

SNACK INTAKE CONTROL

Design for reducing the likelihood of oversnacking

by Wanhang Zhao



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Author: Wanhang Zhao

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Supervisor: Elin Olander

Examiner: Olof Kolte

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Motivation

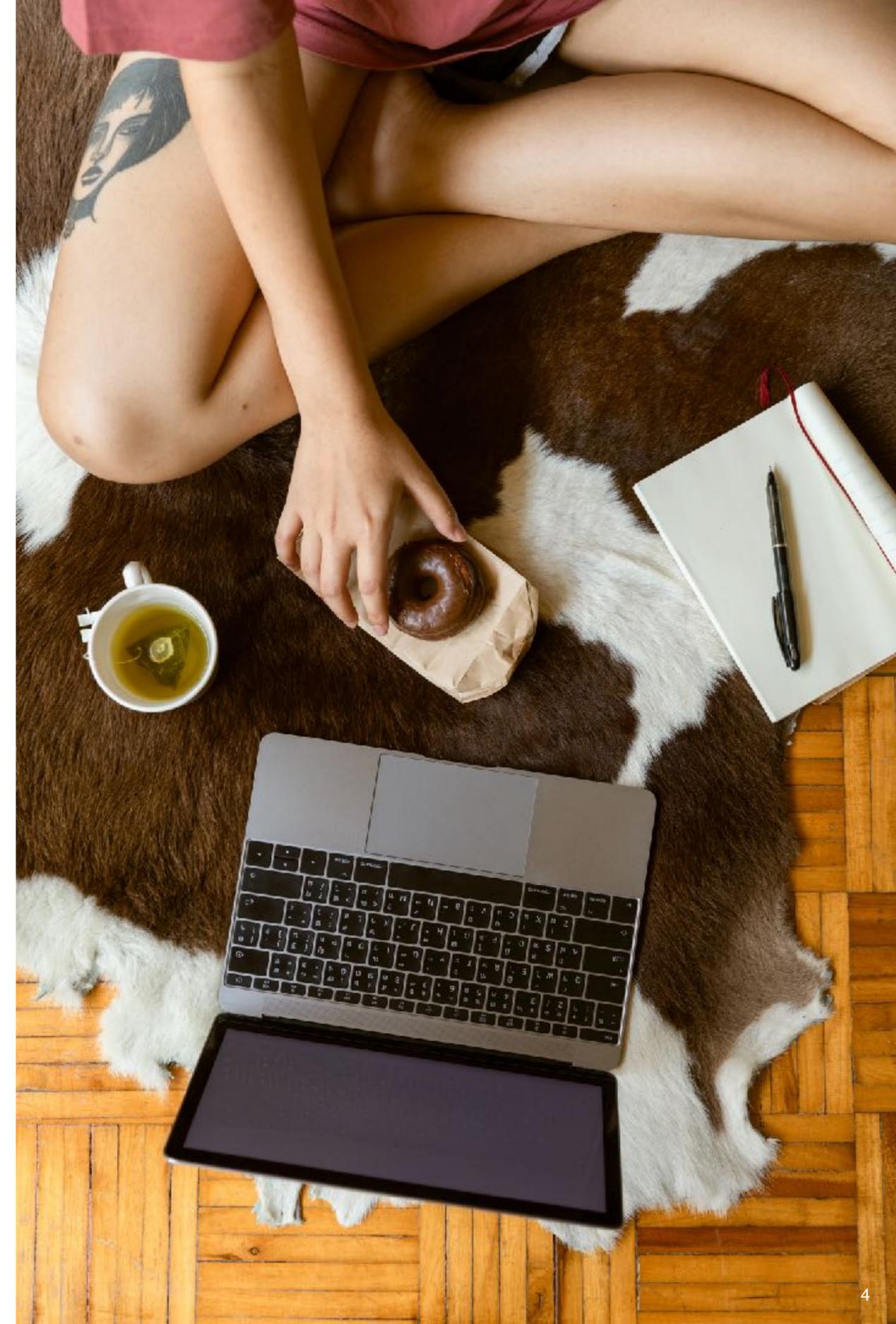
Why did I pick this topic as my degree project?

First, personal interest. Or, Maybe I should say, it is my own problem or my own concern. Overeating snacks has bothered me for a very long time. I have a snack box, full of snacks, I have nuts, dates, banana chips. They are actually quite healthy in my opinion, but once you overeat them, no matter how healthy they are, they just became a burden to the body. In my case, in the day time, I normally study, so I don't have much time to eat snacks, but during nights, that's the time of me relaxing, I normally watch films at home. Then there comes a problem, I found myself very hard not to eat anything when I watch films. And once I started eating snacks, it is very hard for me to stop chewing. Sometimes, I felt my stomach is signaling me, that, stop eating, it's already full. But my mouth just cannot stop. Then, it makes my stomach very uncomfortable, also it affects my quality of sleep. When I was laying down, trying to sleep but I feel like my stomach is working hard digesting all the snacks I ate. Many times, I felt guilty, and I always say to myself that this is the last time I overeat snacks before bed. But, the next night, I just forgot how bad that feeling is, and start eating snacks while watching films/series again. So, it is my very own problem, and it has bothered me for a while which I'd like to use this opportunity to solve it as a designer.

Secondly, universal problem. I have done some research to find out that am I the only person have this problem. And I found out that the snack consumption has increased a lot in the past ten years, and we all know that the group of obesity has become bigger and bigger. Apart from their intake from three meals per day, breakfast lunch and dinner. I think the intake of daily snacks should not be neglected. In fact, the snack overeating is quite a big element of why they overweight. Also, I had some conversations with my friends, it appears that even most of my friends are slim or muscular, they all have the same problem, overeating snacks. And since the virus came, people spend more time at home which makes the snack-overeating problem severe. So, it is actually quite common in a way.

Thirdly, commercial opportunity. Since, I found snack overeating troublesome to me and many other people, I started looking for some products or service in the market targeting this issue. I tried App Store, Amazon, and many other shopping platforms. And the fact is that there isn't any products or service particularly targeting the area of snack-intake-control. I was actually quite surprised when I found out that it is still a blank in the market, especially under the trend of market segmentation. Then I feel like, if people have the need, yet, there are no products satisfying their needs, then there are opportunities. But, one thing to be clear, I'm actually not aiming for the commercial thing, or aiming for creating something to earn money. I simply just want to design something is needed or something useful and valuable.

At last, experimental potential. So, after I found out that the area of snack intake control is still is a blank in the market, I started searching it on design websites. I kind of assumed that, at least, it is a subject worthy discovering among designers, I assumed that some of the designers might have already created something towards this issue. I tried many design websites, for example, Behance, Yanko Design, Pinterest and so on. But what really surprised me is that, I couldn't even find any design or even just design concepts targeting this. I was actually quite shocked, but, to be honest, in the meanwhile, I felt super excited. Because, for me, it actually means, there is a very huge space for me to explore. I can really design something new, cuz no one has designed anything before.





Design brief

What is the project about?

The intake of snacks has increased and the difficulty of controlling snack intake can be an important reason of overeating snacks. Yet, very few products or apps have designed aiming the snack-intake-control area. Therefore, there is a huge opportunity to explore this area and design some products/services to help people better control the snack consumption. And during the process, the goal of this project has refined, which is to help people reduce the likelihood of oversnacking.

Targeting group

Who can benefit from?

The direct beneficial group can be people who are struggling with the issue of snack overeating. It does not necessarily need to be the group of obesity. The target group can also be those people who have the intention to better control their daily snack consumption.

Research phase one

What do I need to know about snack in general?

What's the definition of snack? From Cambridge Dictionary, snack is defined as small amount of food that is eaten between meals, or a very small meal. (Dictionary Cambridge, 2019) From ScienceDirect, snacks are defined as smaller, less structured meal that are not eaten during regular meal times, such as breakfast (morning), lunch (midday), and dinner (evening). From Wikipedia, A snack is a small portion of food generally eaten between meals. (Wikipedia, 2021)

Processed snack foods, as one form of convenience food, are designed to be less perishable, more durable, and more portable than prepared foods. They often contain substantial amounts of sweeteners, preservatives, and appealing ingredients such as chocolate, peanuts, and specially-designed flavors (such as flavored potato chips). Beverages, such as coffee, are not generally considered snacks although they may be consumed along with or in lieu of snack foods. A snack eaten shortly before going to bed or during the night may be called a "bedtime snack", "late night snack", or "midnight snack".

Snacks come in a variety of forms including packaged snack foods and other processed foods, as well as items made from fresh ingredients at home. Traditionally, snacks are prepared from ingredients commonly available at home without a great deal of preparation. Often cold cuts, fruits, leftovers, nuts, sandwiches, and sweets are used as snacks. With the spread of convenience stores, packaged snack foods became a significant business. Snack foods are typically designed to be portable, quick, and satisfying.



The etymology dictionary:

Snack (v.)

c. 1300, "to bite or snap" (of a dog), probably from Middle Dutch or Flemish *snacken* "to snatch, snap; chatter," which Watkins traces to a hypothetical Germanic imitative root **snu-* forming words having to do with the nose (see *snout*). The meaning "have a mere bite or morsel, eat a light meal" is first attested 1807. (Encyclopedia. 2019)



The etymology dictionary:

Snack (n.)

c. 1400, "a snatch or snap" (especially that of a dog), from *snack* (v.). Later "a snappish remark" (1550s); "a share, portion, part" (1680s; hence old expression *go snacks* "share, divide; have a share in"). Main modern meaning "a bite or morsel to eat hastily" is attested from 1757. *Snack bar* is attested from 1923. Commercial plural form *snax* attested from 1942 in the vending machine trade. (Encyclopedia. 2019)

What's the origin of snack? Throughout human history, the frequency and content of meals has varied. From ancient times, light foods or leftovers were consumed between meals. These tended to be natural, sweet foods that required little or no preparation, such as grapes, figs, or apples.

In nineteenth-century America, interest in snack foods shifted from natural foods to prepared commercial foods, with a high salt and sugar content. It is these processed foods that are considered snack foods in the early twenty-first century. America's first commercial snack foods were peanuts and popcorn, which were cheap, tasty, filling, and eminently portable.

Peanut and popcorn vendors sold their products on the streets, circuses, and fairs, and later at sporting events. One successful peanut vendor was Amedeo Obici, an Italian-born immigrant living in Wilkes-Barre, Pennsylvania. In 1906, he, along with another Italian immigrant, formed the Planters' Peanut Company. They constantly improved their products and packaging. To promote their products, the company adopted "Mr. Peanut" in 1917—a logo has appeared subsequently on almost every Planters package. (Wikipedia, 2021)

Both popcorn and peanuts were marketed to children and were connected with children's holidays. These characteristics have become standard for snack foods. Potato chips did not become popular until the 1920s, when Laura Scudder asked employees to iron two pieces of wax paper to form a bag. (Wikipedia, 2021)

What's the history of snack?

1900s

Like the 1893 Columbian Exposition that preceded it, the Saint Louis World's Fair in 1904 introduced new foods and beverages to millions of hungry fairgoers. Dr. Pepper, waffle cones for ice cream, hot dogs, hamburgers, cotton candy, and other "carnival foods" all became popularized for the first time at the fair. Meanwhile, Lombardi's became America's first pizzeria when it was licensed by the City of New York in 1905. Jell-O jiggled its way into our hearts after an advertisement in a 1902 issue of Ladies' Home Journal declared it to be "America's Most Famous Dessert" (though try telling that to apple pie). The only blemish in this otherwise unmarred snacking decade? Chalky Conversation Heart candies, which, despite their sweet sayings, are the last thing anyone wants to receive for Valentine's Day. (Snackhistory, 2019).

1910s

The world's most iconic sandwich cookie, the Oreo, was introduced in 1912 and sold in glass-lidded jars for 25 cents a pound. A year later, Life Savers "Pep-O-Mint" candies were released (although their signature hole didn't appear until 1925) in a tidy, tinfoil wrapper. The Tasty Baking Company revolutionized on-the-go snacking when it began to sell individual wrapped chocolate Tastykakes in 1914. Just don't tell that to Hostess: it claims that its cupcakes were the first individually wrapped snacks of their kind. We prefer to not have to choose between the two; both are welcome in our shopping carts (and bellies) any day.(Snackhistory, 2019).

1920s

While alcohol consumption suffered (at least theoretically) thanks to Prohibition, snacking flourished. Baby Ruth, Oh Henry!, Mounds, Mr. Goodbar, Mike and Ike, Reese's Peanut Butter Cups, Butterfinger, Health Bars, Nestle Drumsticks, and popsicles are all sweet, sweet byproducts of the Jazz Age. 7-UP was launched in October of 1929 and initially contained lithium citrate, a mood-stabilizing drug that was likely enjoyed by frazzled consumers two weeks later, when the stock market crashed. (Snackhistory, 2019).

1930s

If you judged the 1930s by its snacks alone, you would have no idea that the economy was tanking. Twinkies, Snickers, Tootsie Pops, Fritos, 3 Musketeers, Ritz Crackers, Frito corn chips, 5th Avenues, and Lay's Potato Chips were all produced during the lean years of the Great Depression. The Girl Scouts of the USA didn't seem to be suffering much either; their cookie fundraisers became so popular that they began outsourcing the production of their sugar cookies to commercial bakers in 1936. (Snackhistory, 2019).

