

# The presence of dieting pills on social media and its effect on the mental health of young women living in the Netherlands



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## Preface

The following research paper has been written by Isabella Kleine as a thesis research proposal for the study International Food Business offered by Aeres University of Applied Sciences in Dronten, the Netherlands and Dalhousie University in Truro, Canada. During the writing of this thesis, I was performing a minor at Wageningen University and performing my graduation internship at Greenpro International.

The topic of dieting pills has always been a source of wonder for me. I always saw the dieting pills being promoted and displayed on social media, television, stores and magazines and it surprised me how many people were taking them and praising them. It surprised me the most since my perception was that it was not a good thing to encourage, especially to vulnerable populations like children and teenagers. Teenagers especially, because I knew from personal experience that it is a challenging period in terms of body image, made much more difficult by all of the hormones in the body. I knew that the issue of diet pills would be one I wanted to learn more about, write about, and inform other people about. I chose to connect mental health, namely self-perception and eating disorders, because I wanted to bring to light and discover the links between mental health and the presence of diet pills on social media.

I decided to focus more on social media rather than traditional media because it is the mode of communication that is the most prominent in the lives of adolescent women. It was difficult in the beginning of the process to narrow down the topic because I had many directions that I wanted to go into regarding dieting pills. I was able to narrow it down thanks to the help of my thesis coach, Professor Kata Körösi, who was always open to listen, give me advice, put me at ease and was willing to repeat things to me when they were not clear to me. Moreover, she is a person that I like to be in the presence of, which is why this made the entire thesis experience much easier. Her expertise and knowledge were invaluable in guiding me through the entire process, I am grateful that she agreed to accompany me through this process.

Finally, I would want to thank everyone close to me who has given me helpful advice, encouragement, and support during the writing process. In particular I want to thank Angela Golino, who helped me a lot with figuring out the materials and methods part while also being her bright self, cheering me up. And last but certainly not least, I would want to thank Carola Golino in particular for helping me work through sections where I was stuck, always giving me advice, and motivating me to go on and not give up. It would not have been feasible for me to get as far as I have without their help.

This thesis was written with a lot of enthusiasm and interest on my part. I hope that the people who are reading this will be as enthusiastic about this topic as me. Additionally I hope that a difference can be made; even if it may be small.

Isabella Kleine

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## Summary

The objective of this study is to understand the effect of the presence of dieting pills on social media on the mental health, particularly body image and eating disorders, of women between 15 and 24 years old who are living in the Netherlands. The effect on women was chosen to investigate since this group is researched to be more affected by a concept of an ideal figure and are generally more vulnerable to social media influences. Furthermore, there are triggers of diet pills on the online market and women have a higher prevalence of developing an eating disorder.

The main question of the research states; *“What is the effect of dieting pills on social media on the mental health, particularly body image and eating disorders, of women between 15 and 24 years old in the Netherlands?”*. There are several topics that are dealt within this research to answer this main question and the corresponding sub questions. These topics include information about eating disorders and mental health issues such as body image issues. In order to investigate the effect that dieting pills have on mental health, first, the aspects of mental health that were taken into account in this study needed to be highlighted. What is also included is a description of the ideal body image throughout different historic times, this is done to highlight the different, thin ideals that women had to face and are still facing and were both currently and in the past encouraged to follow. Next, the vulnerability of the target group is investigated, to explain why this particular age group was chosen for the study. The age range of 15 until 24 has been chosen since the brain does not fully mature until approximately the age of 25, and during puberty and adolescence, the frontal region of the brain needs to grow dramatically, resulting in increased vulnerability. Moreover, the impact of social media on young women and the content that is available on the social media platforms is highlighted. Thin internalisations, for example, frequently result in young women's dissatisfaction with their own bodies, which is turned into a desire to lose weight to match the body shape of the models presented. Furthermore, an insight into the dieting pills available, the risks they bring and how the dieting pills are advertised is brought to light. Lastly, what is discussed is the legislative environment of social media advertising, accentuating the existing regulations in both the European Union and the United States of America since various dieting pills, are manufactured in the United States.

The main findings through the exploratory research and the data gathered from the questionnaire conclude first of all, that women between 15 and 24 years old that are living in the Netherlands, are affected in regards to eating disorders and body image issues associated with contents present on social media in many different aspects. More than half of the respondents of the questionnaire stated to be affected by a pressure to fit in with the body standards represented on social media. Moreover, 45 respondents said to currently suffer or have suffered from mental health issues related to their body image. More than 80% of the respondents think that the content of dieting pill promotion on social media contributes to the development of the mental health issues; eating disorders and/or body image issues for them. Moreover, when it comes to European marketing, there are no specific regulations regarding influencer marketing. Important recommendations to consider include, first and foremost, advising young women to be cautious of the information shared on social media and to be aware of which restrictions exist and which do not exist in relation to the social media content provided. Furthermore, young women should be aware of the impact that diet pills have on their overall and mental health. Furthermore, a recommendation to policymakers is to take action to create rules on social media content, notably, dieting pill content on social media. This is advised in light of the study's findings, which examined the effect of diet pills on social media on women's mental health, particularly body image and eating disorders, aged 15 to 24 living in the Netherlands.

# 1: Introduction

## 1.1 Overview of the issue

According to the World Health Organization, one out of every seven teenagers is affected by mental illnesses (2021). Adolescents aged twelve to seventeen years old have a rate of approximately 5 percent of mental illnesses, whereas young adults aged 18 to 25 years old have a rate of about double that percentage (Rijksinstituut voor Volksgezondheid en Milieu, 2019). Females are more likely to have emotional issues, whereas males are more likely to have behavioural problems (Rijksinstituut voor Volksgezondheid en Milieu, 2019). The pressure to be perfect, which can be associated with having a perfect body shape and a perfect lifestyle is one of the explanations for the increases in mental health concerns in young adults (Rijksinstituut voor Volksgezondheid en Milieu, 2019).

Eating disorders have seen a spike in cases with the rise of social media platforms (Klein, 2013). The rising of social media has resulted in the development of a new term: "digitized dysmorphia," which affects primarily females (Coy-Dibley, 2016). Digitized dysmorphia refers to how feminine standards on social media have influenced women's self-perception through altered photos, shared on platforms such as Instagram (Coy-Dibley, 2016). Dysmorphia is thought to be socially conditioned, and influenced by societal norms and beauty conceptions (Coy-Dibley, 2016). Women are striving to achieve a social standard that is not genuinely based on natural bodies as a result of advances in image modification (Coy-Dibley, 2016). Society has marginalised women, who are increasingly valued for their aesthetic appearance, encouraging women to conform to beauty standards and to put emphasis on their bodies (Coy-Dibley, 2016).

Body form and weight are accentuated as a result of this priority placed on physical appearance, which leads to dietary behaviours such as restriction, purging, over-exercising and taking laxatives or other dieting pills (Dakanalis, 2017). A significant amount of women have developed an eating disorder in order to meet beauty standards by attempting to lose weight using extreme measures. (Hesse-Biber et al, 2006). Eating disorders are considered both a social and psychological issue (Hesse-Biber et al, 2006). In fact, these diseases are supported partly by financial and societal institutions profiting from the slim body ideals promoted on social media (Hesse-Biber et al, 2006). Dieting pill companies are one segment of the industry that benefits from susceptible women who are encouraged by social media and society to lose weight (Kruger et al, 2004). The desire of losing weight is commonly associated with body dissatisfaction, which leads to the purchase of dieting pills (Ojala et al, 2007).

Between the ages of sixteen and nineteen Dutch women's body dissatisfaction rises (Waldherr et al, 2008). It was estimated that in 2010, more than one percent of people between the ages of 18 and 24 had struggled with an eating disorder throughout their lives, this can be compared to the previous year when it was 0.8 percent (Nederlands Jeugdinstuut, 2019). Anorexia nervosa affects 0.3 percent of all young women in the Netherlands aged fifteen to twenty-nine years, according to statistics collected by general practitioners (Hoek & Vandereycken, 2008). One percent of the population is thought to suffer from bulimia (Hoek & Vandereycken, 2008).

Adolescents, particularly adolescent females, have the highest rate of incidence of eating disorders (Smink et al, 2012). People with an eating disorder have a disturbed behaviour towards food that can lead to serious consequences for their mental and physical health, for people with an eating disorder, food can trigger anxious responses (van Elburg, 2022).

Anorexia nervosa, bulimia nervosa, and binge-eating disorder are the three main types of eating disorders (Sim et al, 2010). Anorexia nervosa is characterized by an intense fear of weight gain and a focus on limiting and compensating for small amounts of food through exercise, laxatives, dieting pills, or diuretics (National Institute of Mental Health, 2021). Females between the ages of 13 and 25 are mostly affected by anorexia nervosa (Centers for disease control and prevention, 2020).

