based on leisure-time activity). This percentage was higher than the 2015 estimate (49.0%).
- The annual percentage of adults aged 18 and over who met the 2008 federal physical activity guidelines for aerobic activity (based on leisure-time activity) was stable from 1997 through 2006, then steadily increased to 51.7% in 2016.

**Figure 7.2. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for aerobic activity through leisure-time aerobic activity, by age group and sex: United States, 2016**

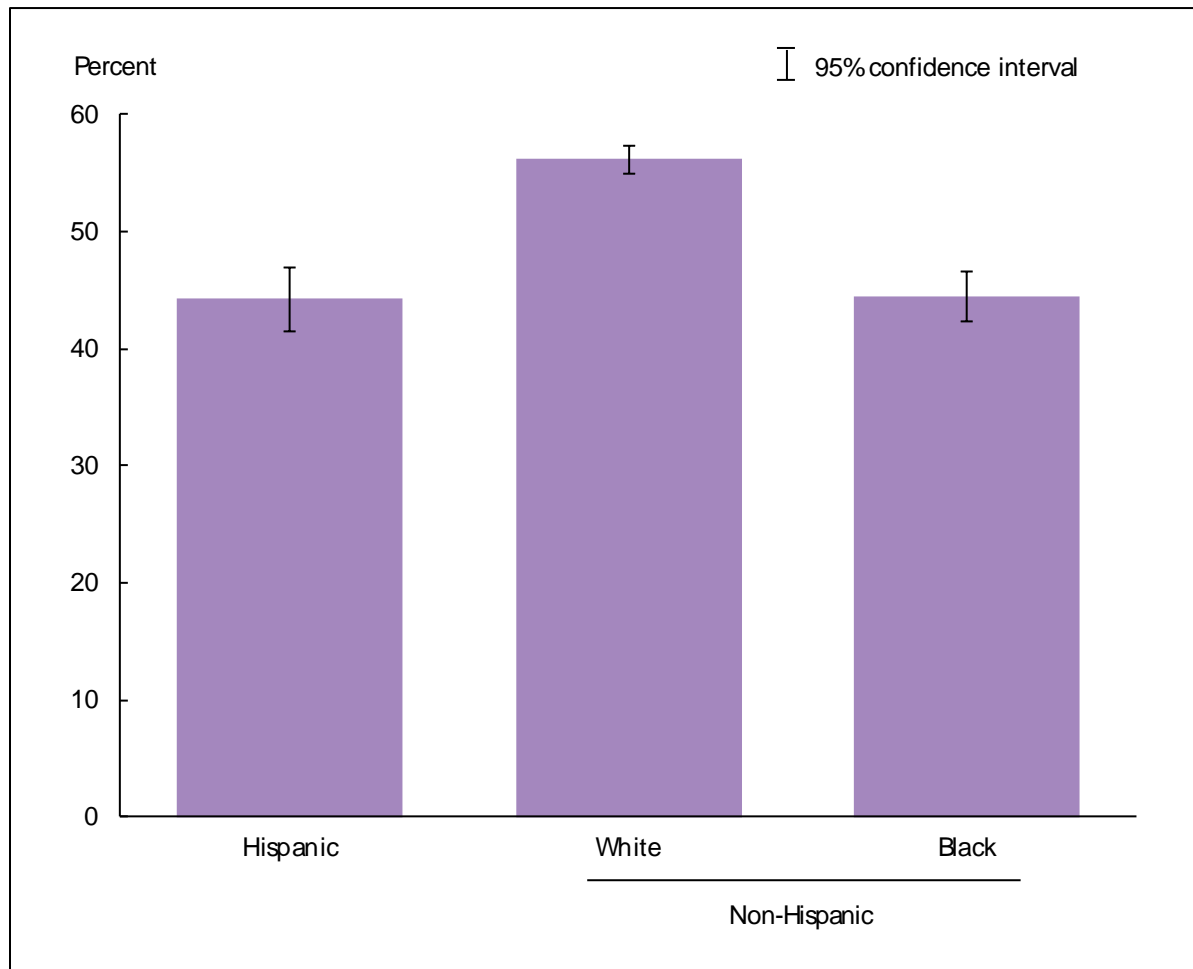


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Estimates in this figure are limited to leisure-time physical activity only. This measure reflects an estimate of leisure-time aerobic activity motivated by the 2008 federal Physical Activity Guidelines for Americans, which are being used for Healthy People 2020 Objective (3). The 2008 guidelines refer to any kind of aerobic activity, not just leisure-time aerobic activity, so the leisure-time aerobic activity estimates in this figure may underestimate the percentage of adults who met the 2008 guidelines for aerobic activity. This figure presents the percentage of adults who met the 2008 federal guidelines for aerobic activity. The 2008 federal guidelines recommend that for substantial health benefits, adults perform at least 150 minutes a week of moderate-intensity aerobic physical activity, 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. The 2008 guidelines state that aerobic activity should be performed in episodes of at least 10 minutes and preferably should be spread throughout the week. The analyses exclude the 1.9% of persons with unknown physical activity participation. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- For both sexes combined, as age increased, the percentage of adults who met the 2008 federal physical activity guidelines for aerobic activity (based on leisure-time activity) decreased. This pattern also held for males and females.
- For adults aged 18 and over, and for age groups 18-24, 25-64, 65-74, and 75 and over, women were less likely than men to meet the 2008 federal physical activity guidelines for aerobic activity (based on leisure-time activity).

**Figure 7.3. Age-sex-adjusted percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for aerobic activity through leisure-time aerobic activity, by race and ethnicity: United States, 2016**