1940s

The involvement in World War II had the biggest impact on the snacking trends of this decade. Hershey's Chocolate Mars began producing M&Ms in 1941 due to a practical need for heat-resistant chocolates to send to soldiers overseas. Tootsie Rolls were also a popular addition to soldiers' ration kits. Government rationing on the homefront limited the domestic consumption of meat, butter, and sugar (among other necessities). For that reason, few new snacks were introduced until later in the decade. When rationing was lifted in 1947, Americans could once again indulge their sweet tooth in Almond Joys, Junior Mints, and Smarties. Cheetos were also introduced after the end of the war, marking the beginning of our torrid love affair with artificial cheese-flavored snacks. (Snackhistory, 2019).

1950s

After the war, America's thriving economy gave rise to fast-food franchises that achieved total world domination within a few short decades. McDonald's, Jack in the Box, Taco Bell, Denny's, Burger King, Kentucky Fried Chicken, and Pizza Hut all got their start thanks to this postwar boom. The rising popularity of "ethnic" snacks like pizza, tacos, and nachos showed that Americans were willing to venture outside of their culinary comfort zones. The invention and subsequent popularity of Cheez Whiz further proved that Americans were willing to venture outside the boundaries of good taste.(Snackhistory, 2019).

1960s

Sending humans into outer space may have been one of the greatest scientific and technological achievements of mankind, but we were way more interested in another aspect of space exploration: Astronaut Ice Cream. Sure, it doesn't taste nearly as good as actual ice cream and is way more expensive, but chomping down on that gritty Neapolitan slab is a gimmick that will never get old. Thanks to new technologies in food science, snacks in the '60s began to make the transition from "classic" to "cool." Inventors began to play around with new flavors, textures, and packaging. Experiments like Sprite, Tab, Pop-Tarts, Ruffles, Pringles, Lucky Charms, Hunt's Snack Pack pudding (first packaged in an aluminum, pull-tab can), Apple Jacks, Doritos, Funyuns, Starburst, Gatorade, and Diet Pepsi were highly successful. Others, like Celery Jell-O, weren't. (Snackhistory, 2019).

1970s

Writer Tom Wolfe dubbed the '70s the "Me Decade," making Eggo waffles the ideal snack representative of the era ("L'eggo My Eggo!"). With more women entering the workforce and feminists eschewing traditional roles, greater emphasis was placed on foods that didn't take much time or effort to prepare. One of the strangest applications of this trend was "Gerber Singles," precooked pureed foods like "creamed beef" and "Mediterranean vegetables" packaged in oversized baby food jars, designed for adults living on their own for the first time. While we enjoy eating foods that remind us of our childhood, this infantilizing product took the concept way too far. That's not to say that the '70s didn't produce some terrific snacks: Pop Rocks, Twix, Ben & Jerry's ice cream, Combos, Reese's Pieces, and the greatest thing ever to happen to broke college students: instant ramen. (Snackhistory, 2019).

1980s & 1990s

From teased and crimped hair to shoulder pads and stock portfolios, everything about '80s-era America was larger than life, and snacks were no exception. We have the '80s to thank for Cool Ranch Doritos, Fruit Rollups, Handi-Snacks, Crystal Light, Capri Sun, Teddy Grahams, and Diet Coke. Unfortunately, some of our favorite snacks went the way of Teddy Ruxpin and Betamax players. Smurf-Berry Cereal, Smurf Magic Berries, Hostess Pudding Pies, Fun Fruits, Squeezits and Keebler Magic Middles, Ecto Cooler. (Snackhistory, 2019).

2000s and Beyond

Present-day snackers enjoy a wider selection of snack foods than ever before, but also the terrible knowledge that almost all of them are horrible for our health. As a result, some of our favorite "unhealthy" brands came out with smaller 100-calorie snack portions for self-conscious dieters (meanwhile, the rest of us have to eat at least three packs to be remotely satisfied). Gross-out novelty candies have become the fastest-growing segment of the candy market in the United States; even Jelly Belly jumped on the bandwagon when it came out with a faithful recreation of Bertie Bott's Every Flavor Beans, enjoyed by the teenage wizards of the Harry Potter novels (rotten egg, bacon, earwax, dirt, vomit, and soap are some of the delectable "surprise" flavors). The soft drinks of the past begat extreme, high-powered energy drinks like Red Bull, Monster Energy, and 5 Hour Energy. Interestingly, the most controversial of these energy drinks, Cocaine, is named after one of the original ingredients of Coca-Cola. (Snackhistory, 2019).



Is snacking good or bad for people?

There are mixed opinions about snacking.

Some believe that it's healthy, while others think it can harm you and make you gain weight.

The term "snack foods" is often used to refer to processed, high-calorie items like chips and cookies. However, [snacking simply means to eat or drink something between meals](#), regardless of whether the food is healthy.

Hunger is the main motivation behind snacking, but factors like location, social environment, time of day, and food availability contribute as well. In fact, people often snack when appetizing food is around, even when they're not hungry. In one study, when people with obesity or excess weight were asked why they chose unhealthy snacks, the most common response was temptation, followed by hunger and low energy levels. (Wikipedia, 2021)

In addition, both the desire to snack and snacking's effects on health appear to be highly individualized. Factors that influence snacking include age and beliefs about whether this practice is healthy.



Does snacking boost your metabolism? Though it's been suggested that eating every few hours increases your metabolism, scientific evidence doesn't support this. Research indicates that meal frequency has no significant effect on how many calories you burn. One study in people consuming an equal number of calories in either two or seven meals per day found no difference in calories burned. In another study, people with obesity who followed a very-low-calorie diet for 3 weeks showed similar decreases in metabolic rate, regardless of whether they ate 800 calories as 1 or 5 meals per day. Yet, in one study, active young men who ate a high-protein or high-carb snack before bed experienced a significant increase in metabolic rate the following morning. (Healthline, 2019)

How snacking affects on appetite? How snacking affects appetite and food intake isn't universally agreed upon. One review reported that though snacks briefly satisfy hunger and promote feelings of fullness, their calories aren't compensated for at the next meal. This results in an increased calorie intake for the day. For example, in one study, men with excess weight who ate a 200-calorie snack 2 hours after breakfast ended up eating only 100 fewer calories at lunch. This means that their total calorie intake increased by about 100 calories. In another controlled study, lean men ate either three high-protein, high-fat, or high-carb snacks for six days. Their hunger levels and total calorie intakes didn't change compared with the days on which they ate no snacks, indicating that the snacks had a neutral effect. However, studies have also shown that snacking can help reduce hunger. In one study, in 44 women with obesity or excess weight noted that a bedtime snack high in protein or carbs led to decreased hunger and greater feelings of fullness the next morning. However, insulin levels were also higher. Based on these varied results, it appears that snacking's effect on appetite depends on the individual and type of snack consumed. (Healthline, 2019)

How snacking affects on weight? Most research indicates that snacking between meals does not affect weight. Still, a few studies suggest that eating protein-rich, high-fiber snacks can help you lose weight. For example, a study in 17 people with diabetes reported that munching on snacks high in protein and slow-digesting carbs resulted in an average weight loss of 2.2 pounds (1 kg) within 4 weeks. On the other hand, some studies in people with obesity or normal weight found that snacking may lead to slower weight loss or even weight gain. In one study, 36 lean men increased their calorie intake by 40% by consuming excess calories as snacks between meals. They experienced a significant increase in liver and belly fat. Some research suggests that the timing of snacks may affect weight changes. A study in 11 lean women revealed that consuming a 190-calorie snack at 11:00 pm reduced the amount of fat they burned significantly more than eating the same snack at 10:00 am. The mixed results suggest that weight responses to snacking probably vary by individual and time of day. (Healthline, 2019)

How snacking affects on blood sugar? Though many people believe that it's necessary to eat frequently to maintain stable blood sugar levels throughout the day, this isn't always the case. In fact, a study in people with type 2 diabetes found that eating only two large meals per day resulted in lower fasting blood sugar levels, better insulin sensitivity, and greater weight loss than eating six times per day. Other studies have reported no difference in blood sugar levels when the same amount of food was consumed as meals or meals plus snacks. Of course, the type of snack and amount consumed are the main factors that affect blood sugar levels. Lower-carb, higher-fiber snacks have consistently demonstrated a more favorable effect on blood sugar and insulin levels than high-carb snacks in people with and without diabetes. In addition, snacks with a high protein content may improve blood sugar control. In a study in 20 healthy men, eating a high-protein, lower-carb dairy snack led to lower blood sugar levels before the next meal, compared with higher-carb dairy snacks or orange juice. (Healthline, 2019)

Can snacking prevent ravenous hunger? Snacking may not be good for everyone, but it can definitely help some people avoid becoming ravenously hungry. When you go too long without eating, you may become so hungry that you end up eating many more calories than you need. Snacking can help keep your hunger levels on an even keel, especially on days when your meals are spaced further apart. However, it's important to make healthy snack choices. [Eating a snack is better than letting yourself become ravenously hungry.](#) This can lead to poor food choices and excess calorie intake.



What's the snack market like?

According to Mintel Group report, in 2013, the dollar value of the salty snack category was estimated at \$21.8 billion. The report also concluded that potato chips are the largest snack purchased with the maximum sales of about \$7.6 billion with an estimated market share of about 34.8%. (Wikipedia, 2021)

The revenues of chips and crisps are the most consumed compared to others. Recent marketing research data indicated that 47% of Americans purchase salty snacks and dips for snacking throughout the day and 35% are buying more snacks while eating fewer regular meals. (Wikipedia, 2021)

Here is a list of what can be considered as snack.

- 1 Batter and dough-based,
- 2 Confectionery
- 3 Cookies, cakes and pastries
 - 3.1 Cookies
 - 3.2 Cakes
 - 3.3 Pastries (scone, bun, pie,
- 4 Drinks
- 5 Frozen (ice cream, milkshake, ice pop,
- 6 Natural snacks
 - 6.1 Fruits and vegetables
 - 6.2 Seeds, nuts, grains and legumes
- 7 Savory snacks (French fries, onion rings, spring roll, yogurt,
 - 7.1 Bars (energy bar,
 - 7.2 Bread/sandwiches (croissant,
 - 7.3 Cheese
 - 7.4 Chips/crisps
 - 7.5 Crackers/biscuits
 - 7.6 Meat-based (bacon, dried meat, dried fish, hot dog,
 - 7.7 Noodles

How often and how much do people snack?

How often do people snack?

In the United States, a typical consumer takes about 2.12 snacks per day, and children consume snacks on an average of 6 times a day, approximately twice as often as in the 1970s. (NPR, 2010)

NPR's Allison Aubrey reports on new data that shows snack time is no longer just a once or twice-a-day habit. So, it's fruits for these middle-schoolers in Somerville. That's a good start. But according to researcher Barry Popkin, this is not the norm.

He studied the eating habits of some 31,000 children using a nationally representative survey. And he found two things. First, kids are eating very frequently, probably long before hunger pangs set in. Twenty percent of children are snacking up to six times a day. (NPR, 2010)

"My data shows indeed kids are eating every few hours now," said Professor Barry Popkin (Nutrition, University of North Carolina). "That's not how we ate 20 and 30 years ago. And, in fact, between the '70s and the '80s and between the '80s and '90s, and now again we keep adding snacking events every day." (NPR, 2010)

"One of the most striking trends researchers see in these numbers is what's happened to the eating habits of the preschool set. Children two to six years old have become big time snackers eating one to two more times each day compared to a child of the 1970s," said Aunrey. (NPR, 2010)

"It used to be you'd have three meals a day. And if you snacked, it was unsweetened tea or coffee," said Popkin. "Nowadays, everywhere you turn there's food. If you're driving, you have a big bag of Doritos next to you while you drive."

How much do people snack?

A 2010 study showed that Americans eat roughly 570 calories more per day than they did in the 1970s. While supersize portions are partly to blame, steady snacking is the bigger culprit. (Wikipedia, 2021)

"When a similar survey was conducted in the 1970s that found children were consuming most calories during meal time, but today almost 600 calories a day come from snacking and drinking in between meals," said Aunrey. (NPR, 2010)

"We're a generation of constant eaters," said Barry Popkin, distinguished professor of nutrition at the University of North Carolina at Chapel Hill.

Popkin used surveys to probe the American diet since 1977. Americans began eating more in the '80s and '90s, but in recent years, they've begun eating and drinking more often -- like almost all the time. (NPR, 2010)

"We joke about the 'see food' diet. We see food and we eat it," said Katz, explaining how Americans have come to expect food at every turn. "People panic at the thought of spending a couple of hours somewhere where there might not be refreshments on hand."

"We're no longer eating at a table with a knife and fork," said Keith Ayoob, director of the Rose R. Kennedy Center Nutrition Clinic at Albert Einstein College in New York City. "As a society, we think it takes too long to eat a bowl of cereal. We want a breakfast you can hold in one hand."

