

# Body Mass Index

*Psychological and health aspects*

MIDUS  
Midlife in the United States

A National Study of Health & Well-Being

Body mass index (BMI) is a measure of body fat based on the relationship between height and weight. It is related to the risk of disease and death for both men and women. Using new MIDUS data, we review the links between BMI and multiple aspects of people's lives. We find that those with a higher BMI not only have worse health and more chronic conditions, but they also sleep more poorly. On the encouraging side, we find that MIDUS respondents who put more effort into their health show less weight gain over time. Men, we find, are not good at judging their own weight, while obese women show higher depressive symptoms. Interestingly, we learn that some obese people feel strongly discriminated against.

FIGURE 1  
*SELF-REPORTED HEALTH*



NORMAL WEIGHT



OVERWEIGHT OR  
OBESE

## People who are overweight or obese feel less healthy

Most MIDUS participants rate their health as “excellent” or “very good”. However, people with a higher BMI are more likely to report their health as “fair” or “poor” than those who are normal weight. Specifically, 67% of people who are normal weight report excellent or very good health, while only half of overweight and obese individuals rate their health in this category (see Figure 1).

- ◆ The relationship between BMI and self-rated health is more pronounced in women: almost 70% of women who are normal weight rate their health in the highest categories. However, fewer than 50% of the overweight and obese women choose the same categories.
- ◆ Interestingly, men of different BMI standings are equally likely to rate their health as fair or poor.

## HOW IS BMI CALCULATED?

$$\text{BMI} = \left( \frac{\text{Weight in Pounds}}{(\text{Height in inches}) \times (\text{Height in inches})} \right) \times 703$$

**EXAMPLE:** A person who weighs 220 pounds and is 6' 3" tall has a BMI of 27.5.

$$\left( \frac{220 \text{ lbs}}{(75 \text{ inches}) \times (75 \text{ inches})} \right) \times 703 = 27.5$$

## BMI CATEGORIES

**Underweight:**  
less than 18.5

**Normal Weight:**  
18.5-24.9

**Overweight:**  
25-29.9

**Obese:**  
30 or greater

## Many people in MIDUS are overweight or obese

The majority of MIDUS participants do not have a normal BMI: 60% of women and 77% of men are overweight or obese (see Figure 2).

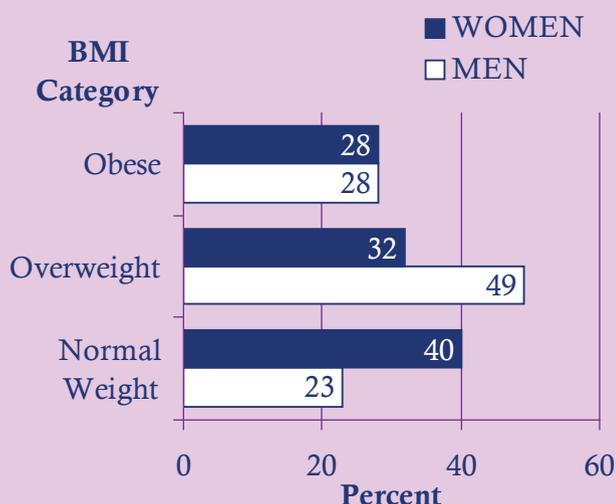
- ◆ Men tend to have slightly higher BMIs than women across young adulthood and later life.
- ◆ On average, both men and women have the lowest BMIs in young adulthood and later life.

BMI is also linked with levels of education (see Figure 3). Specifically, 24% of people who did not graduate from high school have normal weight, compared to 35% of college graduates.

- ◆ These differences are stronger for women than men. Among women, there is a difference of four BMI points between those with less than a high school education and those with college degrees. In this context, four BMI points roughly correspond to the difference between mildly overweight and obese. Men, however, show an educational difference of only one BMI point: that is, college-educated men have only slightly lower BMIs than men who did not graduate from HS.