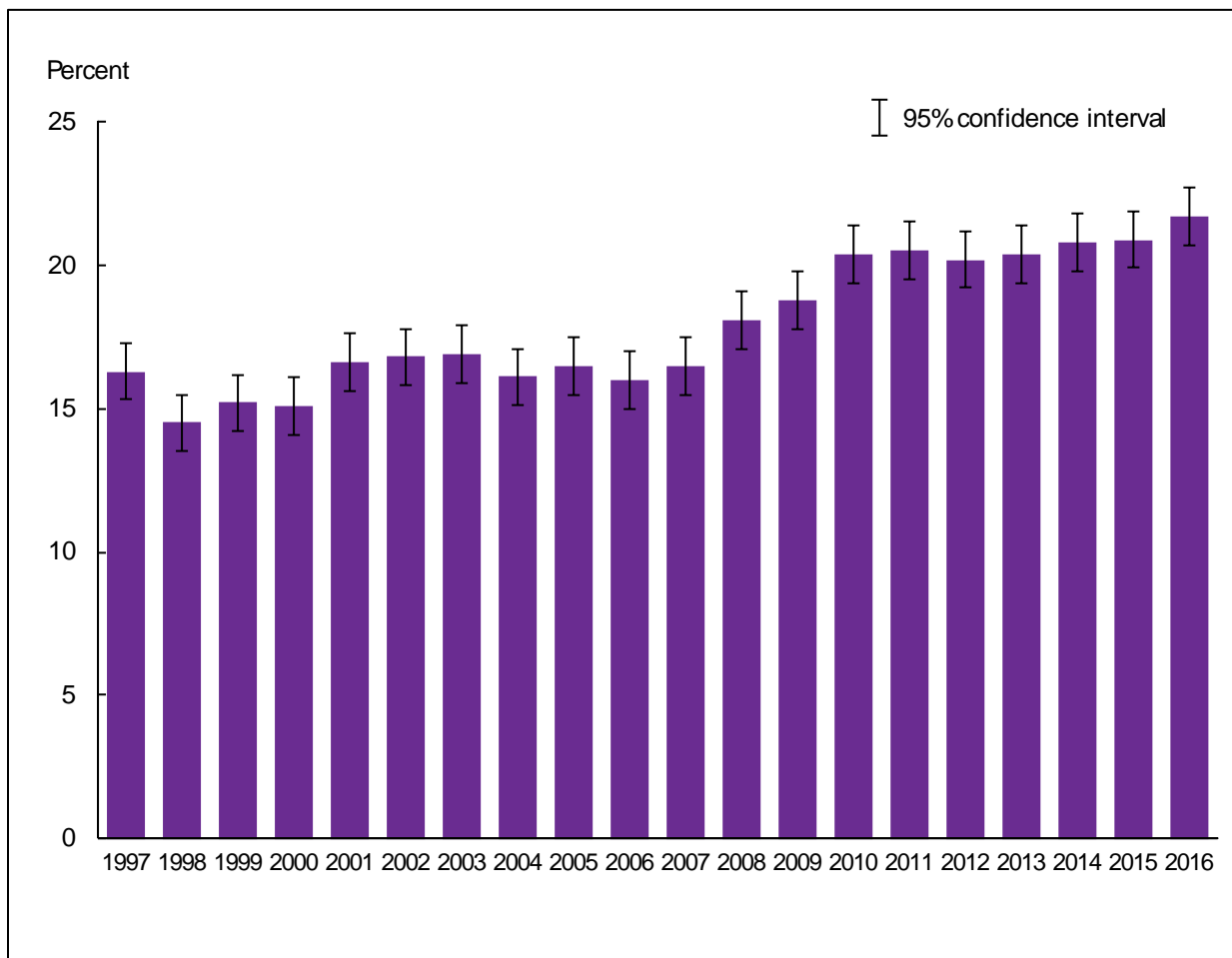


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Estimates in this figure are limited to leisure-time physical activity only. This measure reflects an estimate of leisure-time aerobic activity motivated by the 2008 federal Physical Activity Guidelines for Americans, which are being used for Healthy People 2020 Objectives (3). The 2008 guidelines refer to any kind of aerobic activity, not just leisure-time aerobic activity, so the leisure-time aerobic activity estimates in this figure may underestimate the percentage of adults who met the 2008 guidelines for aerobic activity. This figure presents the percentage of adults who met the 2008 federal guidelines for aerobic activity. The 2008 federal guidelines recommend that for substantial health benefits, adults perform at least 150 minutes a week of moderate-intensity aerobic physical activity, 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. The 2008 guidelines state that aerobic activity should be performed in episodes of at least 10 minutes and preferably should be spread throughout the week. The analyses exclude the 1.9% of persons with unknown physical activity participation. Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- The age-sex-adjusted percentage of adults by race and ethnicity who met the 2008 federal physical activity guidelines for aerobic activity (based on leisure-time activity) was 44.3% for Hispanic adults, 56.2% for non-Hispanic white adults, and 44.4% for non-Hispanic black adults.
- Non-Hispanic white adults were more likely to meet the 2008 federal physical activity guidelines for aerobic activity (based on leisure-time activity) compared with Hispanic adults and non-Hispanic black adults.

**Figure 7.4. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities through leisure-time aerobic and muscle-strengthening activities: United States, 1997–2016**



