

Quang Dieu:

Slide 1: Introduction

Hi, we are group 7, also known as databusters. We're here to present to you The Hidden Weight of Obesity: What are the Myths, the Realities, and the Unseen Factors of this epidemic?

Our aim is to unravel the truth Behind Lifestyle, Genetics, and Common Misconceptions behind being obese.

"Imagine waking up every day and being bombarded with ads for the latest diets or fitness programs, each one promising the key to a healthier, leaner you. But no matter what you try, the weight just doesn't come off. Maybe it's because it's not as simple as we've been led to believe."

"Did you know that despite all the advancements in medicine, in 2022, 1 in 8 people worldwide live with obesity? What's worst, according to the WHO, over 50% of people are overweight or obese in Europe alone. And yet, we still rely on outdated myths and assumptions about what really causes it. You might think obesity is just a matter of 'eating too much and exercising too little,' but the real story is far more complex."

"Today, we're going to dive into some surprising findings about obesity, challenge those common beliefs, and explore factors that might be beyond an individual's control. By the end of this, you might look at obesity—and the people who suffer from it—in a very different light."

"Specifically, we'll break down our findings into three main research questions:"

1. **What are the lifestyle patterns of people with obesity?**
2. **What factors outside of an individual's control contribute to obesity?**
3. **Debunking common myths around obesity.**

"Throughout the presentation, we'll use graphs and data to support our insights, and by the end, we hope you'll have a better understanding of the complexity behind obesity, as well as which factors really matter most. Let's go!"

Slide 2: Ending

"As we come to the end of our presentation, let's reflect on the key takeaways."

"We set out to explore the factors driving obesity and debunk some common myths along the way. What we've found is that obesity is a multifaceted issue—there's no one-size-fits-all answer."

We've presented the lifestyle patterns of obese individuals, the outside factors that are beyond our control but still contribute to obesity, and debunking some myths along the way

"So, now what? "At the beginning of this presentation, we asked: What causes obesity? It's still a very broad question, with no clear-cut answer, but with the use of statistics and data analysis, we've learned a great deal about it, and we hope we have shared with you some interesting insights along the way."

If you can remember one thing from this presentation, it is this: understanding the full picture helps us make better decisions about our health. As the saying goes, 'It's not about what you eat or drink occasionally, but what you do consistently.'"

"So next time when you wonder if it's all in your genes or your jeans, remember: there's always room to change the story. Let us all strive to become healthier, one day at a time. Thank you for listening."

Osbert:

Slide 1: Introduction

"When we think about what drives obesity, the first thing that often comes to mind is lifestyle. How we eat, how active we are, and even our daily routines can all play a role. But the question is, what specific patterns are more common among people who are obese? In this section, we'll explore the key lifestyle factors that contribute to obesity, using data from our analysis to uncover the patterns that are most significant."

Slide 2: Obesity vs Meal frequency

"Let's talk about snacking, or as we like to call it—'Snack Attack.' What we're looking at here is how meal frequency impacts obesity levels, and trust me, the results are not what you'd expect!"

"Take a look at the top left pie chart. For those who always snack between meals, the majority fall into the 'Normal Weight' category. Surprising, right? You'd think constant snacking would lead to more obesity, but it's the opposite! Now, shift your focus to the top right: those who frequently snack between meals. Here, more than half are in the 'Insufficient Weight' category."

"But it gets even more interesting. Look at the bottom two charts. When we get to people who don't snack between meals, the majority are classified as 'Overweight Level I.' It seems the fewer the snacks, the more the weight. Who would have thought?"

"So, what can we take away from this? Snacking doesn't seem to have the villainous role we usually attribute to it. In fact, eating between meals might just be part of maintaining a healthy balance—if done right."

Slide 3: Obesity vs Meal monitoring habits

"Let's now take a look at the relationship between calorie monitoring and BMI. The two charts on this slide give us a glimpse into whether tracking meals really makes a difference."