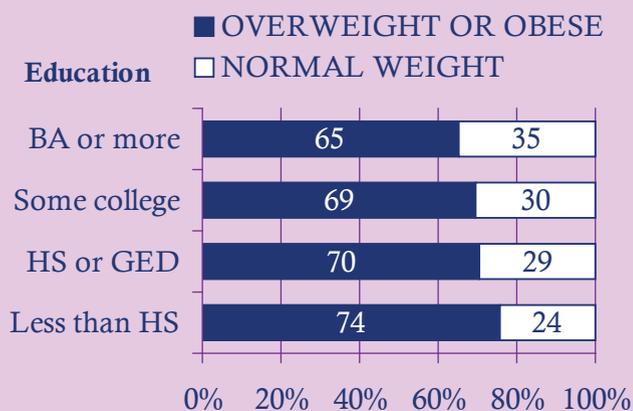
**FIGURE 2**

*PERCENT OF MEN AND WOMEN IN EACH BMI CATEGORY*



**FIGURE 3**

*EDUCATION AND BMI\**



\*Note: Percentages do not always add to 100% because underweight individuals are omitted.

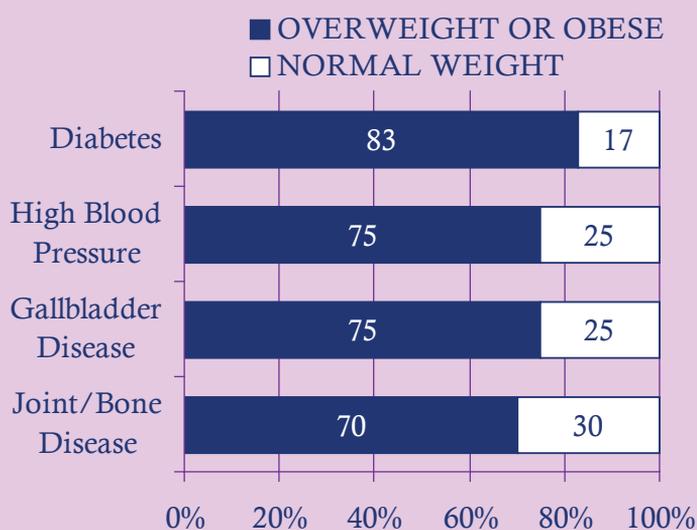


## Higher BMI means more diseases

The overwhelming majority of people diagnosed with diabetes, high blood pressure, gallbladder disease, and joint or bone problems are overweight or obese (see Figure 4). For example, only 17% of people with diabetes are normal weight, while the rest are overweight or obese.

This pattern is evident among men and women of all ages. On average, an adult with these conditions has a BMI score that is three points higher than a healthy adult in the same age group.

**FIGURE 4**  
*PRESENCE OF CHRONIC DISEASE*



## Lower BMI means fewer chronic conditions

More than 40% of people who are normal weight have no chronic conditions, compared to only 22% of those who are obese.

The strong relationship between the number of chronic conditions and BMI status holds for all age groups represented in MIDUS.

## Lower BMI means fewer doctors appointments and pills

People with higher BMIs go to the doctor's office more often than people with lower BMIs. Additionally, while people with a normal BMI take an average of two prescription pills daily, those who are obese take more than three.

Even as age increases, the difference in prescription usage by people with normal weight and those who are overweight or obese remains about one pill a day.

## Lower BMI means better sleep

The average MIDUS participant sleeps more than seven hours a night and reports good sleep quality. BMI differences are not linked with how long people sleep, but are tied to other aspects of sleep.

- ◆ One third of overweight and obese people report experiencing 10 or more sleep disturbances every night, such as problems falling asleep or staying asleep and feeling physically uncomfortable at night. In contrast, only 15% of people who are normal weight experience this high number of sleep disturbances.
- ◆ Overweight and obese individuals do not report taking more sleep medications than people who are normal weight.
- ◆ Among overweight and obese people, 16% find it harder to stay awake during daily tasks, while only 6% of those who are normal weight report similar problems.



## Men and women gain equal weight over time

On average, men and women gain the same amount of weight over time: an average of seven pounds over a decade. Furthermore, men and women do not differ in their pattern of weight change.

Weight gain over the last decade generally decreases with age. For example, while young adults add on about 12 pounds during their thirties, older adults, on average, maintain a more stable weight.