"We have to focus a lot more attention on cutting down how often we eat if we're truly going to do something about this as a society," he said. But in a world where people are perpetually bombarded by food and drink advertising, it won't be easy. (NPR, 2010)



What do I need to know about oversnacking in general?

What's the definition of oversnack?

There is no such a specific term wildly used as oversnack. However there is some research about overeating which I can compare to.

From Cambridge Dictionary, overeat is described as to eat more food than your body needs, especially so that you feel uncomfortably full. (Dictionary Cambridge, 2019) From Wikipedia, overeating is the consumption of excess food in relation to the energy that an organism expends (or expels via excretion), leading to weight gaining and often obesity. It may be regarded as an eating disorder. (Wikipedia, 2021)

This term may also be used to refer to specific episodes of over-consumption. For example, many people overeat during festivities or while on holiday. Overeating can sometimes be a symptom of binge eating disorder or bulimia. Compulsive over eaters depend on food to comfort themselves when they are stressed, suffering bouts of depression, and have feelings of helplessness.

What's the relation between oversnacking, obesity and binge eating disorder?

Worldwide rates of obesity have more than doubled in the past three decades, with approximately 1.9 billion people classified as overweight (BMI > 25 kg/m²), and 600 million classified as obese (BMI > 30 kg/m²) (World Health Organization, 2016). This so-called 'obesity epidemic' has been attributed to a range of environmental, behavioral, and biological factors, and one theory holds that an 'addiction' to high-calorie foods may underlie some cases of obesity (e.g. Kenny, 2013).

More than one-quarter of adults in the United States are obese, according to a 2010 report from the Centers for Disease Control and Prevention -- a proportion that has steadily grown over the past 30 years as Americans tend to "eat more and do less," said Dr. David Katz, director of the Yale University Prevention Research Center. (Wikipedia, 2021)

The concept of food addiction is widely debated throughout the scientific community, and several researchers have contested the view that food can be addictive in the same way as drugs of abuse (Carter et al., 2016; Hebebrand et al., 2014; Ziauddeen, Farooqi, & Fletcher, 2012).

Recent surveys show that [86 percent of community samples believe that certain food are addictive](#), and 72 percent hold the view that food addiction is to blame for the increased prevalence of obesity (Lee et al., 2013).

Support for the food addiction concept appears to be particularly popular amongst those with increased weight status (Lee et al., 2013); for example, individuals with increased BMI were more likely to believe that they are addicted to food (Ruddock, Dickson, Field, Hardman, 2015). In addition, research suggests that the term food addictions commonly used by members of the lay public to refer to a range of eating behaviors such as reward-driven eating, a preoccupation with food, and regular cravings.

Obesity is common in persons with binge eating disorder (BED), as is depression, low self-esteem, stress and boredom. Those with BED are also at risk of Non-alcoholic Fatty Liver Disease, menstrual irregularities such as amenorrhea, and gastrointestinal problems such as acid reflux and heartburn.

Binge eating disorder is an eating disorder characterized by frequent and recurrent binge eating episodes with associated negative psychological and social problems, but without the compensatory behaviors common to Bulimia Nervosa, OSFED, or the Binge-Purge subtype of Anorexia Nervosa.

The term binge eating means eating an unhealthy amount of food while feeling that one's sense of control has been lost. The main symptom of binge eating disorder is eating a lot of food in a short time and not being able to stop when full. Binge eating is one of the most prevalent eating disorders among adults.

“In the U.S, it is estimated that 3.5% of young women and 30% to 40% of people who seek weight loss treatments, can be clinically diagnosed with binge eating disorder.” BED cases usually occur between the ages of 12.4 and 24.7, but prevalence rates increase until the age of 40.(Wikipedia, 2021)

While people of a healthy weight may overeat occasionally, an ongoing habit of consuming large amounts of food in a short period of time may ultimately lead to weight gain and obesity. Bingeing episodes usually include foods that are high in fat, sugar, and/or salt, but low in vitamins and minerals, as these types of foods tend to trigger the greatest chemical and emotional rewards, which is normally considered as snacks.

As with other eating disorders, binge eating is an "expressive disorder"—a disorder that is an expression of deeper psychological problems. Binge eating disorder commonly develops as a result or side effect of depression, as it is common for people to turn to comfort foods when they are feeling down. (Wikipedia, 2021)

The relationship between strict dieting and binge eating is characterized by a vicious circle. Binge eating is more likely to occur after dieting, and vice versa. Underlying this is a profound lack of self-esteem. This leads vulnerable people to be extremely concerned about their shape and weight, about how they are viewed by others, and can drive them to go on strict diets.

The dieting then encourages overeating through both physiological and psychological mechanisms. The bingeing causes guilt and to compensate, people diet again. The only way to break this cycle is to stop dieting. People's binges set them up to restrict their food intake, and their diets set them up to binge.

Critical thinking / Experimental design

How can I arouse people's awareness?

Paying more attention on our health has become a trend. However, people are more relying on building a healthy eating habit towards meals than snacks. If you think about those unhealthy food intakes, you will notice that they normally come from snacks. In fact, people overlook the existence and the importance of snack to our health. It happens quite often that after a decent healthy dinner people start to eat unhealthy snack and oversnack. The mindset behind is that I have had a health meal so that I can eat whatever I want and how much I want for snacks.

During research, I started to realize that snack has been playing a more important role in our life than we thought. However, people (me included) somehow neglect the impact of oversnacking to their health. The fact is that our eating patterns have changed a lot in the last decade, but our mindsets towards snacking still haven't adapted.

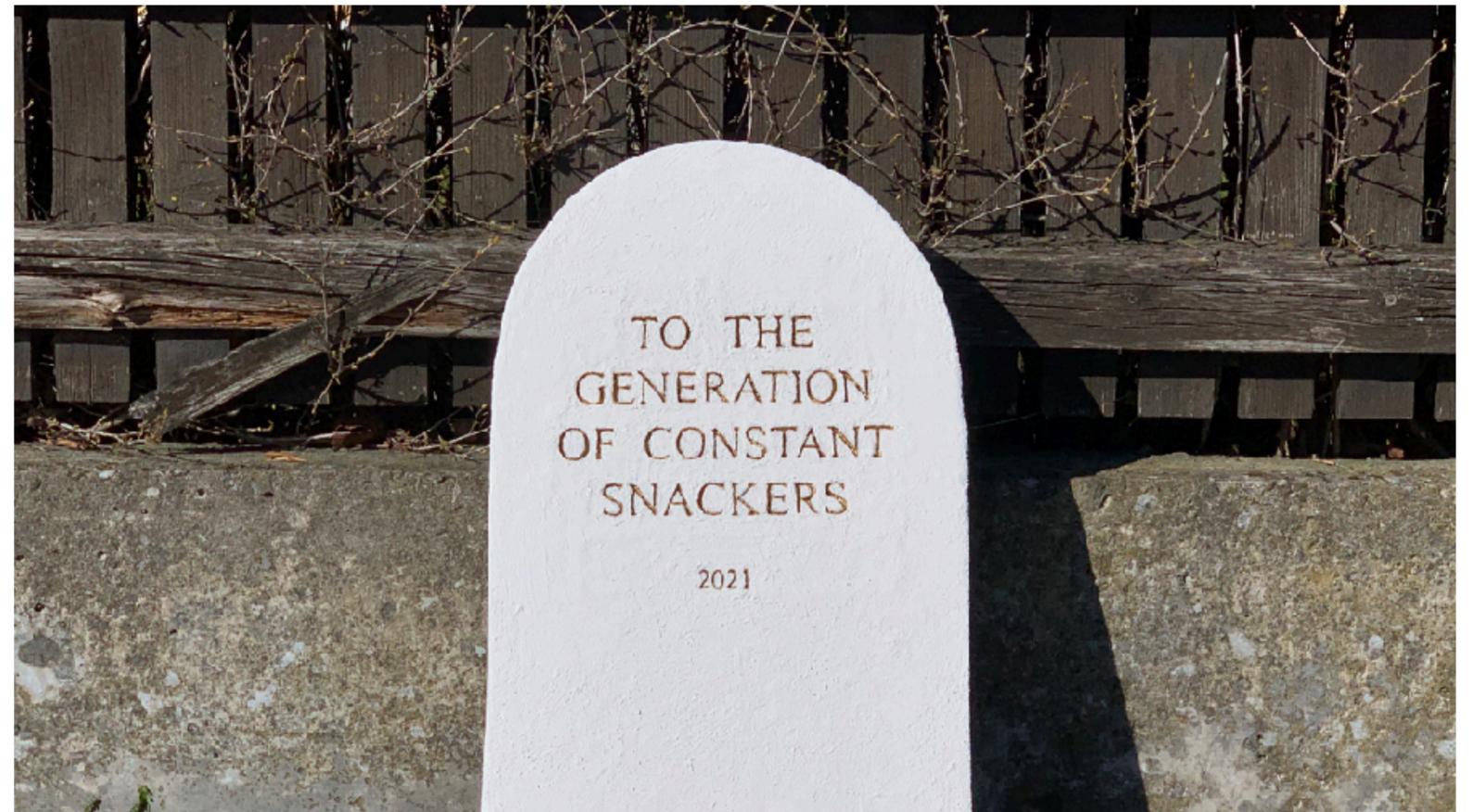
Constant snacking has become a new normal.

Awareness matters.

At a certain point, the sense of responsibility hits me. As a designer, I have the faith of designing something to make the world a better place, and health related topics such as snacks are of course included.

Then, I decided to make a side project to educate people, to arouse people's awareness. I found this step meaningful. Not only to my project, but to all of us - the generation of constant snackers. Even though it is not my final design, but as a part of the whole master thesis project, I do find the necessarily as well as the responsibility of me doing it. Therefore, I started to make an experimental and critical design to arouse people's awareness towards oversnacking.

After brainstorming and analysis, I decided to make a gravestone and carve it with text: TO THE GENERATION OF CONSTANT SNACKERS, and paint it with golden color. The idea is to put the gravestone on the street, and bury it with chips instead of earth to create the ironic vibe. Also, I made some posters with the significant facts I gathered about snacks and oversnacking, and I put those posters on the wall next to the gravestone for people to read, as a way of education. It might be a little offensive, but this is what it supposed to be, as a critical object, as a method of provoking.



What did I do with the gravestone?

It was more like an on-street exhibition.

It was on Sunday, 21st of March. At Lund, Sweden. Sunny but windy. I left home around 9am. With my friend's help, I carried this gravestone I have made a week ago to the spot where I have decided two days ago.

The place I picked is also quite intentional. It is rather close to a big local supermarket called Coop which is the place where people buy snacks. So, the idea is that people go to the market passing by the critical gravestone which delivers the message of not consuming too much snacks.

As I planned, after I arrived there, I first went to the market to buy the materials I needed, including one bag of soil, three bags of potato chips and a bag of sticker for my posters.

Then I started to assemble the materials. First, I put the soil around the gravestone, and then I pour the potato chips on the top of the soil. And then I put the posters which I have designed and printed on the wall next to the gravestone.

I finished assembling around 10am, and stayed till the sunset. There are quite a lot of pedestrians passing by, even though it was Sunday. Many of them stopped, took pictures and then read the posters I put next to the gravestone. In the meanwhile, I was sitting across the street on a bench observing and filming the whole day.



TO THE
GENERATION
OF CONSTANT
SNACKERS

2021

What are the posters about?

New normal

1970s vs Now

According to a study, people eat roughly 570 calories more per day than they did in the 1970s. And today, almost 600 calories a day come from snacking in between meals. While supersize portions are partly to blame, steady snacking is the bigger culprit.

Has the pandemic made you more likely to snack?

“The pandemic has definitely contributed my oversnacking. Because I’m at home more, so I’m closer to my food. I have less things to do at home, less variety in my schedule. If I get bored, then it is easy to get a snack. So, I would say that the pandemic has increased the snack incapability.”



We're a generation of constant snackers

The "See Snack" Diet: We see snack and we snack it.

In recent years, people have begun snacking more often--like almost all the time. A typical consumer in the US takes about 2.12 snacks per day, and children consume snacks on an average of 6 times a day, approximately twice as often as in the 1970s.



TO THE
GENERATION
OF CONSTANT
SNACKERS

2021

The message I wanted to send is successfully delivered.

What really surprised me, is that, there were many people shown a great interest to this object and to my project. Many of them came to me to have conversations about this idea, about what do they think of the increasing snack intake in their daily lives. Apparently, people think after seeing this ironic gravestone, which satisfies me.

As I mentioned, this experimental and critical gravestone project is for arousing people's awareness towards oversnacking. And after the whole day observing, I would say, mission accomplished.

Research phase two

What are the existence ways to reduce snack intake?

I have read over forty journals and articles related with the topic of snack intake control. The main method I chose is thematic research.

It is a wide range of reading, including the medical reports, psychological studies, sociological researches, experiments, etc. But most of the materials I read is about why people easily overeat snacks and what the ways are to reduce snack intake.

Review of literature

After thematic literature reviewing, I found out that many studies have indicated that distractions increase snack/food intake. For example, researches indicated that watching television increases snack intake (Bellissimo, Pencharz, Thomas, & Anderson, 2007; Ogden et al., 2013).