"On the left, we see a stacked bar chart comparing BMI categories for people who don't monitor their calories versus those who do. For the people who don't monitor calories, only 12% are in the 'Normal Weight' category. Now, look at those who do track their meals—surprisingly, a higher percentage of 31% are classified as 'Normal Weight'. So, it seems that tracking calories might help keep weight in check."

"Now, look at the pie chart on the right. You might wonder, how many people actually monitor their calories? The answer: barely 5%! This means that while calorie monitoring seems beneficial, very few people are actually doing it. The question remains: could this be a simple yet underutilized tool in managing weight?"

"The takeaway? While it's clear that tracking meals can have a positive impact on weight, it's not a widely adopted habit. Maybe it's time we rethink how effective a little mindfulness around eating could be!"

Slide 4: Obesity vs Frequency of Physical Activity

"Moving on. Let's take a look at the relationship between physical activity and obesity levels. We often hear that exercise is key to managing weight, but just how much of an impact does it have? In other words, should we move it to lose it? Let's find out"

"On the left, we have a spider chart showing different obesity categories based on how often people engage in physical activity. Notice that the 'Normal Weight' category is spread out significantly, meaning that people who are physically active tend to fall into this category more often. On the other hand, categories like 'Obesity Type II' and 'Overweight Level II' are closer to the center, indicating less physical activity among individuals in these groups.

"Now, on the right, we see a pie chart breaking down how often people engage in physical activity each week. A large proportion only exercise 1 to 2 days a week, while another large group report no physical activity at all! When we combine this with the left chart, it's clear that reduced physical activity correlates with higher obesity levels."

"The takeaway? Physical activity does seem to make a big difference. If most people in the higher obesity categories are exercising less frequently, it suggests that more consistent movement—like 4 to 5 days a week—could help combat weight gain."

Slide 5: Obesity vs Mode of Transportation

"Lastly, let's look at how the way we move – or don't move - might influence our weight. This slide shows the relationship between obesity and the preferred mode of transportation. Let's find out."

"First, focus on the bar charts on the left. Across the board, most people in all weight categories, from 'Normal Weight' to 'Obesity Type III,' are using public transportation. This suggests a lack of active transportation, such as biking or walking, which might help explain higher obesity rates."

"But what about other modes? For those in the 'Normal Weight' and 'Insufficient Weight' categories, there's a noticeable, albeit small, percentage using more active modes, such as walking and even biking. Interestingly, as we move into 'Obesity Type I' and higher, reliance on automobiles becomes more prominent, especially in 'Obesity Type II' and 'Type III,' where public transport and car use dominate."

"The Sankey diagram in the center reinforces this trend. It shows the flow of respondents from different obesity levels to their transportation modes, with the majority gravitating toward public transport and automobiles. But what's missing? Hardly anyone is walking or biking—clearly, less active transportation correlates with higher obesity levels."

"Finally, the pie chart on the right highlights this even further: over 50% of respondents use public transport. It's clear—our transportation habits may be contributing to a more sedentary lifestyle, which, in turn, could be impacting obesity rates."

"Overall, the data suggests that promoting more active forms of transportation—like walking or biking—could be one way to combat rising obesity levels."

Dewang:

Slide 1: Introduction

So far, we've talked a lot about lifestyle choices, but what about the factors we can't control? In this section, we'll dive into what we call 'Outside Factors,' things like genetics, family history, age, and even gender. These are the forces we're born with, the ones that shape our lives without us having a say. But just how much do they influence obesity? Let's find out!"

Slide 2: Obesity vs Family History

"First, let's dive into the age-old question: is obesity inherited? Or is it the result of lifestyle? Let's find out if it's your genes, or just your jeans?"

First, take a look at the bar chart on the left. We see a clear trend: respondents who have a family history of being overweight are much more likely to fall into higher obesity categories, especially 'Obesity Type I' and 'Obesity Type III.' Compare this to those without a family history, where the percentages drop dramatically—just around **3%** are in within the Obesity and Overweight territory. This strongly suggests that genetics, or family environment, could play a significant role in obesity."