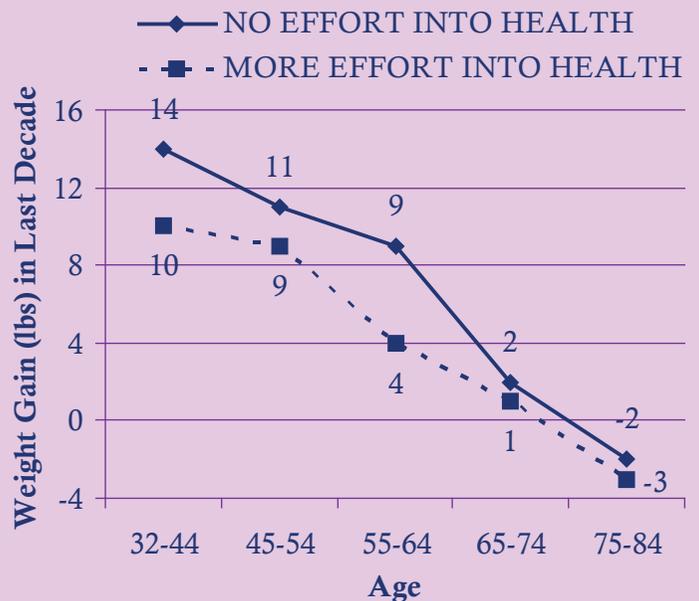
## More effort means less weight gain

Most MIDUS participants report putting high levels of effort into health-related activities. People who report putting more effort into health over the last decade gained, on average, five pounds less than people who report putting no effort into health over the last decade (see Figure 5).

- ◆ Men and women report similar levels of health efforts.
- ◆ While 64% of normal weight adults report putting active effort into health, 58% of overweight and 52% of obese participants are in this category.
- ◆ The number of people who report putting more effort into health increases with age. While fewer than half of young adults report actively engaging in health behaviors, almost 70% of older adults report such efforts. Despite putting more effort into health, older adults report feeling less control over their health.

FIGURE 5

### WEIGHT GAIN OVER LAST DECADE BY AGE



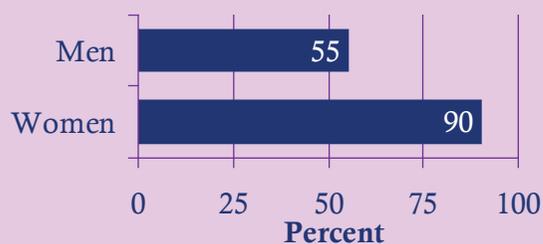
## Some men misjudge their weight

While 90% of women correctly classify their weight status as “about right”, 45% of men who think they belong in this category are actually overweight or obese (see Figure 6).

People with more education classify their weight status correctly more often than people with less education. However, married and single people are equally likely to misclassify their weight status as normal.

FIGURE 6

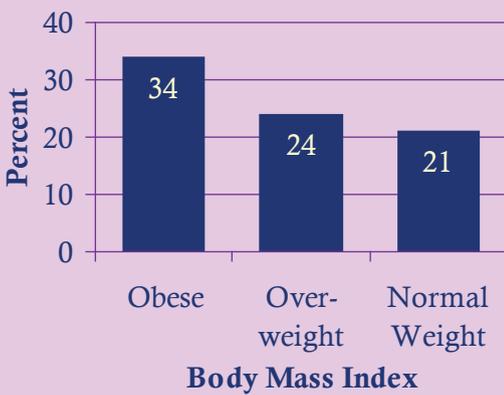
### ACCURATELY CLASSIFYING WEIGHT AS “ABOUT RIGHT”



## Normal weight means less perceived discrimination

People who have normal weight report feeling less discriminated against than people who are overweight or obese. While only 21% of normal weight and 24% of overweight adults report daily discrimination, 34% of obese adults feel discriminated against on a daily basis (see Figure 7).

**FIGURE 7**  
*REPORTS OF HIGH DAILY DISCRIMINATION BY BMI*



## Reports of discrimination decrease with age

While obese adults perceive more discrimination than those who have normal weight among all age groups, this difference is especially prominent among adults aged 45-54 (see Figure 8).