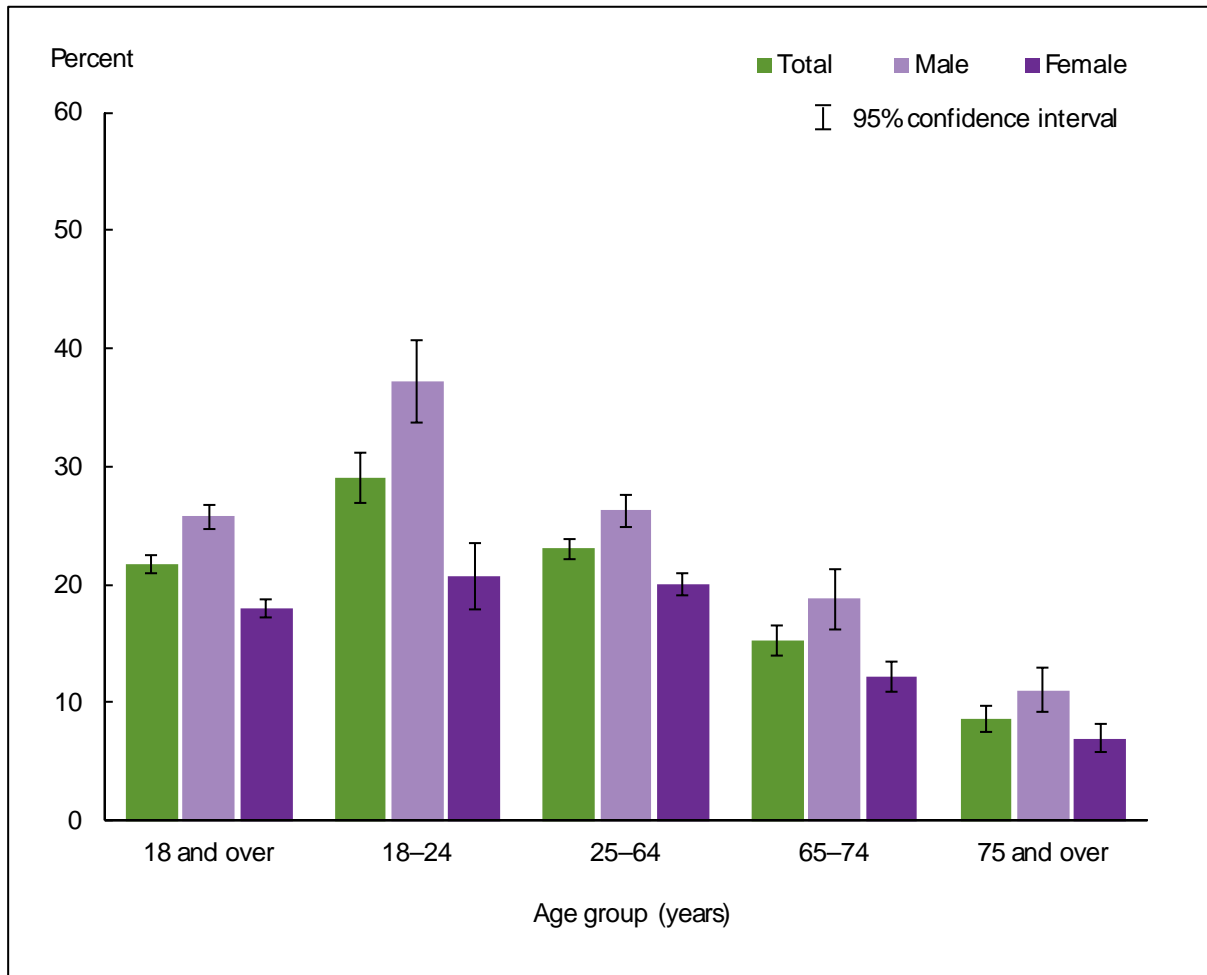
NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Estimates in this figure are limited to leisure-time physical activity only. This measure reflects an estimate of leisure-time aerobic and muscle-strengthening activities motivated by the 2008 federal Physical Activity Guidelines for Americans, which are being used for Healthy People 2020 Objectives (3). The 2008 guidelines refer to any kind of aerobic and muscle-strengthening activity, not just leisure-time aerobic and muscle-strengthening activities, so the leisure-time aerobic and muscle-strengthening activity estimates in this figure may underestimate the percentage of adults who met the 2008 guidelines for aerobic and muscle-strengthening activities. This figure presents the percentage of adults who met the 2008 federal guidelines for both aerobic activity and muscle strengthening. The 2008 federal guidelines recommend that for substantial health benefits, adults perform at least 150 minutes a week of moderate-intensity aerobic physical activity, 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. The 2008 guidelines state that 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 of moderate or high intensity and involve all major muscle groups on 2 or more days a week, because these activities provide additional health benefits. The National Health Interview Survey estimates are based on number of times per week, which may or may not be the same as number of days per week. The 2008 guidelines were applied to both leisure-time activity and muscle-strengthening data starting with 1997 to derive the aerobic activity and muscle-strengthening estimates in this figure, allowing trend analysis. The analyses exclude persons with unknown physical activity participation (about 3% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

- In 2016, 21.7% (95% confidence interval = 21.00%–22.47%) of U.S. adults aged 18 and over met the 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities (based on leisure-time activities). This percentage was higher than, but not significantly different from, the 2015 estimate of 20.9%.

- The annual percentage of adults aged 18 and over who met the 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities (based on leisure-time activities) increased, from 16.0% in 2006 to 20.4% in 2010, and remained stable through 2016.

**Figure 7.5. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities through leisure-time aerobic and muscle-strengthening activities, by age group and sex: United States, 2016**