"But what's fascinating is the pie chart on the top right. A whopping **82%** of respondents reported having a family history of being overweight, which might make you wonder: is obesity as much a family trait as it is a personal choice? This raises the possibility that while genetics do matter, they're far from the whole story."

"Finally, let's touch on gender, seen in the pie chart at the bottom right. The respondents are almost evenly split between males and females, so the influence of family history and obesity isn't skewed by gender—it affects both men and women equally. Keep this in mind, because we will touch on gender in a couple of slides."

"So, what does this all mean? While genetics and family history clearly have an influence, they're not the sole determining factors. Lifestyle choices still matter—and that's something we can control."

Slide 3: Obesity vs Age

"Next, let's explore how age and obesity interact. Are we more likely to gain weight as we get older?"

"Starting with the bar chart on the left, we can see the distribution of BMI levels across different age groups. Notice that the majority of individuals in the 'Young Adult' group fall into 'Obesity Type I' and 'Obesity Type III'. This suggests that the young adult phase is a critical period where weight issues start to become more prominent. Interestingly, the 'Youth' group, however does not contain a high proportion of obese and overweight participants, further highlighting that obesity occurs mostly during the Young Adult phase."

"As we move to 'Middle Age,' we see a shift where 'Obesity Type II' becomes more dominant. This tells us that as people get older, their BMI tends to rise, possibly due to lifestyle factors like reduced physical activity or metabolic changes."

"Now, look at the scatter plot on the right, which compares BMI against age. Each dot represents a person, coloured by their obesity level. You can see that younger individuals tend to cluster in the 'Normal Weight' and 'Overweight' categories, but as age increases, we

see more people moving into the 'Obesity Type I' and 'Obesity Type III' levels. It's a pretty clear pattern: as age goes up, so does BMI, especially in people over 30."

"So what does this mean? Age plays a significant role in weight gain, but the data also suggests that early intervention—especially in youth and young adulthood—could be key to managing obesity later in life."

Slide 4: Obesity vs Gender

"Let's take a look at how gender plays a role in obesity. Is there really a difference between males and females when it comes to weight distribution?"

"On the left, we have a stacked bar chart that breaks down obesity levels by gender. Interestingly, we see that women have a higher percentage in the 'Normal Weight' and 'Insufficient Weight' categories. But as we shift to the overweight and obese categories, things get interesting. For women, 'Obesity Type III' seems to be the most prevalent type, whereas for men, it is 'Obesity Type II'. However, overall, if we combine all the obesity and overweight categories, men tend to win out, as the proportion of male participants being either obesity or overweight add up to 77%, compared to 70% for women."

"Now, look at the pie chart on the bottom right. The gender split among respondents is almost perfectly balanced, so the differences we're seeing are not due to a disproportionate number of men or women in the sample."

"Finally, the bar chart on the top right reinforces that 'Obesity Type I' is the most common category, followed by 'Obesity Type III' and 'Obesity Type II.' Clearly, gender plays a role, but we also see that obesity affects a large portion of both groups."

"So, while there are some differences in weight distribution by gender, the battle against obesity doesn't discriminate—it's something both men and women are facing."

Jin-Yi:

Slide 1: Introduction

"We often hear myths about obesity, like alcohol causing weight gain or snacking being the main culprit. Today, we'll use data to debunk these myths and reveal the true factors driving obesity. Get ready to challenge your assumptions as we uncover the real contributors to obesity."

Slide 2: Obesity vs Alcohol Consumption

"First, let's dive into the relationship between alcohol consumption and obesity. We often hear that alcohol leads to weight gain, but is this really the case?"

"Examining the relationship between alcohol consumption and BMI, we find surprising insights. In the stacked bar charts, for the occasional drinkers in the 'Sometimes' category, the BMI spread is broad and balanced, not skewing strongly to any category."