Likewise, distractions such as listening to a story (Long, Meye, Leung, & Wallis, 2011), listening to music (Stroebele & de Castro, 2006) and playing a computer game (Chaput et al., 2011) increase the possibility of overeating.

All of these studies show that distraction leads to the lack of self-intake monitor, therefore, it is easier to overeat. Then, I start to think, can mindfully eating help reduce snack intake and by how?

A journal brought up an idea that regularly rating fullness while having a meal in one course would increase the satiety and reduce the intake in the subsequent course (Elanor C. Hinton, et.al., 2020). They made an experiment to test their hypothesis and the outcome shows that only weak evidence was found between regularly rating fullness during a meal and the food consumption.

It is rather a disappointing result until I notice the flaw in the experiment. The hypothesis of this experiment is based on a proved finding that twelve-months training with the Mandolean leads to the reduction in meal size (Ford et al., 2010).

The finding was based on a twelve-month training, but the researchers used the same device to testify their hypothesis and came into a conclusion only after one-episode test instead of a long-term observation. Therefore, the outcome lacks its validity.

But it reminds me that modifying eating behaviors may be a way to reduce snack intake, such as eat mindfully and focus on current satiety while eating. Then I started digging into the connection between mindfully eating and food intake.

Three articles have proved that mindfully eating leads to the decrease of the snack intake. (Arch et al., 2016; Fisher, Lattimore, & Malinowski, 2016; Seguias & Tapper, 2018). Wansink and Sobal (2007) also encourage people to eat manfully to better control their food consumption, for example, self-monitor their eating process and food intake. All of them have shown the importance of the mindfully eating and the potential of being applied in design, in psychological wise.

Another finding in term of psychology worth mentioning is that people are easier to overeat the food labelled as ‘snack’ than labeled as “meal” (Jane et al., 2017). The research shows that food intake is influenced by cognition. Similarly, a research has shown the connection between food intake and the language on food. For example, Irmak, Vallen, and Robinson (2011) indicated that participants consumed more sweets when given the healthier label “fruit chews” compared to the less healthy label “candy chews”.

Likewise, A research indicates that noticing the “healthiness” of food can influence consumers' valuations of the energy density and the appropriate size which leads to overeating (Faulkner et al., 2014).

Wansink and Chandon (2006) also brought up an argument that the guilt of overeating may be reduced by knowing that the food is healthy, therefore, it is easier to overeat when people perceive the “healthiness” of food.

[However, can these findings be applied in design? None of those articles mentioned. I think it is challenging to reflect subconscious and social cognition into design and change people’s eating behavior.](#)

Some studies also show that the environment factors can trigger overeating, such as the container size, the ambience, the lighting and the color (DiSantis et al., 2013; Stroebele & de Castro, 2004; Wansink, 2004).

It has proved that environments can subconsciously alter people’s perception of a “normal” portion size meal (Robinson et al., 2016). Similarly, research has wn that stop eating or snacking requires mental resources (Herman & Polivy, 2004).

One finding shows the potential of being applied in design, especially referring to color selection. Oliver (2012) brought up an idea that when people receive a single of “stop”, the self-monitoring increases, therefore, the risk of overeating decreases.

The study investigated the role of color on snack intake, and the outcome shows that even subtle red color can reduce the snack consumption (Oliver et al., 2012).

Apart from psychological ways and environment factors, physical interventions can also affect snack/food consumption.

Many articles have proved that interventions can shape diet-related behaviors (Hollands et al., 2013; Hollands, Bignardi, et al., 2017), such as the distance of positioning food. Increasing the distance between people and snacks decreases the possibility of them eating snacks (Bucher et al., 2016; Hollands, Carter, et al., 2017).

However, one study (Jennifer et al., 2017) found a limitation that the main participants of most of the experiments proving placing unhealthy foods further way reducing the intake are university staffs and students (Maas et al., 2012; Painter, Wansink, & Hieggelke, 2002; Privitera & Creary, 2013; Privitera & Zuraikat, 2014; Rozin et al., 2011; Wansink, Painter, & Lee, 2006).

The researchers stated that this population has high education backgrounds, therefore they likely have high cognitive resource levels. They found a knowledge gap that the current evidence for whether the effect is moderated by cognitive resource is limited.

To testify their hypothesis, they recruit larger samples with both high education background and low education background participants in. And the outcome of their experiments provides the convincing evidence that the intervention of placing food further away reduces the likelihood of consumption is unlikely related with cognitive resource (the education background).

In a way, the outcome further proves that a wider range of the population can be benefited from interventions of reducing snack intake. In another word, there is a large target group.

Another thing worth mentioning is that, the researchers (Jennifer et al., 2017) wrote, “this effect could be capitalized on in designing real-world environments such as cafeterias or supermarkets, where products can be repositioned to alter their degree of convenience for potential consumers e.g. moving less healthy foods from front to back rows of cafeteria buffet arrangements.” It further increases my confidence in the research I am doing, that, it is possible to apply those findings to the real life to reduce snack intake, through design.

Even though, the intervention of increasing the distance of snacks can hardly be applied in individual case. But, as long as the impact of reducing snack intake by interventions has been proved, the intervention can be transformed into other forms by design. In addition, many studies have proved that decreasing eating rate by chewing thoroughly can reduce the food intake (Otsuka et al., 2006; Spiegel, Wadden, & Foster, 1991).

One of the experiments broadened my design thinking. A research focused on studying the connecting between water intake and the risk of overweight. The result shows that by promoting water intake, the risk of overweight reduced 31% (Muckelbauer et al., 2009). It shows that promoting “non-calorie” intake can be a useful strategy to indirectly reduce the snack intake.

Another experiment also shows the potential of being applied in design. A study indicated that pouring sequence affects composition (muesli and yogurt) therefore affects calorie intake (Andreas et al., 2019).

The outcome shows that people have visual biases, especially the perception of the portion and the consumption of food (Ordabayeva und Chandon, 2016). People tend to incorrectly estimate the size and the volume of three-dimensional things (Krishna, 2007). This finding shows the importance of using reference to correctly estimate food weight to reduce snack intake.

In sum, many researches have provided convincing findings to reduce snack/food intake, in the aspects of psychology, cognition, environmental factors, interventions and other forms.

Primary Research

After the literature review, I have divided all the findings of reducing snack intake into four categories: psychological ways, environmental factors, interventions and others.

Among all the categories, most of the psychological findings can be considered as the hardest findings to be applied in design, including: a. Eating mindfully, focusing on current satiety while eating, self-monitoring the eating process and consumption can reduce snack intake; b. Labelling snack as “meal” instead of “snack” can lower the possibility of overeating; c. Noticing the “healthiness” of snacks diminishes the guilty of overeating which leads to overeating.

As I wrote before, it is indeed challenging to reflect subconscious and social cognition into design and change people’s eating behavior to reduce snack consumption, it might also be why all those studies didn’t mention how to apply those findings into real life. However, the element of “self-monitor” in the first finding shows the potential of being applied in design. For example, it is very likely to create a weighting product monitoring the decrease of snacks while eating and constantly notifying the user how much has the user eaten already. And constantly rating the fullness can be a way of self-monitoring. Based on this concept, the product can even connect with cellphone so that the users can get the notification from their screen.

As for the environmental factors, the container size, the ambience, the lighting and the color can all trigger overeating, according to the researches. Compared with controlling the ambience and the lighting, the container size and the color appear much easier to put into the consideration of design. And compared with the right use of color, the use of container size requires further research. The following research should be what kind of size or portion works the best to reduce snack intake.

As for the interventions, it has proved that increasing the distance between people and food decreases the possibility of them eating food. The distance control seems hard to be applied to product design. But given the logic behind is that placing unhealthy food further away increases effort required to obtain the food, it has the potential to reduce chances of eating snacks. It shows that this type of intervention can be transformed into other forms.

Creating other types of intervention and increasing the efforts of opening a snack container can be a design strategy. For example, users can only open the snack container by solving a math quiz. The ways of intervention can be varied. The rest of the findings in the category “others” includes: a. Decreasing eating rate and prolonged chewing can reduce snack consumption; b. Promoting “non-calorie” intake can reduce snack intake, such as drinking more water; c. Incorrectly estimating the volume of snacks in a bowl or a plastic bag can result in overeating.

The first and the third seem suitable of being applied in a product with a weight monitor and a sensor of weight decreasing rate. The weight monitor can help users know the accurate weight of the snack in a container, and the sensor tells users if the weight in the bowl has dropped too fast which means the user has eaten snacks too fast. As for the second finding, it appears that app design would be more suitable for sending notification of drinking water to users while they eating snacks or before they eat snacks.

In sum, except from two findings in the category of psychological ways showing the difficulty of being applied in design and one finding requiring further research support, the rest of the findings have shown the potential to be applied in design. Also, it has shown that applying multiple findings to one design can be a good solution. In addition, it appears that product design and app design can be a good combination. However, it certainly needs further experiments to test the function and the effect of the design in real life.

Argument

All the researches have proved that there are multiple ways of reducing the snack intake. Regarding the increasing snacks intake and the difficulty of controlling snack intake (Piernas & Popkin, 2010), it is rather important to apply the existing findings of snack intake control to design to help people reduce snack consumption.

The possible ways of applying findings to design can be:

- a. Design a product monitoring the decrease of snacks while eating and constantly notifying the user how much has the user eaten through the product itself or through an app. Constantly rating the fullness on the app can also be a way of self-monitoring.
- b. Choose the color of red for the color selection process to subtly deliver the message of stopping eating snacks.
- c. Design interventions to increase the efforts of opening a snack container. For example, users can only open the snack container by solving a math quiz. The ways of intervention can be varied.
- d. Design a weight monitor with a sensor of the weight decreasing rate. The weight monitor shows the accurate weight of the snack and the sensor tells users to slow down when it detects that the user’s eating rate is too high. It can be applied both in product design and app design.
- e. Design an app connected with a product and send notifications of drinking water to the users every time they open the snack container.

Conclusion

In conclusion, many researches have provided convincing findings to reduce snack/food intake, yet they hardly mentioned how to apply those significant findings to the real life. After summarizing, categorizing and analyzing, five findings have shown the potential of being applied into design. Based on the theories, I brought up five design concepts. It appears that combining all these five concepts into one design can be a solution to magnify the impact of the design.



What does the authority recommend for healthy snacking?

Tips for healthy snacking from the magazine Healthline:

1. Amount to eat. In general, it's best to eat snacks that provide about [200 calories](#) and at least 10 grams of protein to help you stay full until your next meal. 2. Frequency. Your number of snacks varies based on your activity level and meal size. If you're very active, you may prefer two to three snacks per day, while a more sedentary person may do best with one or no snacks. 3. Portability. Keep portable snacks with you when you're out doing errands or traveling in case hunger strikes. Snacks to avoid. Processed, high-sugar snacks may give you a brief jolt of energy, but you'll probably feel hungrier an hour or two later. [When snacking, be sure to eat the right amounts of food](#) and right types of food to reduce hunger and prevent overeating later on.

Three ways to practice healthy snacking from government of Canada:

1. Choose healthy snack foods. 2. Eat your snacks mindfully. Eat your snacks slowly and without distractions, such as watching TV. [Choose small portions. Serve a small amount for your snack and try not to eat directly from large containers.](#) Eat snacks when you feel hungry, and not just out of routine or when you feel tired, bored or emotional. 3. Think about your snacks ahead of time. Think about healthy snacks when planning your meals and add them to your grocery list. Follow the healthy eating recommendation to help make it easier to plan ahead.

Interviews

What can I learn by hearing from interviewees in their own words?

There's no better way to understand the hopes, desires, and aspirations of those I'm designing for than by talking with them directly. This is basically why I conducted this interview section. I made 15 offline interviews and one online interview. Due to Covid-19, it was not easy for me to arrange the meetings with my interviewees, offline. Therefore, the main group of the interviewees were actually from my class. Though, I tried to ask those classmates who are from different region, including Africa, America, Australia, China, German, Iran, Netherlands, Spain and Sweden, trying to be [more diverse](#). There are 8 females and 8 males in total.

The place where the interviews was held is at school's photo studio. It took me five days to finish all the interviews. And there are [more than 700 minutes](#) of the interviews recorded as video tapes. Each interview takes from 30 to 60 minutes, varies from person to person. I prepared around 45 questions for each interviewee. The questions goes from easy to deep, from yes-or-no question to open-ending question. Also, during the interview, I shared some of my research with them to see how they react and to hear what they think.

The interview process.

Before started, I always ask my interviewees some random easygoing questions to make them relax. Smooth music played. And after 5-10 minutes chat, I turn the camera on and claim something to them and remind them of some details for the interview.

Including:

1. Have you muted your phone?
2. Is it fine for me to use this video recording as a material of my final video?
3. I might even publish the tape (after editing) if I feel like the conversation we had is very educational or worth spreading. Do you feel fine about that?
4. It is better if you can answer your question by a full sentence. For example: I might ask, "do you like snacks?". It's better if you answer "I love snacks" than simply say "I do" or "no I don't"
5. I might not response to you often, for not interrupting your answer.
6. The first three questions, please try to answer it simply, because the questions will gradually go deeper.