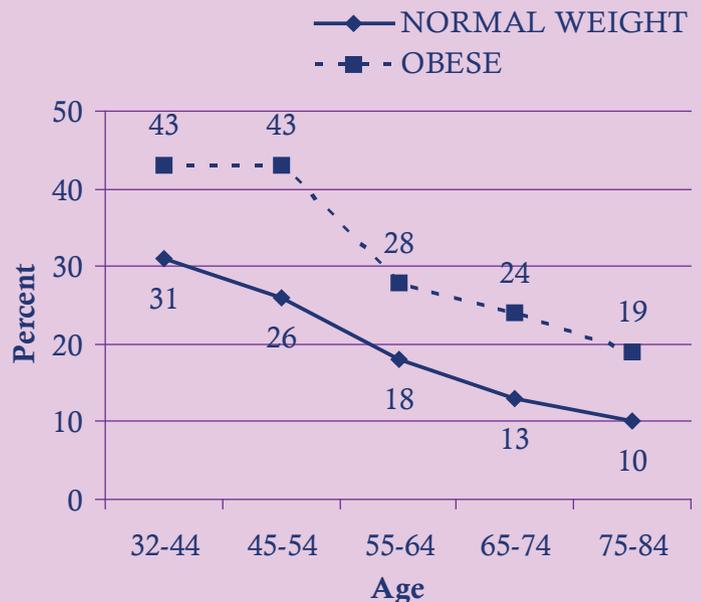
Reports of high daily discrimination peak during young adulthood (age 32-44) and decrease across the lifespan for all adults, regardless of BMI scores (see Figure 8). While 43% of

## MEASURING PERCEIVED DISCRIMINATION

The types of daily discrimination reported by MIDUS participants include feeling treated with less courtesy or respect, receiving poorer service in stores or restaurants, being harassed or called names, as well as getting the impression that others think you are dishonest, less smart, or are afraid of you.

obese individuals aged 32-44 report discrimination, only 19% of obese adults aged 75-84 report discrimination. Likewise, 31% of normal weight adults aged 32-44 report discrimination in comparison to 10% of those aged 75-84. However, while the decline in reports of high discrimination is gradual among adults with normal weight, those who are obese have stable reports until their mid-fifties and then have a sharp decline.

**FIGURE 8**  
*REPORTS OF HIGH DAILY DISCRIMINATION BY BMI AND AGE*



## Normal weight women are less depressed

While women are generally more likely to feel depressed, obese women are at a higher risk. The difference in depressive symptoms between normal weight and obese women is large in young and middle adulthood (see Figure 9).

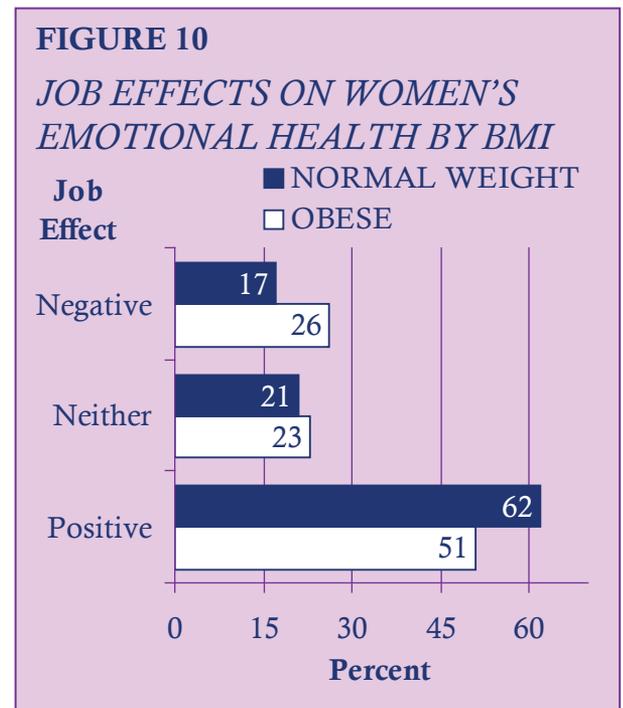
However, married women have fewer symptoms of depression and anxiety regardless of their BMI, suggesting that marriage may have a protective effect.



## Effects of work on emotional health

Obese women are more likely to feel their work environment negatively impacts their emotional health: 26% report feeling a negative effect, compared to 17% of normal weight women (see Figure 10). For men, however, BMI status has no differential effect on their perceptions of how work impacts their mental health.

Additionally, obese men and women feel less supported by supervisors and coworkers than normal weight people.



## MIDLIFE IN THE UNITED STATES

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