Bulimia nervosa is an eating disorder characterized by the consumption of large amounts of food while having a sensation of loss of control. Individuals affected by bulimia nervosa compensate for the overeating with behaviours such as vomiting or excessive diuretic use (National Institute of Mental Health, 2021). Symptoms of bulimia nervosa include living in fear of gaining weight, using laxatives or dietary supplements for weight loss, and having damaged teeth and gums (Mayo Clinic, 2018).

Binge eating disorder (BED) is defined as repeated binge eating episodes that are not accompanied by frequent compensatory behaviours such as vomiting or laxative misuse. Eating until uncomfortably full, eating while not experiencing physical hunger, eating alone, and feelings of despair or guilt are all associated with this disorder. (de Zwaan, 2001)

Smink et al. (2012) show that women account for the majority of those who are affected by eating disorders. This is due to mainly psychosocial reasons like the overvaluation of thinness, which is frequent among Western females, this is thought to be a key contributory element in the development of eating disorders (Sharan & Sundar, 2015).

Diet pill use is a significant problem in people suffering from an eating disorder (Reba-Harrelson et al., 2008). The presence of dieting pills is positively associated with weight control behaviours such as over-exercising and purging (Reba-Harrelson et al., 2008). These are factors associated with eating disorders (Sim et al, 2010).

The incidence rate of eating disorders in the Netherlands was measured between 2005 and 2009. According to a study, the incidence rate of bulimia nervosa was 3.2 out of every 100,000 people and the incidence rate of anorexia nervosa was 6.0 out of every 100,000 people. (Smink et al., 2012)

According to a study by Levinson et al (2020), women without an eating disorder who used diet pills and laxatives for weight loss or control were more likely than those who did not, to be diagnosed with an eating disorder within one to three years. Healthcare professionals do not recommend over-the-counter diet pills or laxatives as a healthy way to reduce weight, as they can cause major health concerns such as high blood pressure, liver, and kidney damage (Levinson et al, 2020).

## 1.2 Ideal body image throughout history

Women's ideal body types have changed significantly throughout history (Bonafini & Pozzilli, 2010). Despite the fact that the base of the female form has remained unchanged, society has always wanted to change it (Bonafini & Pozzilli, 2010). "Perfection" is an impermanent concept that will change and transform throughout time (Bonafini & Pozzilli, 2010).

The Venus from Willendorf was one of the most well-known examples of early symbolism (Weber et al, 2022). The statue is a symbol of beauty of the palaeolithic era, which took place from 2.5 million to 10.000 years before Christ (Steinbach, 2022). The Venus depicts the ideal body image, considered attractive at the time (Dixson & Dixson, 2012). The Venus from Willendorf is a symbol of fertility, and this is a representation of a woman with big breasts, hips, and a full stomach (Dixson & Dixson, 2012). The ideal body image was characterized by a good physique and being well-nourished which was associated to the capability of bearing children (Dixson & Dixson, 2012).

The ideal beauty standard in Ancient Greece, which occurred between the years 800 and 300 before the birth of Christ (Morris, 2004), was heavily affected by the athletic ideals of the time (Reid, 2012). Helen of Troy, was a symbol of beauty of this time (Charles, 2005). She was described as a woman with full breasts, an athletic body, long hair and pale skin (Blondell, 2013). Philosophers associated mathematics, pleasure and science with beauty in this time period (Jess, 2021). Additional to these beauty criteria, Plato's golden ratio was used to determine whether a woman was attractive or not (Prokopakis et al, 2012). This golden standard considers symmetry and can be used for various portions of the body, although it is most commonly used to assess face symmetry (Prokopakis et al, 2012).

When looking at Renaissance beauty standards, which took place between the years 1300 to 1700 (Hebron, 2008), what is depicted as the standard is a woman with long, blonde hair, dark eyebrows with proper proportions, a round chin, and a long, slender neck (Cropper, 1976). The perfect physique was portrayed in a manner comparable to that of the Ancient Greek period, with a symmetrical and athletic and finely shaped body (Karampetsos et al, 2021). The artworks created had a significant impact on the body standard, such as Botticelli's painting of "the Birth of Venus," which portrays a well-shaped curvy naked figure that was likely inspired by the women of the time (Karampetsos et al, 2021).

In the Victorian age, which took place between 1820 and 1914 (Encyclopaedia Britannica, 2015), the most important beauty standards that many women desired was that of women who had tuberculosis and were left with a body that displayed the effects of the disease (Caputo, 2017). Despite the disease's catastrophic results, pale, slender, and frail bodies became the beauty standards that many women aspired to achieve (Caputo, 2017). Fashion trends in that time changed to emphasise a small, virtually non-existent waist (Caputo, 2017). One of the most prominent necessities were corsets, emphasising women's need for a small waist and slim figure (Workman, 1996).

When looking at women represented in magazines after the Victorian era, thin physique is a characterising aspect of the beauty standard (Howard, 2018). According to research published in 1986 by Silverstein et al, eating disorders were more prominent among women than among men, and they were more frequent than they had been previously. It has been established that the beauty standard portrayed on television and in publications at the time was slimmer for women than for males, and slimmer than it had been in the past (Silverstein et al, 1986). Furthermore, there was a considerable increase in diet articles in six major women's magazines between 1960 and 1980 (Garner et al, 1980).



Digitalisation and the belief that “what the body cannot achieve, the picture can”, characterises the current post-modern era. With photoshopping, the perfect image may be edited as much as desired or required (Coy-Dibley, 2016). The Western culture accentuates the thin-ideal norm for girls, as well as the necessity of looking young, equating youthful appearance with beauty (Saucier, 2011). According to Tiggeman and Miller (2010), girls who spent more time on social media sites had elevated amounts of drive for thinness, which is what is endorsing these beauty standards. Individuals who spent more time on Facebook, specifically, internalised the thin ideal and as a result were less content with their weight (Tiggeman & Miller, 2010). In a study conducted in the Netherlands, it was shown that the majority of people who took part in a study wished to change their appearance, and nearly half of the individuals said they were currently following a diet (Woertman & van den Brink, 2008).

### **1.3 Vulnerability of the target group**

The human brain does not reach complete maturity until approximately the age of 25. During puberty and adolescence, the frontal region of the brain needs to grow dramatically. This area is mostly involved with decision-making, impulsivity, and hormonal development. Adolescents can learn new abilities and gain independence as a result of neuronal changes; however, these changes also leave the brain more vulnerable. Adolescents struggle to think critically and extensively while these brain changes are occurring, making them vulnerable to external and contextual influences such as commercials or the promotion of a weight-loss drug. (Arain et al, 2013)

Apart from the neurological influences on the general behaviour and subsequently eating behaviour of adolescents (Arain et al, 2013), as said by Gahagan (2013), the development of eating behaviour is moreover influenced by upbringing, social forces, and the food environment. During the development of an eating pattern, the capacity of observation of an adolescent increases, potentially enabling a higher sensitivity to excessive obsession with their own appearance (Ferreiro et al, 2011). In 2001, Holsen et al. discovered a link between body image dissatisfaction and disordered eating in adolescent years. In adolescent girls, eating-related factors may increase the incidence of depression, though not in adolescent boys (Bearman & Stice, 2008).

According to the gender additive model of depression, during adolescence, the bodies of girls mature and a dissonance is created between the body image and the slim ideal, which leads to weight concerns and eating-related risk factors (Stice et al, 2000). According to this model, body dissatisfaction, thin-ideal internalisation, dieting, and eating disorder symptoms are more significant antecedents of depression for adolescent females than for boys (Stice et al, 2000). In middle and high school children, depression was revealed to be a significant predictor of diuretic usage, fasting, and self-induced vomiting (Lepowsky, 2014).

## 1.4 Mental health and self-image

In 2021 the number of Dutch adolescent women who visited their general practitioner with depression symptoms increased compared to the prior year (Jansen et al, 2022). Adolescents have an opinion about the visual appearance of their newly formed bodies (ter Bogt et al, 2003). Especially because in society there is a strong interest in young, beautiful, and slim bodies, adolescents are under pressure to measure themselves against a high standard (ter Bogt et al, 2003). Acceptance of the formation of a teenage body is a critical responsibility for adolescents; nonetheless, it is clear that girls have a harder time accepting their bodies than boys (ter Bogt et al, 2003). A third of all young people in the Netherlands believe they are unattractive, and more than a quarter believe that others believe that as well (Wittebrood & Keuzenkamp, 2000). The figures for girls with this mindset show to be greater than for boys (Wittebrood & Keuzenkamp, 2000).