Here is a list of interview questions.

What's your name?

Where are you from?

Do you eat snacks?

Do you like snacks?

What kind of snack do you normally eat?

What's your favorite snack?

How do you feel about snacks, or when you hear the word snack, what are you thinking of?

Do you consider the word snack as something positive or negative? Or neutral?

Do you consider snacking addictive? And why?

What is your definition of snack?

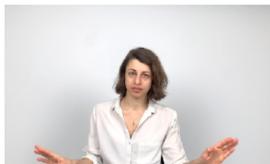
Has the pandemic made you more likely to snack?

How often do you snack per week?

How often do you snack per day?

At what time of a day do you usually eat snacks?

Would you rather eat three big meals per day with no snacks, or eat several small meals and have snacks between meals? And why?



Do you think you could go a month without any snacks?

Where do you usually eat snacks?

Do you snack when you are not hungry? Why?

Do you snack when you feel bored or stressed?

Have you ever replaced meals with snacks? And why?

Do you normally eat snacks straight from the package, or do you put them in a bowl and then eat them? And why? While you snacking, there are very few snacks left in the package but you already feel a bit full now, will you stop snacking directly or will you finish the package?

Compared with directly eating from the package, do you think eating snacks from a bowl will reduce the likelihood of eating too much snacks?

In terms of snacking, how do you define overeat and to what extend is overeat?

What if, before I started eating snacks, I feel like I only wanted to have three pieces of crisps, but turned out, after three pieces, I just kept eating, and I ended up eating a lot. Though I didn't have a physically uncomfortable feeling, but still, I over ate the amount I expected, or maybe I ruined my appetite for the upcoming meal. So, in this case, you eat more than you should or you eat more than you expected, would you consider this as overeating snacks?

Have you ever experienced that you eat more than you expected, or you eat more than you should, in terms of snacking? And how often is that?

In your opinion, what made it happen?



In your opinion, what makes it so easy to eat too much snacks?

Do you tend to eat too much snacks with friends or alone?

Many people complained that once they started snacking, it is hard to stop. Have you had this kind of experience?

In your opinion, why is it so hard to stop snacking once you started?

Do you normally feel guilty after you eat too much snacks? How do you address the feeling of guilty after oversnacking?

At what time of a day you find yourself more likely to eat too much snacks? Or, in what kind of circumstances do you find yourself very easy to eat too much snacks?

Now, I'd like to share some of my research with you, and then maybe we can have a short conversation about this topic.

“In recent years, people have begun snacking more often. A study shows that a typical consumer in the United States takes about 2.12 snacks per day. And children consume snacks on an average of 6 times per day, which is twice as often as in the 1970s. And according to another study, people eat roughly 570 calories more per day than they did in the 1970s. And almost 600 calories per day come from snacking.” So, how do you feel about it?

Have you ever experienced eat too much snacks so that it made your stomach a bit uncomfortable? If you had, how often is that and in what kind of circumstances?

After you received the signal from your body, do you normally eat slightly more snacks or you just directly stop snacking?

What are your ways to prevent yourself from eating too much snacks?

While you are snacking, how do you control or how do you remind yourself not to eat too much snacks?

For those people who are struggling with eating too much snacks, do you have any advices or tips to them?

Have you ever experienced eat too much snacks so that it makes yourself a bit harder to fall asleep?

If there is a product or service help you better control your daily or weekly snack consumption, will you consider to have one?

If, there is a product or a service which helps you better control your daily or weekly snack consumption, what would this product or service be? Tell me the very first idea popped into your mind.

Would it be a product, or would it be an application? What kind of services or functions do you want the product to provide?

NOTE: If the interviewee is a strict/healthy “snacker” who controls the daily snack consumption well, then all the questions will focus on How do you control yourself not eating too much snacks? What are your ways to do so?



What did they say?

Sheida Amiri Rigi:

"I feel like snack is something you are not supposed to eat, because it ruins your appetite, even it's a healthy food. It is sort of negative in my mind."

Lisa Laugs:

"I think the word 'snack' has a negative connotation on it. When I think of snacks, I feel like in society it is considered as a negative thing. I feel like, you are not supposed to snack, and in my head, snack can be equal to unhealthy food. In Dutch, we have a word for food between meals, called 'Tussendoortje', it has a very neutral meaning."

Jakob Lindstrand:

"I think sugar is why snacks are so addictive. It seems like we all love those unhealthy things, everything that is unhealthy is tasty somehow. The desire of chewing something. Have you noticed that people tend to put things in their mouth? Lollipop, candy cigarette, our fingers. We always want to put things in our mouth."

Andrea Santivanez:

"The pandemic has definitely contributed to my oversnacking. Because I'm at home more, so I'm closer to my food. I have less things to do at home, less variety in my schedule. If I get bored, then it is easy to get a snack. So, I would say that the pandemic has increased the snack incapability."

Jinglin Wang:

"I have experience overeating snacks. For me, it's quite easy, when you start eating, you lose a bit of control. Especially, snacks can be very salty and addictive, so you don't really want to stop eating."

Maximilian Alexander Bubenheim:

"I think we all overeat, to be honest. I think the problem is we eat a lot and we don't give our body the time to digest the food. I think overeating is that the moment you feel full, and that you still continue to eat, that's overeating. And I think I have to happen to me a lot more than I'd like to admit."

Zeyu Jiang:

"I think oversnacking and obesity is a structure problem. It's also about habits. I think we need to educate people about nutrition and how to eat to feel happy and healthy. Individual level, try to replace those unhealthy snacks with healthy snacks. Do more sports, more social activities. Being active and try to stay in a good mood."

Natalie Bhanji:

“Evening while I relaxing, watching movies or series would be the time I tend to oversnack. And I snack while watching, that is when I tend to overeat a lot, because you are not fully focused on eating. The main task you are focusing on is watching, so you just eat subconsciously.”

Jakob Lindstrand:

“If I eat with others, I might think about the presentation. If I'm alone, I might just directly form package.”

Christina Zhou:

"I put things on a plate or on a bowl, to grab the feeling of having a special moment, I really like to present it nicely on a plate or on a bowl. But sometimes, I have exceptions, when I'm hungry or lazy I'll just directly eat from package.”

Charles Kumor Parker:

“I normally snack straight from the package, and I think it's bad to eat them from the package. Because you have a bag in front of you, and you just open it, the moment you open it, you, kind have this feeling like, oh, I just opened something permanently, maybe I should finish it. So, I should've put them into containers. But, it's just convenient to open the bag and just eat it from the bag.”

Jaxon Pope:

“I prefer putting snacks in a container. Because if I snack from bag, I lose concept about hoe much I have consumed, and I don't like that I don't understand. But if I put snacks into a container, I can visualize the amount of snacks I'm about to eat and I know how much I have consumed.”

Max van der Mars :

“While you are snacking, I think you should control yourself by creating a dose, like create a portion. And being aware of while you are snacking. Sometimes I created a bowl, I'm pretty full, and then I still finish it, because I think it is stupid to throw is away and I'm not gonna put them back to its packaging, and then I oversnack for sure. And it's happening sometimes. ”

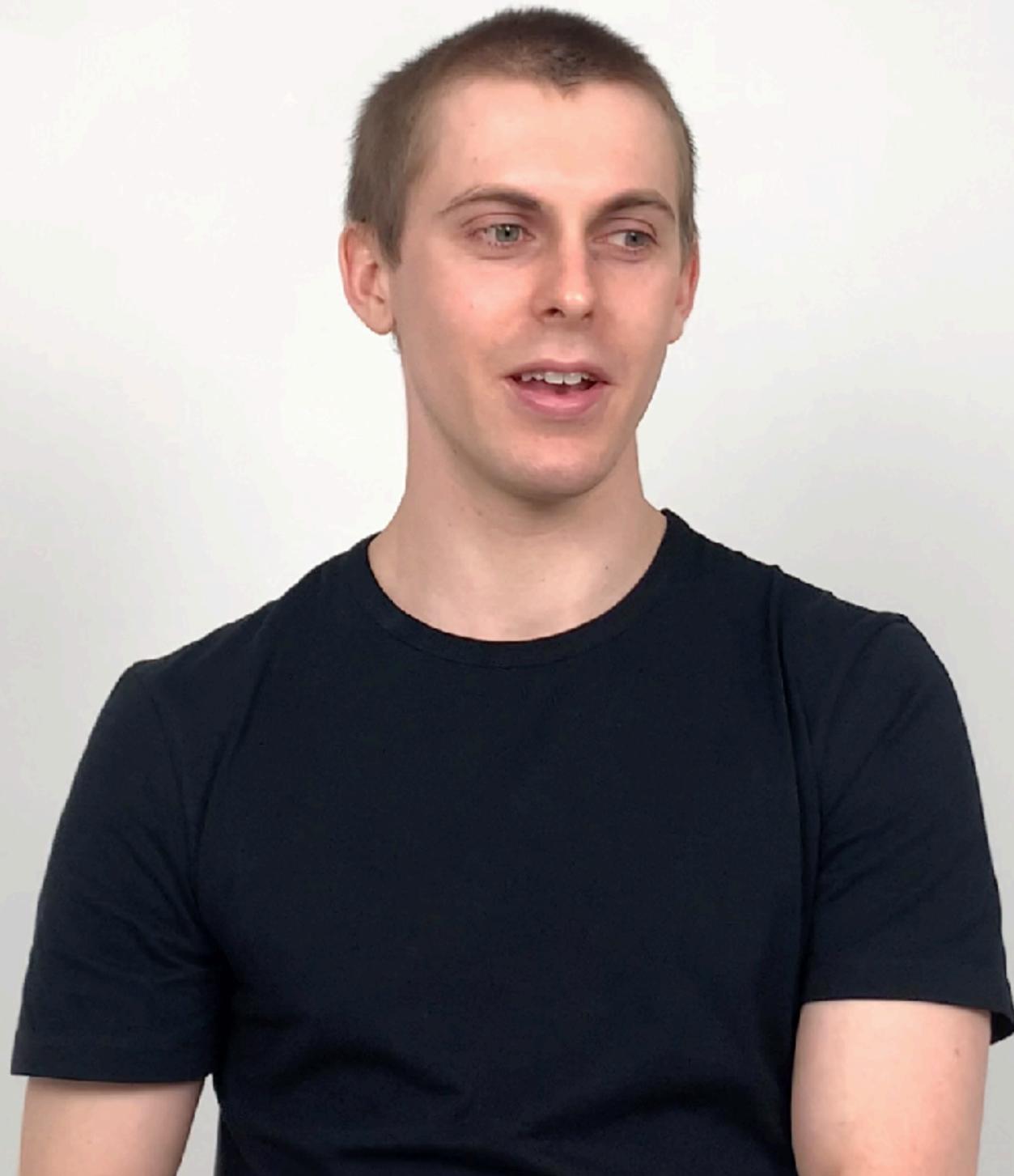
Zeyu Jiang:

“If there is a product help people control the snack intake, for me, I'm not a big fan of apps or digital products to that. I don't think that would work for me. I'm imagining some kind of bowl or container. Raise awareness to the consume that how much that person is eating. When you feel full, it's already too late. So, I think there is some sort of monitor, or some sort of way of controlling them. I think that's the very important feature of measuring the amount.”

Maximilian Alexander Bubenheim:

“If your are aware of how much you are actually consuming, it will help massively. Having information in front of you is very valuable.”





What did I discover?

1. Most of the participants don't really know the definition of snack.
2. When the participants think of snacks, they think of unhealthy food.
3. Most of the participants consider snacks additive.
4. The majority snacks every day, some of them snack 3 times a day.
5. Most of the participants consider snack as a more negative word.

6. The reason why people snack can be very different, it can be boredom, tiredness or hunger.
7. Most of the participants eat snacks at their desk or sofa.
8. The majority thinks the pandemic has made them more likely to snack.
9. The word "snack" is definitely commercialized by commercial advertisements.
10. The word "overeat" is quite vague in terms of snacking

11. Many participants complained that they can't portion the snack correctly. Orderly amount of snack is important for many participants and **they think if they knew how much calorie or sugar they will consume, it will be less likely for them to oversnack.**
12. Many participants think measuring the snack intake might be an important feature of the product.
13. Some participants complained that when they open a package they have to finish it, even though they feel they are already full.
14. Many participants think directly snack from packaging will lead to oversnack. Because **they lose the conception of how much they have consumed when snack from packaging.**
15. Most of the participants think that evening is the time they are more likely to overeat snacks, especially while watching a film or a tv series, or playing computer games.
16. Peoples' snacking pattern varies a lot, and it can be a culture thing, a personality thing, a lifestyle thing, and it can also be a routine thing.

Observation and reflection

The whole interview section confirmed my assumption that, snacking has become a universal thing (the participants are from all over the world), and people do have issues about snacking. And the main problem they are facing is that [it is so easy to oversnack](#).