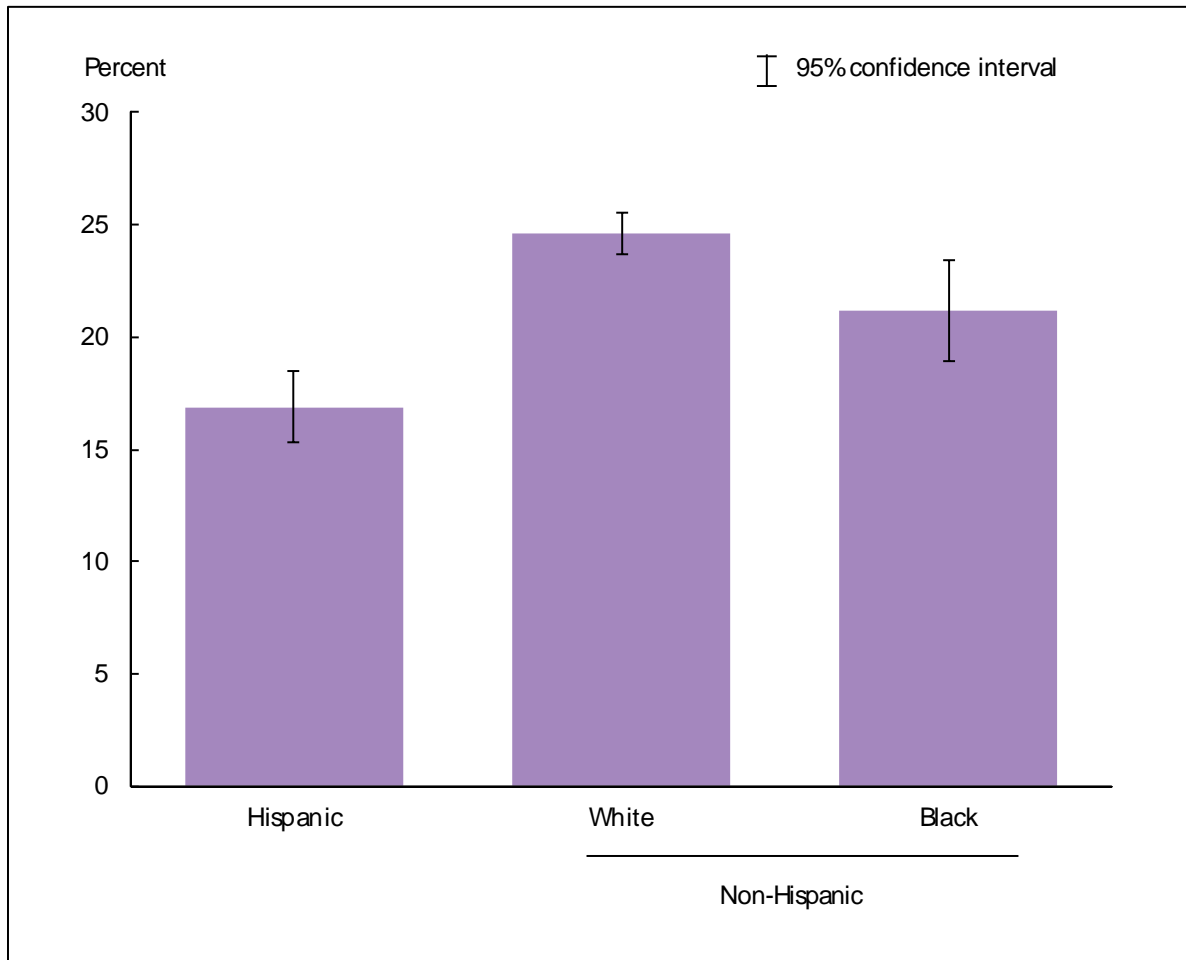


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Estimates in this figure are limited to leisure-time physical activity only. This measure reflects an estimate of leisure-time aerobic and muscle-strengthening activities motivated by the 2008 federal Physical Activity Guidelines for Americans, which are being used for Healthy People 2020 Objectives (3). The 2008 guidelines refer to any kind of aerobic and muscle-strengthening activity, not just leisure-time aerobic and muscle-strengthening activities, so the leisure-time aerobic and muscle-strengthening activity estimates in this figure may underestimate the percentage of adults who met the 2008 guidelines for aerobic and muscle-strengthening activities. This figure presents the percentage of adults who met the 2008 federal guidelines for both aerobic and muscle strengthening activities. The 2008 federal guidelines recommend that for substantial health benefits, adults perform at least 150 minutes a week of moderate-intensity aerobic physical activity, 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. The 2008 guidelines state that 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 of moderate or high intensity and involve all major muscle groups on 2 or more days a week, because these activities provide additional health benefits. The National Health Interview Survey estimates are based on number of times per week, which may not be the same as number of days per week. The analyses exclude the 2.1% of persons with unknown physical activity participation. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- For both sexes combined, as age increased, the percentage of adults who met the 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities (based on leisure-time activities) decreased. This pattern held for males and females.
- For adults aged 18 and over and age groups 18-24, 25-64, 65-74, and 75 and over, women were less likely to meet the 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities (based on leisure-time activities) compared with men.