Body size and form can be a source of stress, this is demonstrated by the fact that over two-thirds of 16-17-year-old girls (65%) and nearly half of 16–17-year-old boys (48.5%) consider themselves too fat or too thin (ter Bogt et al, 2003). More than half (54.2 percent) of adolescents aged 16 to 17, consider themselves to be overweight while only 8.8% are by Body Mass Index standards (ter Bogt et al, 2003). The amount of people dieting nearly doubles between the ages of 12 and 17 from eight percent to almost thirteen percent (ter Bogt et al, 2003). A considerable number of teenagers in the Netherlands suffer from depression, in the age category of 18 to 24 years old a 15.5 percentage is shown to suffer (van Bergen, 2019). Teenage mental health is important as it affects both the current and the future lives of the teenagers, which is why it is a concerning issue (van Bergen, 2019).

One of the most crucial aspects of a person's self-concept and identity is self-esteem (Ferreiro et al, 2011). Eating problems tend to have a strong link to negative self-evaluative processes (Ferreiro et al, 2011). Furthermore, there is evidence that perfectionism may be a contributing factor to eating disorders (Lilenfeld et al, 2006). Perfectionism can be defined as a drive to be perfect, but it can also be defined as a desire to appear perfect (Ferreiro et al, 2011). Both a personal and a social component exist in perfectionism (Hewitt & Flett, 1991a). Negative emotional states or conditions are likely to result from feelings of insignificance and harsh self-criticism associated with failing to meet someone else's ideal standards (Hewitt & Flett, 1991b). Social media can instil exaggerated conceptions of feminine beauty (Tiggeman, 2011). Internalization of these views is problematic because it can lead to body dissatisfaction, which is a leading predictor of disordered eating (Strauss, 2009).

## 1.5 The impact of social media

Social media services like Facebook, Instagram, and Twitter allow users to portray themselves and their activities through written comments and photos (Utz et al, 2012). The Internet allows adolescents to choose what they want to watch and when they want to watch it, with no time constraints (Gross, 2004). Media such as magazines, on the other hand, are constrained by finances and availability (Gross, 2004). Due to the quality of accessibility, the Internet has become an integrated component of today's adolescent lives (Gross, 2004). Social networking sites have the ability to put more pressure on young girls to project a certain image of themselves and provide more opportunities for women to compare attractiveness between each other (Tiggeman & Miller, 2010).

Higher levels of image related activity are linked to increased body dysmorphia (Meier, 2013). It has been shown by Kemp (2021) that girls might be more likely to spend their time online in social interaction. Instagram was the third most popular social media network in terms of average monthly usage, with 10 hours per month, and the fifth most popular platform worldwide, behind only YouTube, Facebook, Facebook's Messenger and WhatsApp (Kemp, 2021). Instagram stands out as the most important and influential platform for brand content (Sánchez-Cobarro et al, 2020).

An abundance of images of thin portrayals of models and women can be found on Instagram, which is also regularly used for branding. The images can consequently result in a reduced self-image or even eating disorders when the young women seeing them might be pushed to reach the same result (Szewczyk, 2014). Despite the unrealistic concept of these bodies, many women and girls internalise them as personal goals and engage in appearance comparison with them (Keery et al, 2004). These internalisations often result in young women's discontentment with their own bodies, which is transformed into a desire to lose weight in order to match the body image of the models portrayed (Tiggeman & Miller, 2010).

The impact of thin-ideal message exposure on body satisfaction is mediated by dieting (Knobloch-Westerwick & Crane, 2011). Since the 1990s, there has been an increase in the usage of dieting pills for weight reduction (Kruger et al, 2004). Unhealthy weight-control actions, such as the use of diet pills and diuretics for weight loss, can put people at risk of establishing eating disorders (Neumark-Sztainer et al, 2006). Most platforms have guidelines to regulate content, but that does not prevent companies and influential people from disseminating information, which can be dangerous if that advice puts people at risk (Archibald-Durham, 2021). One of these recommendations is in the form of diet pills, since the online availability for dieting pills has been growing steadily (McKinsey, 2020).

Online, content created by users such as images and videos has been referred to as a medium of social currency (Rainie et al, 2012). When credited people, such as celebrities, share content, it increases the reach of the content and creates the perception of a good product solely because the product is endorsed by influential individuals (Montgomery & Chester, 2009). Advertisements directed at individuals on Instagram are also included in the diet consumer market (O'Shea, 2020). Consumption of goods and services such as surgical treatment meant for weight loss, fitness equipment, or diet pills has now become the standard of femininity, and Instagram takes advantage of this standard by advertising these products and allowing companies to collaborate with influencers to promote these products (McRobbie, 2008). According to research, online sales will account for nearly 20% of total dietary supplement sales by 2023 (Peden, 2022).

Different types of advertising have become increasingly popular as a result of the rise of social media platforms, one of which is influencer marketing. Given the increasing relevance of these figures, appropriate regulations and policies are required to protect consumers. Many of the social media promotion activities carried out by influencers have been found to be damaging, particularly for children and teenagers. Lack of transparency, ambiguous declarations of which content was brandished and which was not, and deceiving messages are among the harmful behaviours. (Michaelsen et al, 2022)

## 1.6 Introduction to dieting pills

Multiple biological systems in the body maintain the energy balance, allowing people to avoid starvation while also lowering their risk of obesity (Gahagan, 2013). Aside from energy dependence, eating needs are generally determined by sensory evaluation of food such as smell, texture, and taste (Gahagan, 2013). Furthermore, social influences play a role, which are impactful and compelling when it comes to eating needs (Higgs & Thomas, 2016). One of these influences is the socially promoted optimum of the thin female body, which causes adolescents to want to lose weight (Ojala et al, 2007).

Research by Celio et al (2006) demonstrates that women in their twenties who attend college have high levels of body dissatisfaction and weight concerns. Dieting is a common concept for them, and it is accomplished not only through caloric restriction, but also through the use of dieting pills, laxatives, home remedies such as apple cider vinegar, and diuretics (Celio et al, 2006).

Diet pills and other diet aids in the form of supplements have not been proven to work (Celio et al, 2006). Most of the time, these substances are only tested in a laboratory or on animals, and if they are tested on humans, it is typically done in small groups or there is no substantial evidence of actual weight loss related to them (Voedingscentrum, 2021). Moreover, according to the Centers for Disease Control and Prevention (CDC), weight-loss pills accounted for more than a quarter of the over twenty-three thousand emergency hospital visits each year in the United States (Geller et al, 2015). The online pharmacy of the Netherlands classified dieting pills in three categories; fat burners, fat blockers and appetite suppressants (Drogisterij.net, 2021). The growth of adolescent online diet pill purchases is among the growing trend of online sales (Peden, 2022).

When looking at the pills obtainable in the Netherlands, the active ingredients are either one or more of the following three: diuretics, artificial dietary fibre, or caffeine-like substances (Helm, 2021). Diuretic diet pills contain ingredients that cause the body to excrete sodium and water; as a result of the water expulsion, there is a weight loss reaction (Mayo Clinic, 2021). Diuretics are commonly used by people who have heart failure, liver failure, or tissue swelling, as well as by people who want to lose weight; however, it has been discovered that the weight-loss effect of taking diuretics is temporary and can be dangerous (Papanagnou, 2022). The side effects that can occur when taking diuretics include headache, loss of appetite, dizziness, diarrhea and hair loss (Cleveland Clinic, 2021). Furthermore, electrolyte, acid-base, and water balance disturbances, as well as metabolic changes, can emerge when taking diuretics (Losse et al, 1983). These side effects are present in diuretic users, however when these pills are used as a weight-loss source, there are additional risks (Papanagnou, 2022). If an individual that is not required to take this pill consumes it, the body will get rid of fluid, resulting in common dehydration (Papanagnou, 2022).

Artificial dietary fibres pills are another form of diet pill that can result in weight loss due to the potential increase in satiety induced by the bloating caused by the fibres (Sissons, 2020). Howarth et al. (2003), on the other hand, show no change in body weight after taking fibre pills. Aside from that, it can lead to issues such as intestinal problems, gut line irritation, and reduced blood sugar levels (Picco, 2020). An example of an artificial dietary fibre that is recommended through many weight loss websites to Dutch women (Dijkstra, 2022; Driessen, 2022; Helm, 2021) is the product Glucomannan which is said to control hunger with its absorbing effect. It is claimed that this product can help to lose 2 to 3 kilos in five weeks. (Driessen, 2022). When looking at an online store selling the product through their Dutch website (Bodystore.nl, 2022), the promotion states: “Glucomannan has an exceptional ability to absorb water and is one of the most viscous dietary fibres. It absorbs liquid so much that a small amount of

glucomannan added to a glass of water turns the entire contents into a gel. This ensures that you feel full during a long period of time”.