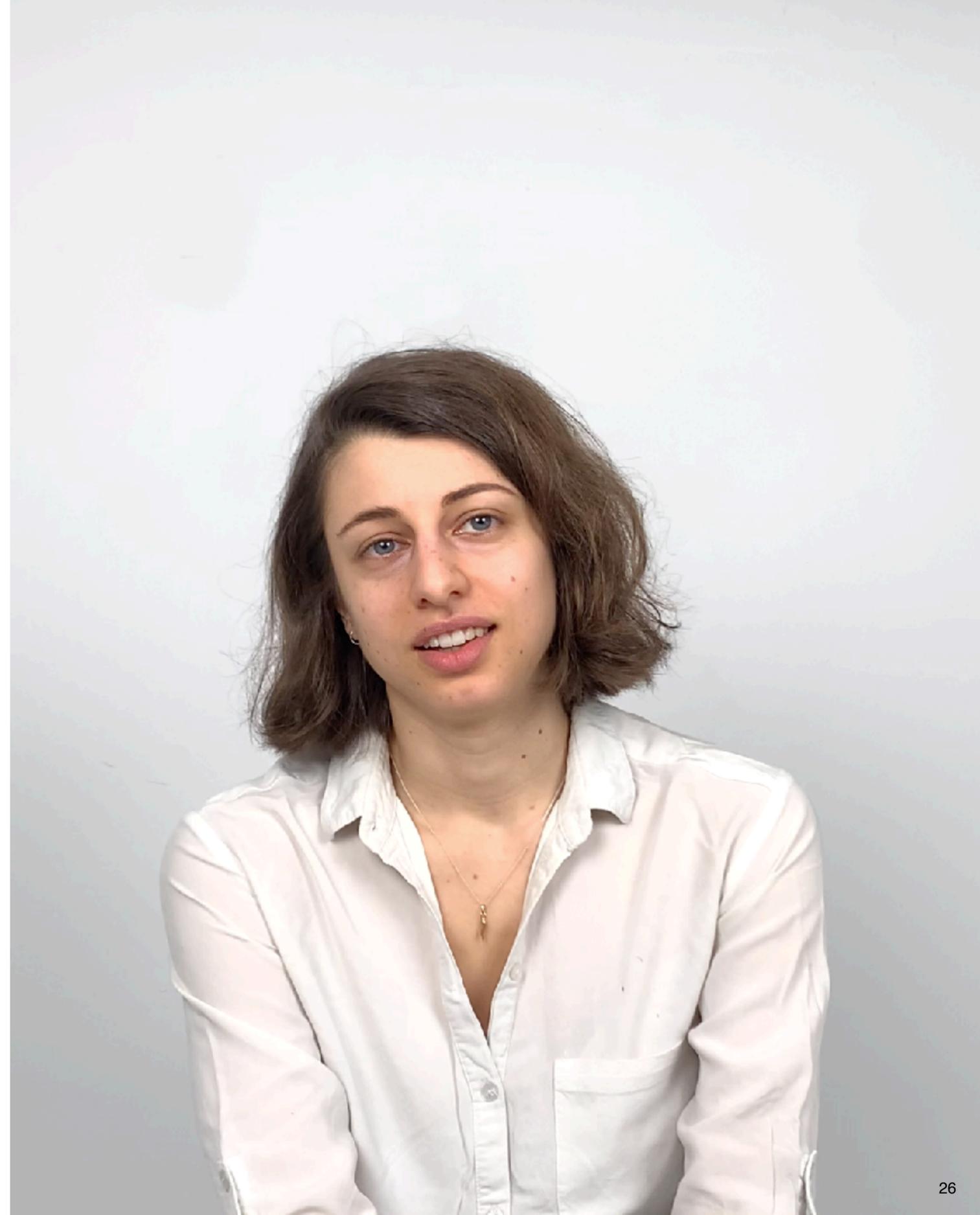
Many people have their own “snack triggering time” based on their daily snaking habits. If someone snacks at 4pm everyday, even if at that time he/she is not hungry, he/she will still snack, which can lead to oversnack. It’s more like a habit thing. One interesting thing worth mentioning is that many participants felt guilty after they oversnack, and the way they address the feeling of guilty is to tell themselves not to eat snacks the next week. However, the next time they snack, they oversnack again. People have this kind of “vicious circle” system.

And most of people somehow neglect one option which is, that people control themselves and enjoy the snack every time, every day and every week, but just with a small amount.

Also, I noticed that it is quite common that people somehow neglect or diminish the importance of snack to their health, even though they snack every day, even though they oversnack quite often. It is rather obvious that, in the past ten years, people’s snacking pattern has changed a lot, however their mindset of how to healthily snack is still out of date. It is undeniable that we all can benefit a lot from building a healthy snacking habit.

My intention of this project is never about telling people snacks are bad, people should not snack, but trying to deliver the message which is, there is always a healthier way to snack. I want my design to be a support for people to snack healthier. There are many ways of snacking healthily, oversnacking is definitely not one of them. However, it is so easy to oversnack. So, my design is focusing on making people less likely to oversnack, trying to offer solution to support better control their snack intake.

After the interview section, I have refined the goal of my project.
[The goal is to design something for reducing the likelihood of oversnacking.](#)



Problem analysis

What are the pain points?

Interviews really are the key of my inspiration phase. After the interview I left myself many questions to analyze, regarding the pain points or the problems I discovered.

There are mainly two ways of snacking. First, snack from a container. Second, snack from its packaging. The reasons why people using a bowl to snack or snacking from packaging vary from person to person. And these two ways of snacking have their own pros and cons.

What's the advantage of snacking from a container?

1. People create a certain amount of snack before snacking, so that they know how much they are about to consume, which reduces the likelihood of oversnacking.
2. Once the portion is decided, people don't need to keep paying attention on how much they have consumed.
3. A better vibe for snacking.

What's the advantage of snacking from its own packaging?

1. The convenience: no preparation require beforehand, no dish cleaning needed afterwards.

What's the pain point of snacking from a container?

1. In general, [people are not very good at making the right portion of snacks](#).
e.g. it's quite common that people pour more snacks than they need in a bowl.
2. Once the portion is made in the bowl, people have the tendency to finish all snacks in the bowl, no matter if they already feel full, [which makes better poisoning more important](#).
e.g. people usually don't pour snacks back to its packaging when the snack is already served in a container.

What's the pain point of snacking from its own packaging?

1. [People have no idea about how much they have consumed when they snack straight from its packaging](#), which makes it so easy to oversnack.
e.g. It's quite common that the moment they found out how much they have snacked is either when the bag is already empty or when they feel so full that they couldn't snack one more piece.
2. The occasion when people easily oversnack is when they watch TV series or films, which means that at that moment people pay very few attention on the snack they are consuming in the bag.
3. Once the bag is opened, some people have the tendency to finish all the bag, no matter if they already feel full.

Potential solutions

What potential solutions do I have?

After brainstorming, I started to summarize my ideas. And I made two lists of the potential solution, which might be able to be developed into final concepts. The two lists are categorized by the way of snacking. One the snacking form its packaging, another one is snacking from a container.

Snacking from its packaging:

Pain point:

People have [no idea about how much they have consumed](#) when they snack straight from its packaging.

Also, people pay very few attention on the snack while they enjoying a television or a movie, which makes it very easy to oversnack.

Potential solutions:

1. Offer people weight monitor on the package. Give people a better understanding of the weight.
2. Offer people measurements on the package. Give people a better understanding of the how much they have consumed. For example, a snack ring which signals the user every 10 times he/she grabs snack from package.
3. Offer people package divider. Make it possible for people to create a portion in the bag without pouring snack on a bowl. For example, a clip or a divider with can divide the snacks into tow portions in a bag, one for snacking this time, one for next time. Also, the divider has the function of sealing the bag, as a clip. Creating a portion before start snacking can give people a better understanding of how much they are about to consume which reduce the likelihood of oversnacking.
4. A design to help or support people stop snacking before the bag is empty
5. Use design to encourage or nudge people to stop snacking at one point when they feel full.
6. A service design which cultivate people healthy snacking habits.
7. A design to increase users awareness while snacking from a bag. For example, snack glass, it has a mirror which you can see yourself snacking though the glass which keeps you aware that you are actually snacking. Or, a small device that keeps notifying you or reminding you while you snacking. It can also be a more practical thing which combined with the function of notifying(lights, sounds or vibrations), such as a clip with sensor.
8. An application which notifying the user when they snack.

Snacking from a container:

Pain point:

In general, people are not very good at making the right portion of snacks. It's quite common that people pour more snacks than they need in a container. And once the portion is made, people have the tendency to finish all snacks in the container, no matter if they already feel full. So, there is a certain connection, which is that [wrong portioning can lead to oversnack](#).

Potential solutions:

1. Offer people weight monitor. Give people a better understanding of the weight.
2. Offer people scales or measurements on containers. Give people a better understanding of the volume.
3. Offer people measuring tools. Give people a better understanding of the volume.
4. Use design to guide people pour less than they thought they might need. For example, offering informations. The concept behind is that if people can't estimate the right amount of snacks, it is better to pour less snack in a container.
5. Use design to encourage or nudge people to stop snacking at one point when they feel full.
6. Create a product or a system to make it easier to pour snacks back into its packaging so that people don't feel like that they have to finish the bowl of snacks.

Solution analysis

Which direction should I go among all the possible solutions?

After bringing up those potential solutions, I started to think about what are the advantages and disadvantages for those ideas, and which direction should I go for the further development. Before digging into each solution I had some concerns or wonders kept in my mind. For example, should I use the rewarding system or the punishment system when I design? Should I focus more on each time people snack or in a certain period (a day, a week or a month)? Should the design be subtle or be strong? Should I make an application? Would it be better if it is a simple solution or a complex high-tech device? Does it have to be a container or what else can it be? Snack has a very wide variety, from chips to ice cream, how can one product or one solution fits all kinds of snacks? Some of these questions I already have the answers during the interviews from the participants. For example, application is the least preferred. Simple solution is preferred. Interventions are not recommended.

In general, if someone wants to control their snacking, there are two different directions to go. One is before snacking, at the preparation stage, that people do the effort to estimate and put the right amount of snacks in a container. Another one is while snacking, that people keep paying attention on how much they have consumed so that they won't end up oversnacking (known as mindfully eating).

Snacking from its packaging:

Potential solutions:

1. Offer people weight monitor on the package. Give people a better understanding of the weight.
2. Offer people measurements on the package. Give people a better understanding of the how much they have consumed. For example, a snack ring which signals the user every 10 times he/she grabs snack from package.
3. Offer people package divider. Make it possible for people to create a portion in the bag without pouring snack on a container. For example, a clip or a divider with can divide the snacks into two portions in a bag, one for snacking this time, one for next time. Also, the divider has the function of sealing the bag, as a clip. Creating a portion before start snacking can give people a better understanding of how much they are about to consume which reduce the likelihood of oversnacking.
4. A design to help or support people stop snacking before the bag is empty
5. Use design to encourage or nudge people to stop snacking at one point when they feel full.
6. A service design which cultivate people healthy snacking habits.
7. A design to increase users awareness while snacking from a bag. For example, snack glass, it has a mirror which you can see yourself snacking though the glass which keeps you aware that you are actually snacking. Or, a small device that keeps notifying you or reminding you while you snacking. It can also be a more practical thing which combined with the function of notifying(lights, sounds or vibrations), such as a clip with sensor.
8. An application which notifying the user when they snack.

Solution analysis:

The solutions from number four to number six are quite vague. These ideas involves users' behavior development which requires time and efforts to cultivate. Also, from the perspective of design developing, these ideas require long term tests to make sure them work, which is less efficient compared with other ideas. And the solutions number eight is no longer a good solution, because during the interview I learned that application is the least preferred.

As for solution number seven, my question is that, will people be happy to use such a device which keeps notifying them while they enjoying themselves? And my biggest concern is that it might trigger users' negative emotion, such as annoy or anger. From my research people enjoy snacks when they are at a cozy and relaxing space, and the idea of notifying them to get their attention so that they will pay more attention on snacks might be too ideal. I think the key here is how to maintain the balance of solving the problem and in the meanwhile giving people the good snacking experience. And I think solution number seven does not have the balance.

The solutions from number one to number three are quite similar. The ideas are inspired by the advantage of people using a container to snack. The logic behind is that if people create a portion of snack before snacking, then they know how much they are about to consume, which will reduce the likelihood of oversnacking. Also, another advantage of this idea is that once the portion is made, people no longer need to pay more attention on how much they have consumed, they can just simply enjoy their snack time. However, compared with snacking from a container, the idea of putting a weight monitor on packaging isn't that practical. It will probably end up being a clumsy device which is not convenient for snacking anymore. Likewise, offering measurement on packaging can also be difficult. [Compared with the first two concepts, the third idea is more realistic.](#) First of all, it's a clip which everyone needs. Secondly, it provides people the function of dividing portion on the packaging without pouring snacks into any containers, which has the positive effect on preventing oversnacking.

Snacking from a container:

Potential solutions:

1. Offer people weight monitor. Give people a better understanding of the weight.
2. Offer people scales or measurements on containers. Give people a better understanding of the volume.
3. Offer people measuring tools. Give people a better understanding of the volume.
4. Use design to guide people pour less than they thought they might need. For example, offering informations. The concept behind is that if people can't estimate the right amount of snacks, it is better to pour less snack in a container.
5. Use design to encourage or nudge people to stop snacking at one point when they feel full.
6. Create a product or a system to make it easier to pour snacks back into its packaging so that people don't feel like that they have to finish the bowl of snacks.