**Figure 7.6. Age-sex-adjusted percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities through leisure-time aerobic and muscle-strengthening activities, by race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Estimates in this figure are limited to leisure-time physical activity only. This measure reflects an estimate of leisure-time aerobic and muscle-strengthening activities motivated by the 2008 federal Physical Activity Guidelines for Americans, which are being used for Healthy People 2020 Objectives (3). The 2008 guidelines refer to any kind of aerobic and muscle-strengthening activity, not just leisure-time aerobic and muscle-strengthening activities, so the leisure-time aerobic and muscle-strengthening activity estimates in this figure may underestimate the percentage of adults who met the 2008 guidelines for aerobic and muscle-strengthening activities. This figure presents the percentage of adults who met the 2008 federal guidelines for both aerobic and muscle strengthening activities. The 2008 federal guidelines recommend that for substantial health benefits, adults perform at least 150 minutes a week of moderate-intensity aerobic physical activity, 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. The 2008 guidelines state that 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 of moderate or high intensity and involve all major muscle groups on 2 or more days a week, because these activities provide additional health benefits. The National Health Interview Survey estimates are based on number of times per week, which may not be the same as number of days per week. The analyses exclude the 2.1% of persons with unknown physical activity participation. Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- The age-sex-adjusted percentage of adults by race and ethnicity who met the 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities (based on leisure-time activities) was 16.9% for Hispanic adults, 24.6% for non-Hispanic white adults, and 21.2% for non-Hispanic black adults.
- Non-Hispanic white adults were more likely to meet the 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities (based on leisure-time activities) compared with non-Hispanic black adults and Hispanic adults.

## Data tables for Figures 7.1–7.6:

**Data table for Figure 7.1. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for aerobic activity through leisure-time aerobic activity: United States, 1997–2016**

Year	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
1997	43.6 (42.5–44.6)	43.3 (42.2–44.3)
1998	40.3 (39.5–41.1)	40.1 (39.3–40.9)
1999	41.1 (40.3–41.9)	40.9 (40.2–41.7)
2000	42.4 (41.6–43.2)	42.3 (41.5–43.1)
2001	43.0 (42.2–43.8)	42.9 (42.1–43.7)
2002	43.0 (42.1–43.9)	42.9 (42.1–43.8)
2003	43.4 (42.5–44.3)	43.3 (42.4–44.2)
2004	41.7 (40.8–42.6)	41.6 (40.8–42.5)
2005	41.0 (40.18–41.89)	41.1 (40.21–41.90)
2006	41.4 (40.31–42.42)	41.4 (40.37–42.47)
2007	41.5 (40.36–42.63)	41.5 (40.33–42.59)
2008	43.4 (42.33–44.47)	43.5 (42.43–44.58)
2009	47.0 (46.05–47.95)	47.2 (46.25–48.16)
2010	46.9 (45.96–47.78)	47.1 (46.20–47.98)
2011	48.4 (47.42–49.30)	48.7 (47.76–49.61)
2012	49.5 (48.51–50.49)	49.9 (48.92–50.87)
2013	49.3 (48.38–50.28)	49.9 (48.95–50.84)
2014	49.2 (48.21–50.24)	49.8 (48.78–50.82)
2015	49.0 (47.98–49.95)	49.7 (48.72–50.69)
2016	51.7 (50.57–52.87)	52.5 (51.29–53.61)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.



**Data table for Figure 7.2. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for aerobic activity through leisure-time aerobic activity, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
18–24, total	60.2	57.08–63.24
18–24, male	65.7	61.49–69.90
18–24, female	54.5	50.76–58.25
25–64, total	54.0	52.78–55.21
25–64, male	56.9	55.43–58.34
25–64, female	51.2	49.85–52.63
65–74, total	44.9	42.90–46.82
65–74, male	49.1	46.20–52.09
65–74, female	41.1	38.93–43.34
75 and over, total	29.3	26.67–31.88
75 and over, male	35.3	31.60–39.08
75 and over, female	24.9	22.14–27.62
18 and over (crude <sup>1</sup> ), total	51.7	50.57–52.87
18 and over (crude <sup>1</sup> ), male	55.6	54.23–57.06
18 and over (crude <sup>1</sup> ), female	48.1	46.78–49.34
18 and over (age-adjusted <sup>2</sup> ), total	52.5	51.29–53.61
18 and over (age-adjusted <sup>2</sup> ), male	56.1	54.68–57.48
18 and over (age-adjusted <sup>2</sup> ), female	49.1	47.76–50.35