Diet pills that contain caffeine-like substances are classified under the category of appetite suppressants and fat burners (Helm, 2021). The Body & Fit twenty-four hour fat burn pill is one example of a caffeine-containing diet pill (Bodyandfit.com, 2022). It claims to contain a 24-hour fat-burning formula and 225 milligrams of caffeine per tablet (Bodyandfit.com, 2022). Phenq, a dietary supplement that claims to help weight reduction by boosting energy, is another caffeine diet pill (Phenq, 2022). This supplement has been associated to possible side effects such as headaches, agitation, nausea, and stomach discomfort (Rizzo, 2022). In addition to these bad consequences, there is an example of a fatality that happened as a result of the ingestion of internet purchased diet pills that had caffeine as their only active component (Mrvos et al, 1989). After taking these diet pills, a 22-year-old woman went into cardiac arrest and was sent to the emergency room (Mrvos et al, 1989). Furthermore, Patten (2005) claimed that over-the-counter diet pills, which are easily obtainable, commonly include caffeine, despite the fact that caffeine consumption has been related to depression.

Weight-loss pills are frequently advertised, the majority of the time focused only on the alleged advantages and outcomes that have been attained or might be attained by consuming the pill, as demonstrated by Davis (2021); “When diet and exercise aren’t enough, a weight loss pill can help you make up the difference between where your weight is and where you want it to be”. Products are increasingly being advertised via social media (Erdoğan & Çiçek, 2012). Diet pills are no exception, there is a significant amount of advertising of weight loss pills, thin women and photo-shopping of images easily accessible on the internet and through social media (Erdoğan & Çiçek, 2012). This is exacerbating a surge in the prevalence of young people with distorted body images, which has resulted in an increase in the number of people resorting to drastic weight loss programmes (Das et al, 2014).

Influential people like Michelle Lewin with over 14 million followers, Kim Kardashian and Khloé Kardashian that together have a follower count that amounts to over 540 million followers, have been criticized by other people of influence or media outlets for promoting diet pills through their social medias (Larbi, 2018; Duell, 2012). Social media is built on contact, this increases the pressure on followers to interact and copy actions that they see on these platforms than from others (Ridolfi et al, 2011).

When it comes to the size of the worldwide dieting pill market, Grand View Research (2021) estimates that it is valued to be more than \$150 billion dollars in 2021, and it is predicted to rise at an annual pace of 8.9 percent from 2022 to 2030.

## 1.7 Legislative environment

As of 2022, there is no formal legislation governing influencer marketing in Europe. However, consumer protection regulation applies to influencer content as well. This incorporates transparency regulations as well as the Unfair Commercial Practices Directives (UCPD). Additionally, the promoted products must adhere to all applicable national and European laws. (Michaelsen et al, 2022)

The advertising code for social media and influencer marketing in the Netherlands specifies that when it comes to advertising through social media, it must be evident that it is recognized as such. Furthermore, if a distributor gets compensation from the advertiser, this must be indicated fully in the advertising message. It is also stated that it is forbidden to manipulate social media postings or other communications in such a way that the average client may be misled. When it comes to who is liable for adverse reactions to posts, the advertiser is still made responsible under this Code. Finally, it is claimed that advertising can exist in specific instances without having a link that is relevant to both the brand and the product, such as medicinal products. (Stichting Reclame Code, 2019)

The disclosures put out by the Federal Trade Commission (2019) for social media and influencer marketing in the United States of America states to first of all mention when a certain type of partnership has been established, whether on a familial, financial or personal level with a company. Furthermore, it is noted that it is not permitted to discuss knowledge and experience about the product that has not been tested by the person marketing the product (Federal Trade Commission, 2019). This declaration makes no mention of avoiding any statements that may be harmful to one's self-image or mental health (Federal Trade Commission, 2019). The conditions of what effect influencers' posts have on minors are not specified in the criteria that social media influencers must follow (Federal Trade Commission, 2019). It is said by Dhanesh & Duhtler (2019) that followers form connections and interactions with influencers rather than with businesses.

Food supplements, according to the European Union, are classified as foods with a dietary impact. When it comes to food supplement labelling regulations, general labelling rules must be followed, as well as displaying the recommended daily consumption of the supplement, a disclaimer not to exceed this daily dosage, a statement that diet supplements must not be used as a substitute for a healthy and balanced diet, and the fact that the products must be kept at a place away from young children. (Your Europe, 2021)

The standards for food labelling language presentation are that it must be clear, visible, and not obscured, as well as easily obtainable. Labelling must also be founded on scientific evidence and must not mislead customers. Furthermore, a big percentage of pre-packaged products must declare their nutritional content. This nutritional information includes the product's caloric content, amount of fat, saturates, carbohydrates, sugars, proteins, and salt content. (European Commission, 2021)

Dietary supplements, as defined by the United States Food and Drug Administration (FDA), are items taken orally that include a "dietary component" (United States Food and Drug Administration, 2015). They fall under the general umbrella of foods (United States Food and Drug Administration, 2022). Dieting pills that are not vitamins, that fall under this category include amino acid products and enzyme supplements (United States Food and Drug Administration, 2015). Contrary to the United States of America, in Canada, as said by Government of Canada (2022), dieting pills are classified under drugs, specifically vitamins, minerals and amino acids. The FDA recommends that you contact with a medical professional before consuming any of these items (United States Food and Drug Administration, 2015).



Food supplements are recognized as food in the European Union. According to the European Food Safety Authority, food supplements contain nutrients such as minerals or vitamins (European Food Safety Authority, 2021). Food supplements are available in pill, capsule, and other formats (European Food Safety Authority, 2021). These supplements can contain a range of components, such as amino acids, essential fatty acids, and fibres. (European Food Safety Authority, 2021)

Dietary supplements such as Glucomannan, Phenq, and Fat Burn Active are common in the Netherlands and are used by Dutch women. Wolfson Brands Limited manufactures the Phenq diet tablets in the United Kingdom (Phenq, 2022). The Fat Burn Active supplement is made in the United States of America (Fatburnactive.nl, 2022).

Since various dieting pills, such as Fat Burn Active, are manufactured in the United States, labelling laws differ from those of the European Union. It is consistent with the way that diet supplement also covers as a vitamin, mineral, amino acid, or other dietary substance meant to supplement the diet. It is also emphasized that supplements are not medications and should not be used to cure or prevent problems. As a result, these supplements are not authorized to make claims such as "reduces pain" or "helps burn fat." (United States Food and Drug Administration, 2022)

The current situation suggests the necessity for legislations on social media influencer marketing and on developing tools to monitor marketing activities carried out on social media to ensure that the rights of the customers are protected. (Michaelsen et al, 2022)

## 1.8 Relevance and stakeholders

Diet pills and laxatives are commonly used to regulate weight in individuals with eating problems (Roerig et al, 2010). Not all the individuals who consume weight loss pills have an eating problem (Levinson et al, 2020). However, this behaviour of consuming dieting pills and laxatives can cause an unbalance in the digestive system and result in a dysregulation of emotions due to a reliance on these pills (Levinson et al, 2020). When compared to vitamins, pills offered for weight reduction, muscle growth, and energy were linked with nearly three times the risk of poor medical consequences (Or et al, 2019).

It was reported by Blanck et al (2007) that one in every five women and one in every ten men had ever taken a weight loss pill. This substantial disparity can be explained by the media's portrayal of flawless bodies and proportions (Bell, 2016). The majority of these ideal body depictions and advertising are aimed at women (Bell, 2016). Concerns about weight are especially prevalent throughout the adolescent years, since adolescents are exposed to the media's slim beauty ideal (Canadian Paediatric Society, 2004). This emphasis on thinness has been absorbed by youth, who associate thinness with attractiveness, prosperity, and wellbeing (Canadian Paediatric Society, 2004). Adolescents are also confronted with a range of techniques to lose weight and reach this ideal through media attention (Canadian Paediatric Society, 2004).

The objective of this study is to address the issue of diet pill advertising on social media and the impact it has on young women. The relevance of this study can be explained through the stakeholders involved. The first stakeholders are young women, which thanks to previous research have been proven to have a negative self-image, which can be aggravated by the promotion of weight loss drugs that encourage the objective of reducing weight to match what is depicted on social media as the ideal figure. Furthermore, the general health risks for the young women that use these diet pills need to be brought to the surface. Other stakeholders include policymakers, who are encouraged to adopt legislation that integrate or include stronger guidelines that address the presence of diet pills on social media, as well as the impact that this presence has on vulnerable populations. Furthermore, social media platforms are involved in the sense that they must adhere to policymakers' policies. Additionally, dieting pill producers and firms would have to follow the regulations established by policymakers, as well as deal with the composition of their goods and the consequences for those who use them.

## 1.9 Scope of the research

Teenagers' motives for dieting vary, but the majority are motivated by body image concerns and a desire to be slimmer (Canadian Paediatric Society, 2004). Fear of weight gain is found to be most significant in women between the ages of 16 and 25, despite the low proportion of obesity in young women (Slof-Op 't Landt et al, 2017). Dieting is a popular notion among women who attend college, whom have been proven to have substantial body image and weight concerns (Celio et al, 2006). Dieting involves calorie restriction but as well the usage of diet pills (Celio et al, 2006).