Solution analysis:

The solutions from number one to number four are actually aiming at the same direction which is offering people information to give them a better understanding of the right amount of snack they should pour into a container. They are all aimed on how to help users better portion which I think it's a right direction to dig in, because better portioning can reduce the likelihood of oversnacking. The only difference is that some focus on weights and some focus on volume. [Therefore, solution number one to number four can be the candidates.](#)

As for the rest solutions. I think they do have a point, however, it either requires too much steps for people to use or is too indirect to solve the problem which might be low efficient. Also, another thing I think is rather important is that if the design requires too much behavior-changing then it might fail. Helping people to build a healthy snacking habit is easier said than done.

Concept development (for snacking from containers)

How to make the concepts more practical and tangible?

After solution analysis, I have decided which direction to go for both snacking from a container and snacking from its packaging. And since I have discovered the connection that [better portioning can reduce the likelihood of oversnacking](#), I decided to fully focus on how to create a design for people to make a better portion.

Snacking from a container:

Direction:

How to create a design for people to create a better portion in a container?

Picked solutions:

Offering people a device or a container which gives people a better understanding of the weight or the volume. e.g. weight monitor, measuring tools.

Design thinking flow:

So, basically, the idea is to create something which gives people the information about the amount of the snack. And weight monitor sounds right in the beginning, because it tells people the weight which might help. However, by the definition of snack, it meant to be a small portion of food someone consume between meals, which means, that every time people snack, the weight of the snack won't be heavy. Therefore, each time someone weight the snack, the number won't be big. For example, people normally won't snack 300 grams chips one time, because one bag of chips is normally only 90 grams. So, the range of the number will be very narrow and small. For example, 50g chips and 30g chocolates.

The concern to me is that, do people really have the sensitivity for these small number as grams? Or, can people really distinguish the differences between 30g and 50g snack? And the answer is no. In generally, people are not sensitive to low numbers of weights, especially towards grams. Then I started to think, how can I transfer these numbers into bigger numbers, and find something that people are sensitive to. Then I got this idea about calorie. I found out that people are more sensitive to calorie. And calorie has bigger numbers. For example, 30 grams chocolate contains around 200 calories. 60 grams candy contains around 400 calories. 30 grams and 60 grams may not be a big difference, but 200 kcal and 400 kcal have a huge difference to most of people. From the National Institutes of Health (NIH), it shows that for every 200 calories you consumed, you need to walk for more than 4.2 kilometers or run for more than 20 minutes to burn them off.

It appears that calorie could be the right measuring unit for the design. However, If the measuring unit changes, the measuring instrument also changes. So, now, the instrument is changing from weight monitor to calorie calculator. The requirement of the technology changes massively, so does the cost, which is not practical anymore. Then the design will only be complicated and big sized, which won't work. I do not against technology. But if there is a simple but effective solution, I will always choose it, from the perspective of manufacture, material saving, and the convinces of using. Just as I was about to give up on this idea, one question occurred to me, which is, do people really need to know the exact number of calories of the snack? And the answer is no. [People only need to know how much calories in their snacks, approximately](#). People do not need to know this amount of snacks contains 213 kcal, they only need to know it contains about 200 kcal. Those very detailed numbers are not really needed in this case. I started to think about, without relying too much on technology, how can I create a rough measurement of calories for snacks? Then I came up with an idea called “a bowl of 300 calories”. The idea is that if you full fill the bowl with snacks, it is approximately 300 calories. But, the question is, how can I ration the variety of snacks? Snack has a very wide variety, from chips to ice cream, and different types of snacks have different energy densities. The calorie amount varies differently from the same volume of chips to the same volume of sweets. It seems very elaborate and complex. But, what if I generalize snack types into few commonly recognized categories, would it be more practical?

By comparing the energy density from different types of snack, I noticed that snacks can be categorize into four mainstream types. 1. Sweets. This category represents those high-in-sugar snacks, for example, chocolates, candies and sweets. 2. Nuts. It is generally considered a healthy snack, for example, cashew nuts, almonds and walnuts. 3. Chips. This category represents those deep fried or puffy snacks which are generally large in size, for example, potato chips and popcorns. 4. Fruits. After categorizing, I realized that these four types of snacks have different energy densities in general. For example, the volume of 300 kcal sweets is smaller than the volume of 300 kcal nuts. Likewise, the volume of 300 kcal nuts is smaller than the volume of 300 kcal chips, and the volume of 300 kcal chips is smaller than the volume of 300 kcal fruits. Then, I started to think, [what if the container has different scales for different types of snacks?](#) So, the idea is that, if people full fill the container with fruits to the corresponding line, they will get approximately 300 kcal fruits and if people fill the container with chips to the corresponding line, they will get approximately 300 kcal chips. And if people fill the container with candies to the corresponding line, they will get approximately 300 kcal candies. Likewise, if people fill the container with nuts to the corresponding line, they will get approximately 300 kcal nuts. And it actually is a practical idea which requires no electronic device but tells user how much calories they are about to consume approximately, which also gives users the understanding about both the volume and the calories. It will certainly help people to better portion the snacks, which will reduce the likelihood of oversnacking.

So, how many calories should I set on this container? Should it be 200 kcal, 300 kcal or 400 kcal? From the National Institutes of Health, it shows that an average man needs around 2500kcal a day to maintain his weight and for an average woman, the daily figure is around 2000kcal. And from an authoritative magazine called Healthline, I found out that, [in general, it's best to eat snacks that provide about 200 calories to help you stay full until your next meal](#). So, now, the idea is “a bowl of 200 calories”. Then, the next question is what exact volume should I set on this container for 200 calorie sweet, nuts, chips and fruits? I need to know what volumes are 200 kcal sweets, 200 kcal nuts, 200 kcal chips and 200 kcal fruits.



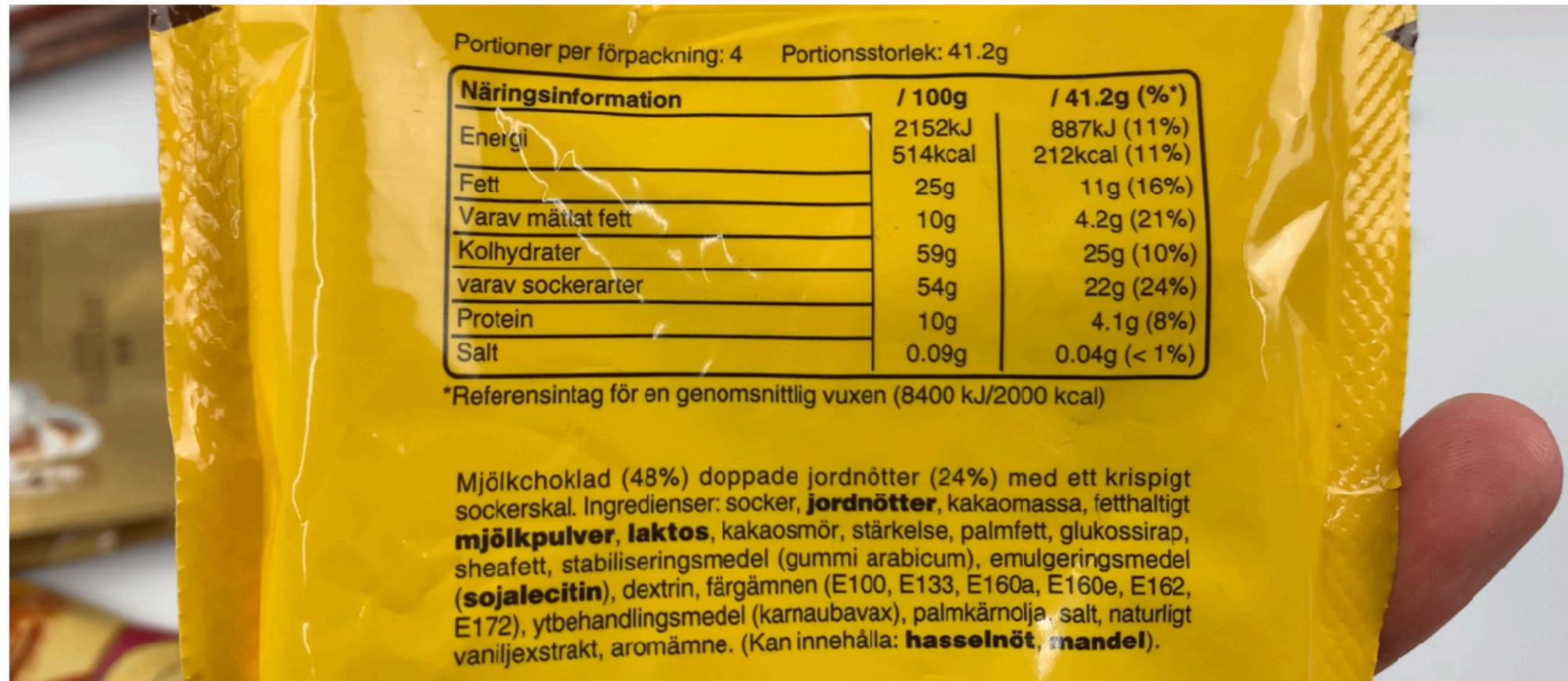
Experiment

What volumes are 200 kcal sweets, 200 kcal nuts, 200 kcal chips and 200 kcal fruits?

To understand what volumes are 200 kcal sweets, 200 kcal nuts, 200 kcal chips and 200 kcal fruits, I started to make some tests to get the 200-calorie-volume.

So, I went to supermarket, bought different types of snacks based on the categories. When I did the shopping, I tried to cover the variety of energy density in the same category. For example, when I chose all different kinds of sweets, I picked different snacks in different size. Not the size of the package, but the size of the snack itself. In another word, I paid attention on the energy density while I shopping, and tried not to buy the snacks with the same energy density.

And then I categorized them into four piles: sweets (high-sugar), nuts, chips (relatively big size), fruits.



How much does 200 calories weigh?

After I bought enough representative snacks, I categorized them into four categories. Then, I started to weight them. The logic is that, based on the nutrition facts label on the packaging, I will know how much calories does the snack contain in 100 grams. It means, by doing some math, i will also know, how much does 200 calories weigh? For example, if the nutrition facts label says, this cookie contains 514 calories per 100 grams, then, by calculation, I will know 200 calories of this cookie weigh 38.9 grams. And once I get the number of the weight, I can simply weigh the snack so that I know the volume/size of 200 calories.

As for fruits, they normally don't have a nutrition facts label. So, what I did is that I followed an authoritative website called Calories.info. Calories.info has a food database which also have the caloric content about common fruits.

So, by doing this, I can get the volume/size of each 200 calories snack. Based on the nutrition facts label, I started to weigh the snacks so that I get the volume/size of 200 calories for each snack.



Here is an image of 200-calorie-snacks.

After getting the volume of each 200 calories snack, I put all of them in one picture, organized by the type of snacks, from small volume to big volume.



Then, what I did is that I picked each medium size in each category to represent their own categories. And I put the snacks into the same glass containers to understand the volume in three dimension.



The size of my final design will be based on the volume of each picked snack.

Final concepts (for snacking from containers)

What are the final concepts?

A snack cup of 200 kcal

In general, people are not very good at making the right portion of snacks. It's quite common that people pour more snacks than they actually need in a container, and once the portion is made, people have the tendency to finish all the snacks in the container, no matter if they already feel full.

There is a certain connection here, which is that wrong portioning can lead to oversnack, which also means that better portioning can reduce the likelihood of oversnacking.

This snack cup gives users the conception of how much snacks you should consume corresponding with the snack type. This snack cup is a tool to help you to portion the right amount of snack.

There are three lines of 200 calories on the snack cup. The idea is based on that different types of snacks have different energy densities. In general, the volume of 200 kcal sweets is smaller than the volume of 200 kcal nuts. Likewise, the volume of 200 kcal nuts is smaller than the volume of 200 kcal chips.

From low to high, there are three lines on the cup: sweets, nuts and chips. If you are about to snack some candies, then you can just simply pour candies to the corresponding line to reach the approximate 200 calories.

Why cup shape?

The first two shapes came to my mind when I think about shapes are bowl shape and plate shape. Those two shapes are commonly used as container for snacks. However, from the perspective of measuring, I think plate shape is not good for measuring because of its big surface and the its shallow shape.

Bowl shape could work for measuring, but I think cup shape might be better. First, cup shape is wildly used for measuring, because of its flat bottom and straight shape, for example measuring cups. Secondly, So, if I compare meals to bowls, then snacks are cups. Snack is a small portion of food people generally eaten between meals, and people tend to think cups are smaller than bowls. Therefore, I decided to make cup shape.



Final concepts (for snacking from containers)

What are the final concepts?

A set of 200-calorie snack measuring cups

In general, people are not very good at making the right portion of snacks. It's quite common that people pour more snacks than they actually need in a container, and once the portion is made, people have the tendency to finish all the snacks in the container, no matter if they already feel full.