"However, when we move to the 'Never' category, **nearly 26%** of non-drinkers are in the 'Obesity Type I' range, this debunks the idea that non-drinkers are at a healthier weight, as there is still a considerable number in the overweight and obese categories."

"Now, look at the 'Frequently/Always' group. Here, we see that nearly **27%** of this group falls into the 'Normal Weight' category, the largest group here. This suggests that frequent alcohol consumption does not affect BMI and obesity level like how we expect"

"The violin plot on the right further illustrates that while frequent drinkers have a narrow BMI range, occasional and non-drinkers experience a wider spread."

"So, what does this all mean? The data suggests that frequent alcohol consumption is not really associated with higher BMI, debunking the myth that alcohol consumption leads to higher obesity levels."

Slide 3: Obesity vs Vegetable Consumption Frequency

"Moving to vegetable consumption, we see unexpected patterns. We often think that eating more vegetables really help you stay in shape, but from the graphs here, those who sometimes eat vegetables mostly fall into 'Obesity Type I'. Regular vegetable eaters show a significant spike in 'Obesity Type III', indicating other factors might negate the benefits of their diet. Interestingly, those who never eat vegetables still maintain a variety of BMI levels, challenging the assumption that vegetable intake directly correlates with lower obesity rates."

"On the right, we have a pie chart showing how evenly distributed the participants' veggie-eating habits are—33% evenly split, showing that people's attitudes toward vegetables are varied."

"So, what's the takeaway? The relationship between vegetable consumption and BMI is more complex than we might assume. Simply eating vegetables doesn't guarantee a lower BMI. Other factors, such as overall diet composition and physical activity, likely play significant roles in determining weight."

Slide 4: Obesity vs Tech Usage frequency

"Moving on. Let's dive into the data on tech usage and obesity. Does spending more time in front of a screen really lead to weight gain?"

"Looking at the stacked bar chart on the left, we see that those who use tech for more than 5 hours a day have a higher proportion of unhealthy BMI levels, with 25% being in 'Obesity Type II' and almost 21% being in 'Underweight' category. In contrast, the group using tech for only 0-2 hours a day has a more balanced distribution of participants being in different BMI categories."

"But here's what's really interesting: for participants using tech 3-5 hours daily, there's a spike in 'Obesity Type III' at 23.5%, which suggests that moderate tech usage isn't as risky as extended usage, but it still impacts BMI."

"Now, the chart on the right flips the perspective, showing how tech usage breaks down across different obesity levels. The pattern is clear. The 2 groups that use technology significantly less than others are the 'Obesity Type II' and 'Overweight Level I' participants"

"Thus, when it comes to whether technology usage leads to obesity, there's no clear pattern as we expect. In other words, cutting down screen time will not, statistically, help cut down your waistlines, as we have seen that the association is very weak".

Slide 5: Obesity vs Smoking Habits

"We saved the best for last. Does smoking have any effect on obesity? There's been a long-standing myth that smoking can help keep weight down, but does the data back this up?"

"First, let's look at the non-smokers on the left. The distribution across BMI categories is relatively spread out. Now, look at the smokers on the right. What stands out here is the high proportion of individuals in the 'Obesity Type II' category. This is a sharp contrast to non-smokers, where the highest percentage fell in 'Obesity Type I.' Additionally, smokers have a smaller proportion of 'Normal Weight' individuals at **13.64%**, and only **6.82%** are in 'Overweight Level I.'"

"Finally, the two pie charts at the bottom break this down further. For smokers, we see that around **30%** fall into 'Normal Weight,' but a large chunk falls into 'Obesity Type I.' Non-smokers, on the other hand, show a slightly more balanced spread across categories."

"So, what can we conclude? Smoking doesn't seem to give you an edge when it comes to weight control, and does not appear to be an effective weight management tool; in fact, it's associated with higher levels of obesity, especially in the 'Obesity Type II' range. Non-smokers, while also having a notable proportion in the obese categories, maintain a more balanced BMI distribution overall."