The mental health issues that will be investigated in this research are; body image issues and eating disorders. These issues have been chosen because they have been linked the most with mental health issues developing from social media content exposure and eating related factors (Das et al, 2014; Strauss, 2009; Sharan & Sundar, 2015). Body image issues can include being unhappy with the body, wanting to be thinner and wanting to change looks because of internal or external beliefs (Meier, 2013). The eating disorders that will be taken into account in this research will be binge eating disorder, anorexia nervosa and bulimia nervosa.

According to Smink et al. (2012), women compose the majority of people affected by eating disorders. This is mostly due to psychological factors such as the overvaluation of thinness, which is regarded to be a crucial contributory factor in the development of eating disorders (Sharan & Sundar, 2015). Social networking sites have the ability to put more pressure on young girls to project a certain image and provide more opportunities for attractiveness comparison (Tiggeman & Miller, 2010). There is a significant amount of advertising of weight loss pills, thin women and photo-shopping of images easily accessible on the internet and through social media (Erdoğan & Çiçek, 2012).

Based on the reasons mentioned in Chapter 1: Introduction, it can be observed that women are more affected by a concept of an ideal figure and are generally more vulnerable to social media influences. On top of this, there are triggers of diet pills on the market and women have a higher prevalence of developing an eating disorder. (Arain et al, 2013; Ferreiro et al, 2011)

For these reasons, because women are more affected by a concept of an ideal figure and more affected by social media influences, a lower self-image, triggers of diet pills on the market and because women have a higher prevalence of developing an eating disorder, there needs to be more research about diet pills. Especially more research about diet pills and their presence on social media, there is no research available that solely focuses on the relation between diet pills, eating disorders, young women and social media. Furthermore, there is not a lot of information regarding diet pills in general in the Netherlands. As a result, the goal of this study is to provide more information about the effects of dieting pills presence on social media and the effects they have on young women between the ages of 15 and 24.

The age range of 15 until 24 has been chosen since, as mentioned in paragraph 1.3, the brain does not fully mature until approximately the age of 25, and during puberty and adolescence, the frontal region of the brain needs to grow dramatically (Arain et al, 2013). As Gur (2021) demonstrates, human brain development continues into the early 20s, since neurobehavioral vulnerabilities prior to full brain development contribute to the total vulnerability of this age group, which may therefore be linked to the impact of social influences on young teenage women's mental health.

The main question of this research therefore is going to be; *What is the effect of dieting pills on social media on the mental health, particularly body image and eating disorders, of women between 15 and 24 years old in the Netherlands?*

In order to answer this main question, the following sub-questions need to be answered;

1. How are women between 15 and 24 years old that are living in the Netherlands affected in regards to eating disorders and body image issues associated with social media contents?
2. How are dieting pills perceived by women between 15 and 24 years old in the Netherlands?
3. What are the existing rules on advertisement on social media in the Netherlands?

## **2: Materials and methods**

### **2.1 Materials**

The goal of this study was to look at how the appearance of diet pills on social media affects the mental health, in particular body image issues and eating disorders of young women in the specified age range (Boeije & Hox, 2005). The study included a mixed-design of qualitative and quantitative research. A qualitative technique was used to address the main research question because it will attempt to acquire information on an individual's behaviour, belief, attitude, experience, or interaction (Pathak et al., 2013). A questionnaire with combination quantitative (measurable) and qualitative (opinions) questions was utilized to answer the research question and the sub questions.

Secondary qualitative research was conducted first, looking at existing data (Boeije & Hox, 2005). This secondary research explained the amount of knowledge already known on the issue, it was as well used to answer parts of sub-questions or full sub-questions. Additionally it was used to partially answer the main research question.

Secondly, exploratory research was carried out. Exploratory research is widely used to investigate research ideas in order to discover the nature of an issue, rather than providing hard data (Dudovskiy, 2012). Exploratory research is typically used when the topic of a study has not yet been thoroughly investigated (Dudovskiy, 2012). The reason why exploratory research was chosen for this study is because the information available on this issue was still limited (Dudovskiy, 2012). Exploratory research has been done in the form of a questionnaire with questions measuring the presence of dieting pills on social media and their interaction in the lives of the target group, the self-perception and mental health, particularly eating disorders and body image issues of the target group. The questionnaire was produced and distributed to participants either on paper or online. Adolescent women between the ages of 15 and 24 residing in the Netherlands took part in this research in the form of a survey which can be found in Appendix 1.

According to Memon et al. (2020), sample sizes larger than 30 and less than 500 are appropriate for most researches. When the population is extensive, researchers commonly consider 100 participants to be the minimal sample size (Alshibly, 2018). The fact that the population is large is the case for this research since the population of adolescent women between the ages of fifteen and twenty-four in the Netherlands is around one million (Centraal Bureau Statistiek, 2021). For these reasons, the study tried to gather at least 100 participants.

## 2.2 Methods

The study participants included women between the ages of 15 and 24 years old that are living in the Netherlands. A survey of eleven questions was distributed to a target number of 100 women in the Netherlands. The Netherlands has been chosen as a country because of the accessibility to participants for the survey executed. The survey was not limited to only Dutch women but also women living in the Netherlands since they still come into contact with Dutch advertisements and promotions. The distribution of this questionnaire was done in person as well as through social media platforms such as Instagram, WhatsApp, Facebook and LinkedIn. All of the questions were multiple choice, and clearly explained. An option not to answer sensitive questions was provided. Furthermore, a warning regarding sensitive topics will be reported (Tourangeau & Yan, 2007). The questionnaire began with examining the age group of the participants, and was then followed by an evaluation of the participants' social media activity. Following that, questions on the use of diet pills, the impacts on the overall potential use of diet pills, and the availability of these pills on social media were posed. In addition, questions concerning self-perception and mental health, in particular eating disorders and body image issues, were addressed. Finally, there was a question on the participants' perceptions of whether the dieting pill contents on social media are well-regulated.

This questionnaire was sent out in order to offer particular information that could not be obtained from secondary research. Appendix 1 contains the questionnaire in both English and Dutch.

### 2.2.1 Relation between sub questions and research design

Sub question one: "How are women between 15 and 24 years old that are living in the Netherlands affected in regards to eating disorders and body image issues associated with social media contents?" will add to the research question by discussing the perceived mental health, especially focused on eating disorders and body image issues of the target group, combined with the social media influences and the body standards being displayed on social media. It will furthermore look into what the presence of weight loss advertisements, in particular dieting pills have as an effect on perceived mental health and self-perception. This sub question has been covered with the help of secondary research on topics such as mental health and in particular eating disorders and body image issues and the effects of social media contents on these mental health issues. On top of this, questions 3: "Rank the most to least followed social media content that you follow on this/these social media channel(s)", 7: "Do you feel pressured to fit in with the body standards represented on social media?", 8: "To what extent does dieting pill content on social media alter your self-perception?", 9: "Are you currently suffering or have you suffered from mental health issues related to your body image (this can include; body image issues and/or eating disorders)?" and 10: "Do you think that the content of dieting pill promotion on social media contributes to the development of the mental health issues; eating disorders and/or body image issues?" from the survey are connected to this sub question and will therefore aid in answering this sub question by covering the topics of the social media content followed and the presence of a pressure to fit in with the body standard depicted on social media. Furthermore what will be aiding in answering this sub question will be topics like the alteration of self-perception due to social media, the mental health issues present among the participants and if the presence of dieting pills on social media contributes to the development of mental health issues, particularly eating disorders and body image issues. The response to the sub question will be analysed using the questionnaire's inferential statistics. Visual representations will be used to illustrate the observed data, for example, diagrams that can show which social media content is followed by the majority and if the respondents feel pressure to fit in with the body standard depicted on social media.

Sub question two: “How are dieting pills perceived by women between 15 and 24 years old in the Netherlands?” has firstly been answered with the help of desk research on topics such as weight loss practices, dieting pills on the market and the perception of dieting pills. This question is connected to the research question because it will aid in determining the perception of dieting pills by women between the ages of 15 and 24 years old. What is missing from the answers gathered from the desk research will be investigated with the help of the survey with questions 4: “Have you ever come across any type of dieting pill being promoted through social media?”, 5: “Have you ever taken a dieting pill?”, 6: “If yes, which of these factors influenced you the most to buy this dieting pill? Select the two most influencing factors” and 10: “Do you think that the content of dieting pill promotion on social media contributes to the development of mental health issues?” in the survey questionnaire. These questions are connected to the diet pill usages and perceptions of the participants as well as the influences on the dieting pill buying behaviour present. The response to the sub question will be evaluated using inferential statistics. Visual representations such as graphs or diagrams will be utilised to assist into understanding the observed data.