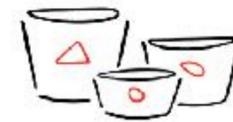
There is a certain connection here, which is that wrong portioning can lead to oversnack, which also means that better portioning can reduce the likelihood of oversnacking.

This set of 200-calorie snack measuring cups gives users the conception of how much snacks you should consume corresponding with the snack type. This snack cup is a tool to help you to portion the right amount of snack.

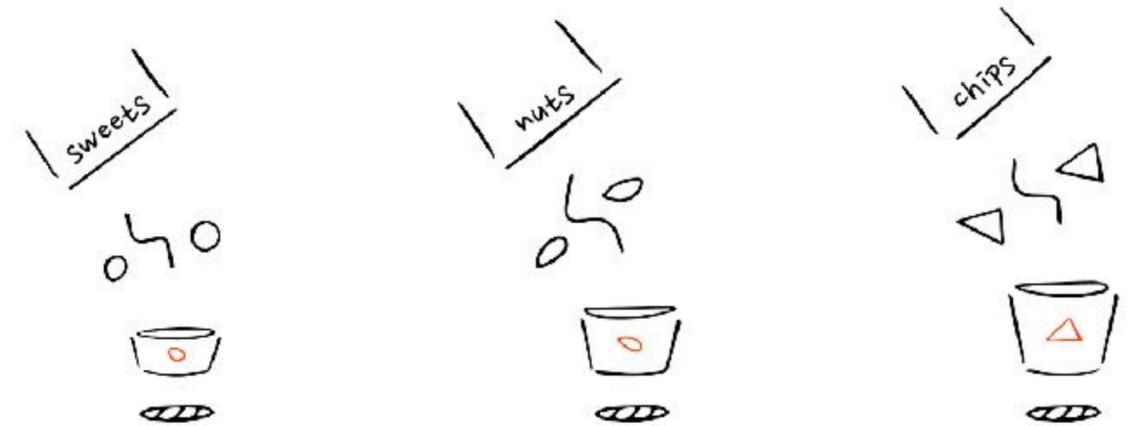
There are three cups of 200 calories. The idea is based on that different types of snacks have different energy densities. In general, the volume of 200 kcal sweets is smaller than the volume of 200 kcal nuts. Likewise, the volume of 200 kcal nuts is smaller than the volume of 200 kcal chips.

From small size to big size, there are three cups for sweets, nuts and chips. If you are about to snack some candies, then you can just simply full fill the corresponding cup with candies to reach the approximate 200 calories.

You can either use them as a set of measuring cups (get the measurement and then pour snacks into other container you like), or directly use them as snack containers.

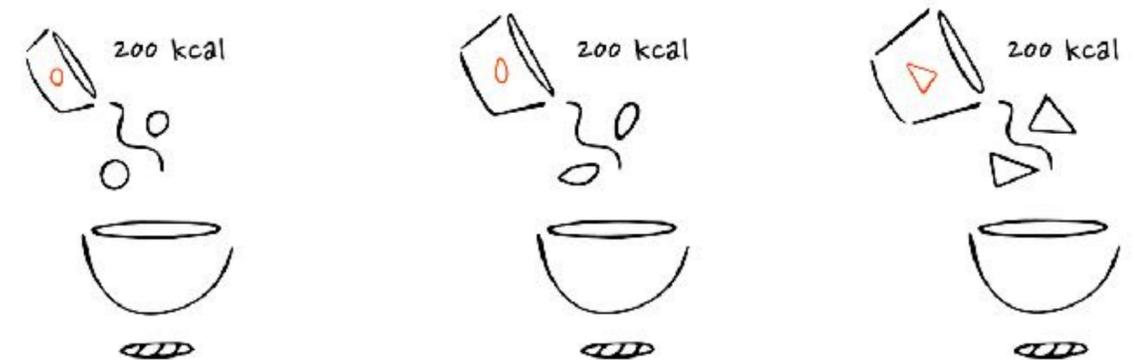


A set of 200-calorie snack measuring cups



Step 1:

Fullfill the 200-calorie measureing cup with the corresponding snack.



Step 2:

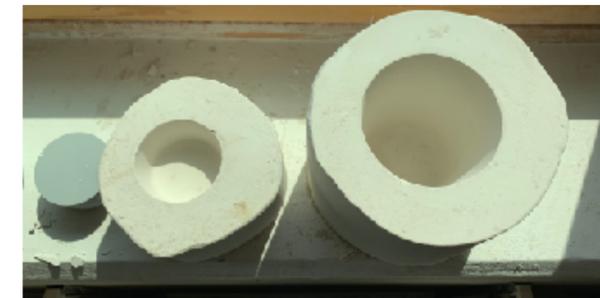
Pour the 200-calorie snack into your own snack bowl/plate and start snacking!

Prototyping (for snacking from containers)

What are the processes of making the prototype?

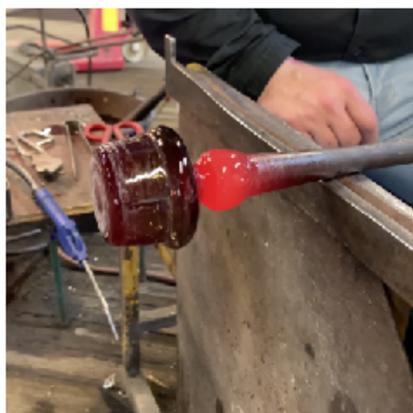
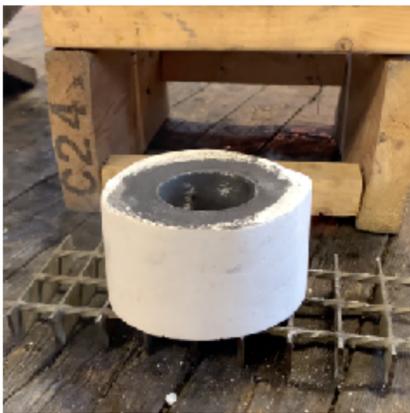
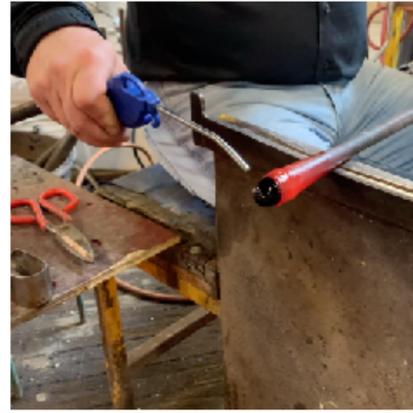
I first used Rhino to make the 3D molding. And then I sent the files to 3D printing Lab to get the 3D molds. After I got the pieces, I started to put fine filter on. And after them dried, I started to use sand paper to sand them to make the surface smooth.





Plaster molds making

After the plaster dried, I took them out from the covers and took the 3D molds out from the plaster molds. And I used those two printing molds to make the negative plaster molds for glass blowing.



Glass blowing

I went to a glass factory called Bergdalahyttan to blow glass.

Mockup (for snacking from containers)





200 calories per snack cup



Concept development (for snacking from packaging)

How to make the concepts more practical and tangible?

Snacking from its packaging

Direction:

How to create a design for people to make a better portion on its packaging without pouring snack on a container?

Picked solutions:

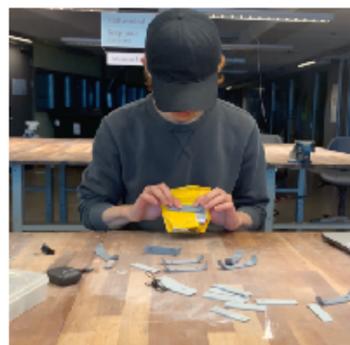
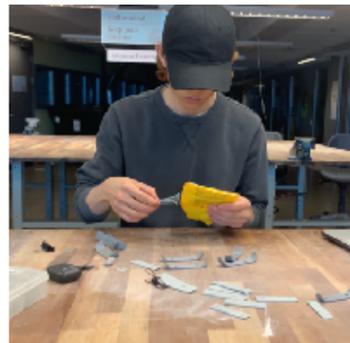
Offer people a package divider. Make it possible for people to create a portion in the bag without pouring snack on a bowl. For example, a clip or a divider with can divide the snacks into two portions in a bag, one for snacking this time, one for next time. Also, the divider has the function of sealing the bag, as a clip. Creating a portion before start snacking can give people a better understanding of how much they are about to consume which reduce the likelihood of oversnacking.

Design thinking flow:

A lot of people agree that snacking from packaging can lead to oversnack. Cuz they have no idea about how much they have consumed. But still, there are many packaging snackers, cuz it's just convenient. So, I decided to make a design for those packaging snackers. And, based on what I have learned, I know that create a portion before snacking can reduce the likelihood of oversnacking? Then I started to think, what if, people can create a portion in the bag without pouring snacks into a container? Then I came up with this idea, a clip as well as a divider. **So, the idea is that, the product can support you create a portion on its packaging before you snack, and it is also a clip.**

Different size:

I tried different size of bags and different size of the clips to find the most compatible size



Final concepts (for snacking from packaging)

What are the final concepts?

Snack bag divider/clip

The idea is inspired by the advantage of people using a container to snack. The logic behind is that if people create a portion of snack before snacking, then they know how much they are about to consume, which will reduce the likelihood of oversnacking. Also, another advantage of this idea is that, once the portion is made, people no longer need to pay attention on how much they have consumed, they can just simply enjoy their snack time.

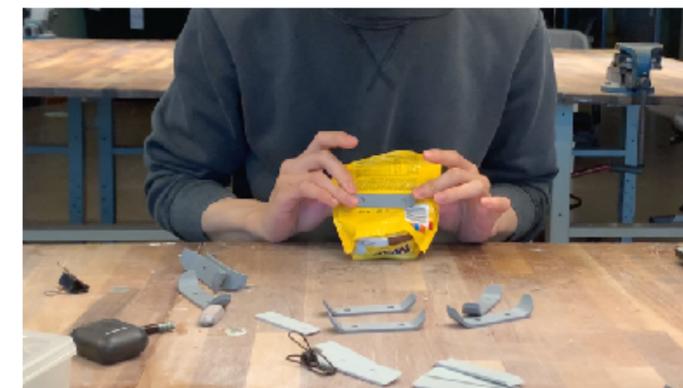
Creating a portion before start snacking can give people a better understanding of how much they are about to consume which reduces the likelihood of oversnacking.

First of all, it's a clip which everyone needs. Secondly, it provides people the function of dividing portion on the packaging without pouring snacks into any containers, which has the positive effect on preventing oversnacking.

As a clip:

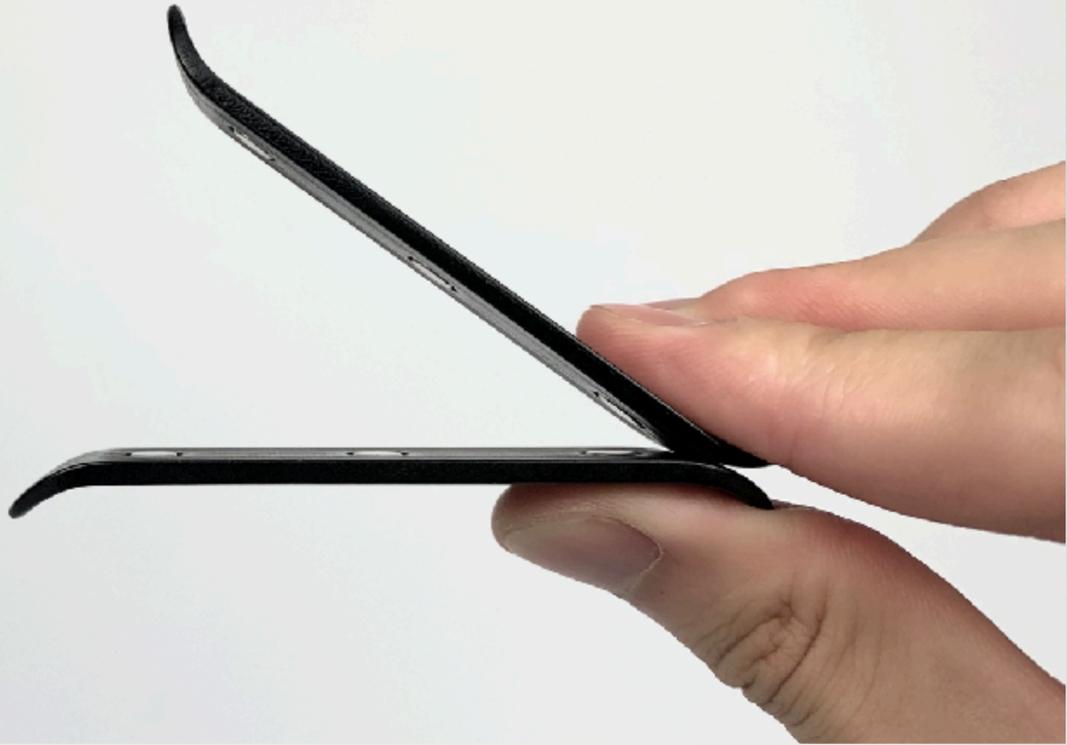


As a divider:



Mockup (for snacking from packaging)





A clip



A clip as well as a portion divider. Create a portion before snacking.





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