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

**Data table for Figure 7.3. Adjusted percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for aerobic activity through leisure-time aerobic activity, by race and ethnicity: United States, 2016**

Race and ethnicity	Age-sex-adjusted <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
Hispanic or Latino	44.3 (41.52–46.99)	44.3 (41.57–47.03)
Not Hispanic or Latino, single race, white	56.2 (54.97–57.40)	56.3 (55.07–57.48)
Not Hispanic or Latino, single race, black	44.4 (42.29–46.55)	44.0 (41.87–46.13)

<sup>1</sup>Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

**Data table for Figure 7.4. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities through leisure-time aerobic and muscle-strengthening activities: United States, 1997–2016**

Year	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
1997	16.3 (15.5-17.1)	16.1 (15.3-16.9)
1998	14.5 (14.0-15.1)	14.4 (13.9-14.9)
1999	15.2 (14.6-15.8)	15.0 (14.5-15.6)
2000	15.1 (14.5-15.7)	15.0 (14.5-15.6)
2001	16.6 (16.1-17.2)	16.5 (16.0-17.1)
2002	16.8 (16.2-17.4)	16.7 (16.2-17.3)
2003	16.9 (16.3-17.6)	16.9 (16.3-17.5)
2004	16.1 (15.5-16.7)	16.1 (15.5-16.7)
2005	16.5 (15.96-17.13)	16.6 (15.99-17.14)
2006	16.0 (15.30-16.80)	16.1 (15.37-16.87)
2007	16.5 (15.79-17.19)	16.5 (15.83-17.20)
2008	18.1 (17.38-18.91)	18.2 (17.49-19.00)
2009	18.8 (18.14-19.56)	19.0 (18.32-19.75)
2010	20.4 (19.69-21.06)	20.6 (19.90-21.25)
2011	20.5 (19.79-21.31)	20.8 (20.05-21.56)
2012	20.2 (19.45-20.99)	20.6 (19.79-21.31)
2013	20.4 (19.65-21.10)	20.7 (19.99-21.45)
2014	20.8 (20.01-21.60)	21.2 (20.43-22.06)
2015	20.9 (20.20-21.66)	21.4 (20.69-22.17)
2016	21.7 (21.00-22.47)	22.3 (21.56-23.06)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

**Data table for Figure 7.5. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities through leisure-time aerobic and muscle-strengthening activities, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
18–24, total	29.0	26.98–31.10
18–24, male	37.3	33.76–40.75
18–24, female	20.7	17.86–23.51
25–64, total	23.1	22.21–23.92
25–64, male	26.3	24.96–27.56
25–64, female	20.0	19.05–20.99
65–74, total	15.3	13.95–16.59
65–74, male	18.8	16.29–21.31
65–74, female	12.2	10.94–13.46
75 and over, total	8.7	7.58–9.80
75 and over, male	11.1	9.18–12.95
75 and over, female	7.0	5.79–8.14
18 and over (crude <sup>1</sup> ), total	21.7	21.00–22.47
18 and over (crude <sup>1</sup> ), male	25.8	24.71–26.80
18 and over (crude <sup>1</sup> ), female	18.0	17.18–18.82
18 and over (age-adjusted <sup>2</sup> ), total	22.3	21.56–23.06
18 and over (age-adjusted <sup>2</sup> ), male	26.2	25.09–27.28
18 and over (age-adjusted <sup>2</sup> ), female	18.6	17.79–19.42

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

**Data table for Figure 7.6. Adjusted percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities through leisure-time aerobic and muscle-strengthening activities, by race and ethnicity: United States, 2016**

Race and ethnicity	Age-sex-adjusted <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
Hispanic or Latino	16.9 (15.31–18.47)	16.9 (15.39–18.49)
Not Hispanic or Latino, single race, white	24.6 (23.71–25.51)	24.7 (23.77–25.55)
Not Hispanic or Latino, single race, black	21.2 (18.96–23.44)	20.6 (18.49–22.77)

<sup>1</sup>Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.