Sub question three: “What are the existing rules on advertisement on social media in the Netherlands” will be addressed by secondary research on topics such as advertisements on social media, the rules connected to these advertisements and the effects of these advertisements. This question is connected to the research question because it will aid in determining what is the presence of dieting pills on social media and where they fit when it comes to the social media regulations. On top of the secondary research, this question will also be answered through primary research, in particular, by question number 11; “Do you think dieting pill content on social media is well-regulated?” in the survey. Question 11 will address the topic and offer the opinions of women within the target group on whether the existing rules on advertisement on the content of dieting pills on social media in the Netherlands are sufficient. Inferential statistics will be used to analyse the answers provided by the participants. To help visualise the observed data, representations in the form of a graphs or a diagram will be used. For the literary review of this sub question, research material will be selected based on the relationship of the article with the sub question. Moreover, reliability and the target area of the literature are taken into account when selecting the literature. Dutch and European Union advertising laws and additionally American advertising laws will be considered acceptable for the literary review of this sub question.

### **2.2.2 Limitations**

There are a number of limitations linked to this study. Firstly it was difficult to find the amount of people necessary to have a significant outcome of the survey, according to SurveyMonkey this amount, with the population of women between 15 and 24 being around 1 million, should be 385 women, what was reached in the end were 140 women (SurveyMonkey, 2018). Another limitation was the fact that the topic could be considered sensitive, when talking about mental health and weight loss it can be a triggering or difficult topic for people, which can result in them refusing to join the study or giving answers that are not based on the truth. This could be seen to a certain extent in the survey, 4 people refused to answer a question and 95 people could be seen to have visited the survey but not to have finished it. Reasons for this are undetermined but can be due to sensitive topics. This connects to another limitation; being that the questionnaire has not been equivalent to a psychological assessment. The data available on dieting pills and eating disorders considering Dutch women has been limited and difficult to acquire, which can also be considered a limitation.

## **2.3 Data Analysis**

As the research is a combination of quantitative and qualitative research, there are multiple ways of data analysis. The research is quantitative since the data is collected in a set way through a questionnaire. This questionnaire will be interpreted using inferential statistics. What can be concluded using inferential statistics is what a broader population may think based on a sample group representing the population of the study. The hypothesis testing procedures has then be used to draw conclusions. (Kuhar, 2010)

The desk research executed and the research in the form of literature reviews which has been performed, were needed to answer the research question as it is open ended and the data that was acquired will be composed of observations. A questionnaire has been performed to participants to provide missing data. What was meant to be determined with the help of this mixed-method research was whether the presence of dieting pills on social media has an effect on the mental health of the target group.

The two hypotheses were that H0 was that the presence of dieting pills on social media has an effect on the mental health, particularly body image and eating disorders, of women between 15 and 24 years old in the Netherlands. H1 was that the presence of dieting pills on social media does not have an effect on the mental health, particularly body image and eating disorders of women between 15 and 24 years old in the Netherlands.

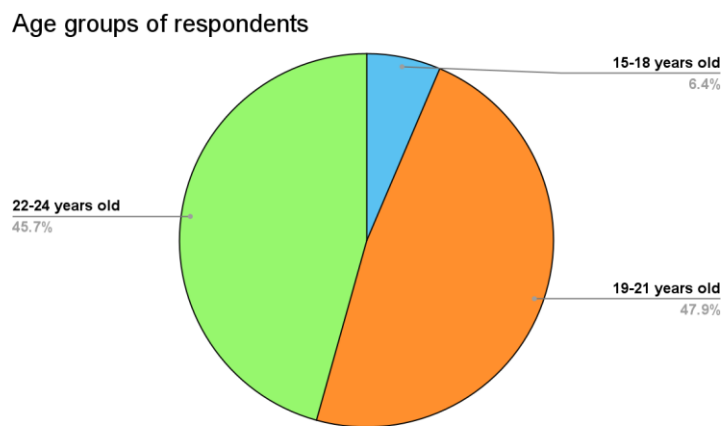
## **2.4 Validity**

The validity of this study may be observed in how the sub questions will be analysed and answered utilising a mixed method approach. Combining quantitative and qualitative research increases a study's validity (Abowitz & Toole, 2010). A thorough examination of the survey data will be required in order to grasp the responses provided. Particularly with regard to the sensitive issue of the study, the limitations must be considered, and when quantitative research fails to offer answers, qualitative research should assist and fill in the gaps.



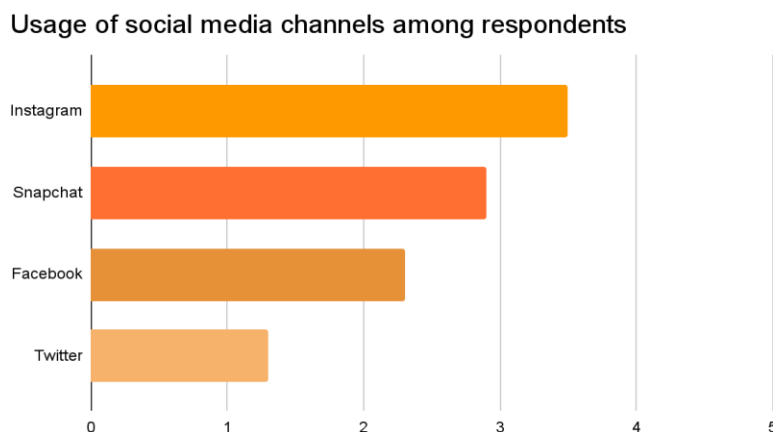
### 3: Results

The survey was active from May 18th to May 31st, 2022. A total of 140 completed survey responses were gathered, furthermore 95 incomplete and hence rejected responses were registered in the survey system Survio. The average time to complete the survey among the participants was one to two minutes, according to sixty percent of the participants. As demonstrated in Figure 1. “Age groups of respondents”, 47.9 percent of the participants (67 responders) were between the ages of 19 and 21 years old, 45.7 percent (64 responders) were between the ages of 22 and 24 years old, and 6.4 percent (nine responders) were between the ages of 15 and 18 years old.



**Figure 1.** Age groups of respondents

The second question gathered general information about the respondents by asking which social media channel(s) they use on a regular basis, allowing them to arrange the options in order of significance. The social media networks available were Facebook, Snapchat, Instagram, and Twitter. When viewing Figure 2. “Usage of social media channels among respondents”, points are allocated based on how many times the scores of importance were given. The greater the score on the bar chart, the greater the value assigned to the social media channel. Instagram is ranked first in significance by respondents, followed by Snapchat, Facebook, and finally Twitter.



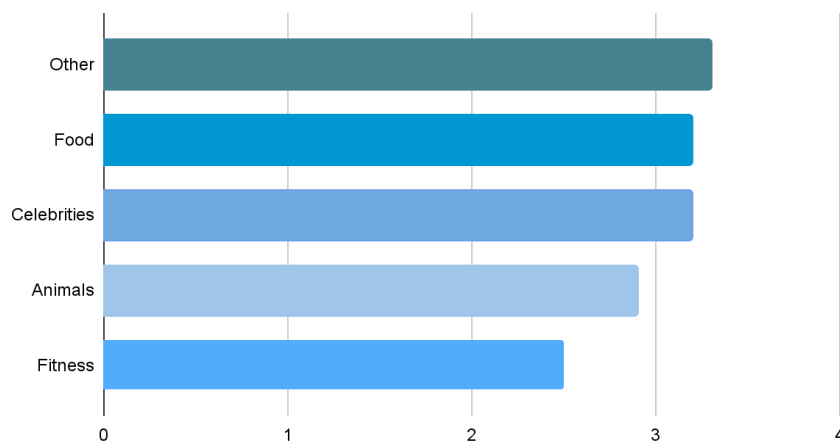
**Figure 2.** Usage of social media channels among respondents

Following the survey's general opening questions, the set of questions were designed to answer the sub questions, with various questions serving different objectives for each of the three sub questions. The sub questions that are answered with the help of the results of the survey are firstly; “how are women between 15 and 24 years old that are living in the Netherlands affected in regards to eating disorders and body image issues associated with social media contents?”. Secondly; “how are dieting pills perceived by women between 15 and 24 years old in the Netherlands?”. Third; “what are the existing rules on advertisement on social media in the Netherlands?”.

**Sub question 1: How are women between 15 and 24 years old that are living in the Netherlands affected in regards to eating disorders and body image issues associated with social media contents?**

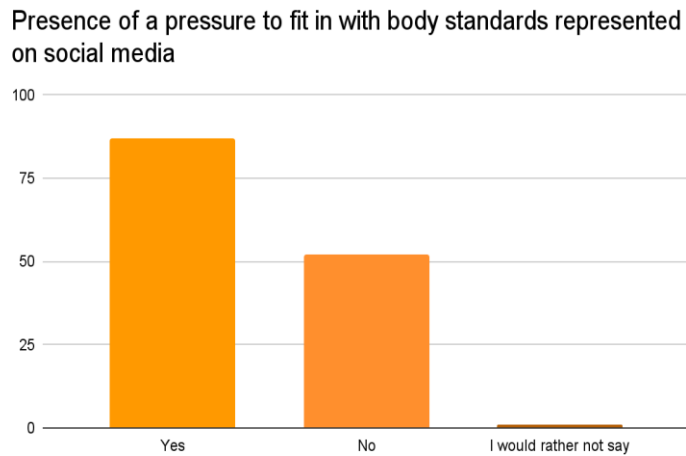
Questions 3, 7, 8, 9 and 10 of the survey are connected to this sub question. In question 3 of the survey: “Rank the most to least followed social media content that you follow on this/these social media channel(s)”, it is asked of the participants to rank the most to least followed social media content followed on the beforementioned social media channel(s). The results to this question are shown in Figure 3. “Ranking of social media content most followed by respondents”. Figure 3. shows that, aside from the first ranking choice, which was Other but not defined and thus irrelevant to this study, the 140 respondents claimed to be most interested in food and celebrity content on the social media channels that were ranked based on usage in question two of the survey.

Ranking of social media content most followed by respondents



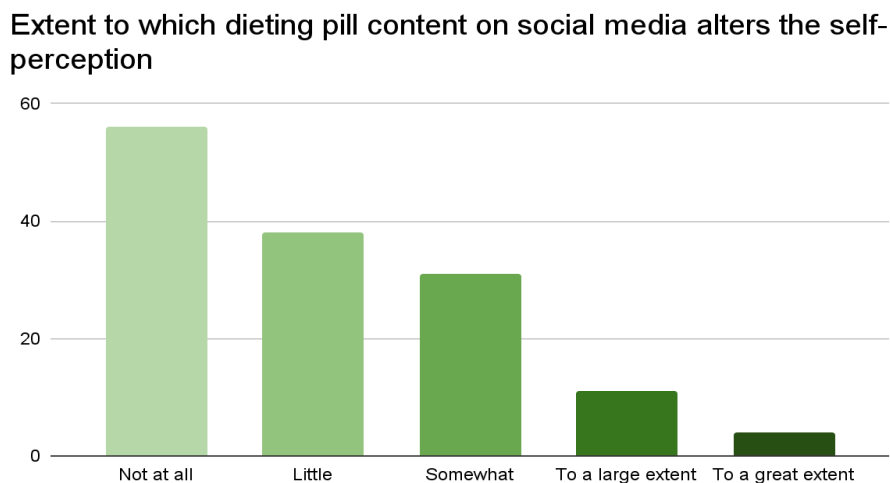
**Figure 3.** Ranking of social media content most followed by respondents

Demonstrated in Figure 4. “Presence of a pressure to fit in with body standards represented on social media”, 87 participants responded with yes to the survey question. This question, which was the seventh of the survey, asks: “Do you feel pressured to fit in with the body standards represented on social media?”. Opposed to these respondents whom replied yes to the survey question, 52 other participants denied to feel this pressure, one respondent indicated to not want to answer this question.



**Figure 4.** Presence of a pressure to fit in with body standards represented on social media

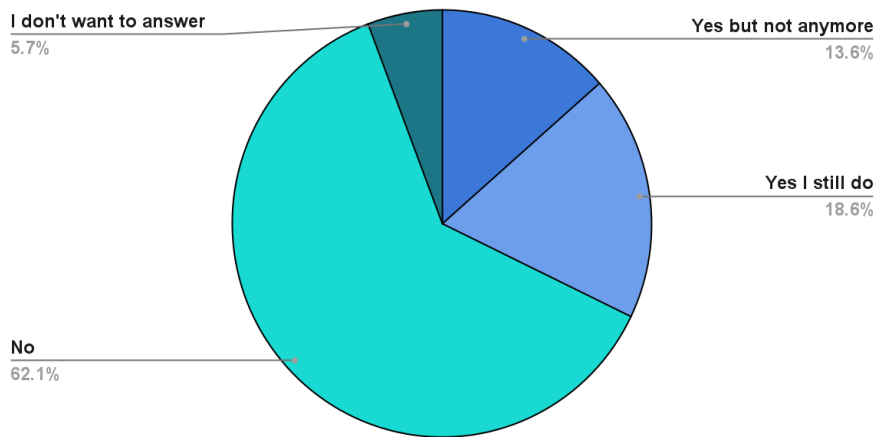
The results of question 8 of the survey; “To what extent does dieting pill content on social media alter your self-perception?” can be seen in Figure 5. “Extent to which dieting pill content on social media alters self-perception”. This diagram depicts the various responses that were offered for this question, which were: to a great extent, to a large extent, somewhat, little and not at all. Figure 5. shows that 4 participants indicated that dieting pill content on social media changes their self-perception to a great extent, 11 participants said it alters their self-perception to a large extent and 31 participants said the fact that it alters their self-perception to a somewhat degree. 38 participants said that it alters their self-perception to a little extent and lastly, 56 participants stated that dieting pill content on social media does not alter their self-perception at all.



**Figure 5.** Extent to which dieting pill content on social media alters self-perception

The results displayed in Figure 6. “Mental health issues present among the participants related to body image” regards question nine of the survey. Question nine asks: “Are you currently suffering or have you suffered from mental health issues related to your body image (this can include; eating disorders and/or body image issues)?”. To this question, 19 participants responded with “yes, but not anymore” to this question, 26 participants responded with “yes, I still do”. Moreover, 87 participants said to not currently suffer or have suffered from mental health issues related to their body image and eight respondent indicated to not want to answer this question.

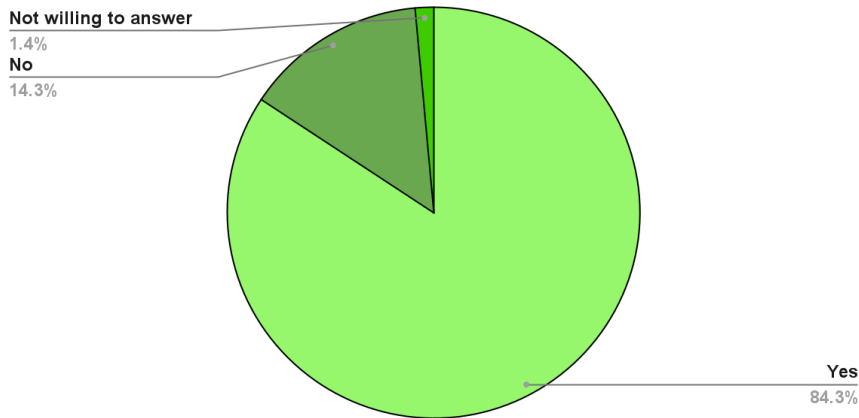
### Mental health issues present among the participants related to their body image



**Figure 6.** Mental health issues present among the participants related to their body image

The results of question 10 of the survey; “Do you think that the content of dieting pill promotion on social media contributed to the development of the mental health issues; eating disorders and/or body image issues for you?” are shown in Figure 7. This figure focuses on the contribution of dieting pill promotion on social media to development of mental health issues. In this figure, it is displayed that 118 responders chose yes, saying that they are of the opinion that the content of dieting pill promotion on social media contributed to the development of the mental health issues; eating disorders and/or body image issues. Oppositely, 20 participants replied with no, meaning that they did not think that the content of dieting pill promotion on social media contributed to the development of the mental health issues. Two responders chose to not answer this question.

### Contribution of dieting pill promotion on social media to development of mental health issues

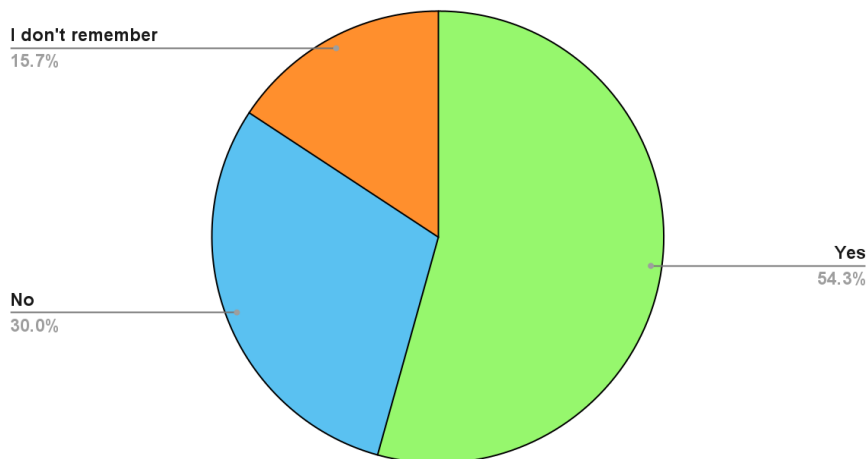


**Figure 7.** Contribution of dieting pill promotion on social media to development of mental health issues

### Sub question 2: How are dieting pills perceived by women between 15 and 24 years old in the Netherlands?

Questions 4, 5, 6 and 10 are connected to the second sub question. The results of question 4 of the survey; “Have you ever come across any type of dieting pill being promoted through social media?”, can be seen in Figure 8. “Dieting pills promotion presence on social media”. The results show that 76 participants said to have come across any type of dieting pill being promoted through social media. Contrarily, 42 participants said to have not come across any. Moreover, 22 participants said to not remember if they ever came across any type of dieting pill being promoted through social media.

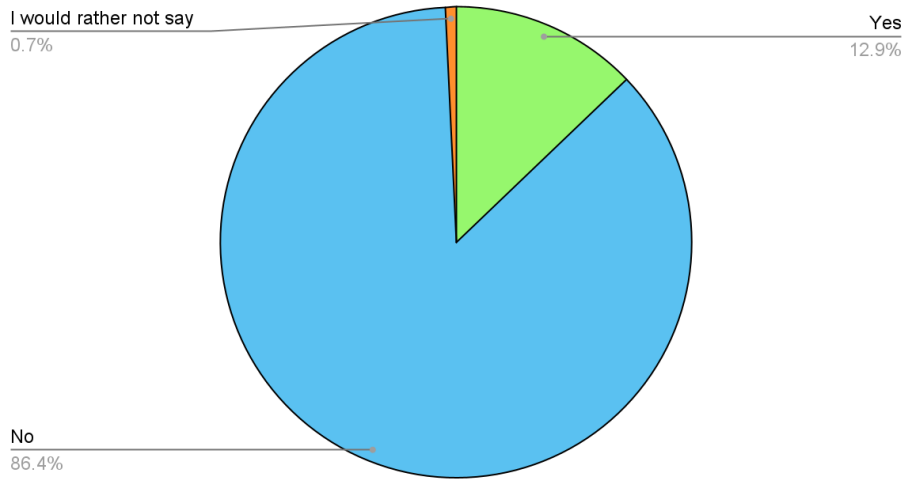
### The awareness of dieting pill promotion on social media



**Figure 8.** The awareness of dieting pill promotion on social media

The results of question 5 in the survey which states: “have you ever taken a dieting pill?” can be seen in Figure 9. Dieting pill use amongst participants. This figure displays that 18 respondents said yes, stating that they did take a dieting pill in their lives. Conversely, 121 respondents said no, saying that they did not take a dieting pill ever. One respondent chose the option of not wanting to say an answer.

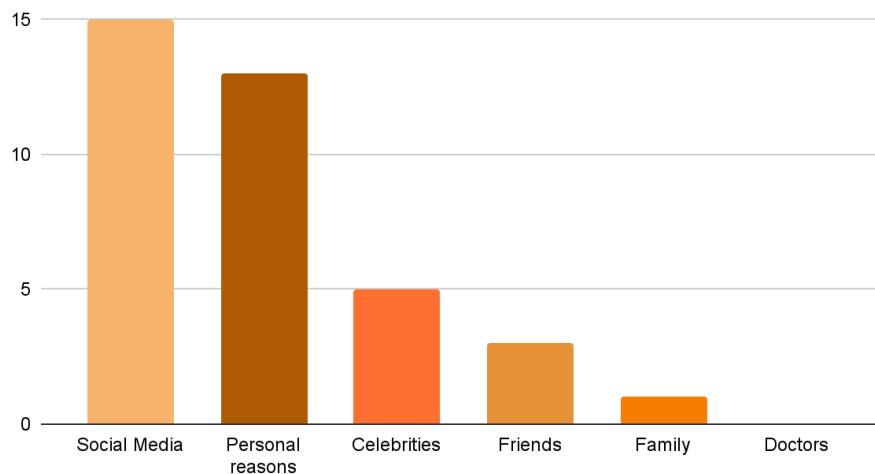
**Dieting pill use amongst participants**



**Figure 9.** Dieting pill use amongst participants

The next question, which is question 6 of the survey, is connected to question 5 as it states; “If yes, which of these two factors influenced you the most to buy this dieting pill?”. This question can only be answered with selecting the factors if the answer to question 5 “have you ever taken a dieting pill?” was “Yes”. For this reason, an option to say “My answer was no, I never took a dieting pill” was provided. In figure 10. “Factors that influenced the participants to buy dieting pills”, the different factors are depicted, the results to the option to say no are not displayed in the figure, 119 respondents chose this option. This results to 21 respondents providing the factors to why they took a dieting pill. The participants were asked to choose their two most relevant factors.

**Factors that influenced the participants to buy dieting pills**



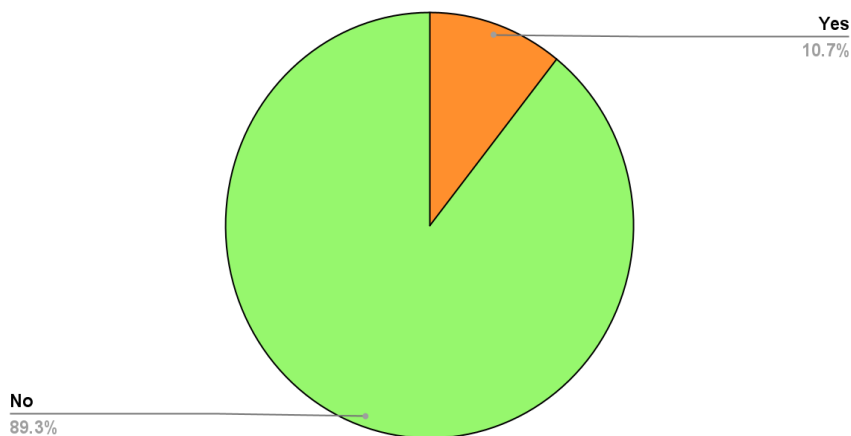
**Figure 10.** Factors that influenced the participants to buy dieting pills

Furthermore, question 10 of the survey, which is linked to the second sub question, has already been mentioned under the findings of sub question 1. As can be seen in Figure 7. “Contribution of dieting pill promotion on social media to development of mental health issues”. This figure depicts the results to this question. The results indicate that 118 responders said that they are of the opinion that the content of dieting pill promotion on social media contributed to the development of the mental health issues; eating disorders and/or body image issues. Oppositely, 20 participants said that that they did not think that the content of dieting pill promotion on social media contributed to the development of the mental health issues.

**Sub question 3: What are the existing rules on advertisement on social media in the Netherlands?**

Question 11 of the survey is connected to the third sub question. This question asks: “Do you think that dieting pill content on social media is well-regulated?”. The results show that 15 respondents to the survey did think that dieting pill content on social media is well-regulated. In opposition, 125 respondents were of the opinion that dieting pill content on social media is not well-regulated. This is shown in Figure 11. Participants opinion of the regulation of dieting pill content on social media.

Do you think that dieting pill content on social media is well-regulated?



**Figure 11.** Participants opinion of the regulation of dieting pill content on social media

## 4: Discussion of results

The objective of the research was to investigate the effect of the presence of dieting pills on social media on the mental health, particularly body image and eating disorders, of women between 15 and 24 years old who are living in the Netherlands. The expected outcomes of the research hypothesised that the presence of dieting pills on social media negatively influences the mental health of the target group. To find an answer to the proposed research question, desk research and a questionnaire were carried out. Exploratory research investigated topics that were connected to the main question with the aim of finding an answer to the main question: “What is the effect of dieting pills on social media on the mental health, particularly body image and eating disorders, of women between 15 and 24 years old in the Netherlands?”. Additionally, three sub questions were created to gain deeper knowledge about the different influencing factors discussed throughout the research such as mental health, social media and the legislative environment. The analysis of these factors was carried out through desk research and a questionnaire. The results will provide information to address the sub questions and subsequently, the main question.

When looking at the age categories that the participants fall into, what can be observed from the first questions of the survey is that most responses came from the second and third age group, 67 respondents aged between 19 and 21 years old and 64 respondents between 22 and 24 years old. Only 9 respondents were between the age of 15 and 18 years old.

As can be seen in the results, the participants ranked Instagram as the most used social media channel on a daily basis. Research of Kemp (2021) shows that Instagram was the third most popular social media network when looking at average monthly usage. Furthermore, it has been hypothesised by Kemp (2021) that girls main online activities consist of social interaction. Social interaction is characterised by, for example, engaging with influential brand content posts (Sánchez-Cobarro et al, 2020). Instagram is considered to be the most influential platform for branding activities (Sánchez-Cobarro et al, 2020).

**Sub question one: “How are women between 15 and 24 years old that are living in the Netherlands affected in regards to eating disorders and body image issues associated with social media contents?”**

What can be seen from the ranking of the most to least followed social media content among the participants is, “Other” was the most chosen option as the most ranked social media content. This option was provided for content that did not fall into the categories mentioned. “Other” was therefore undefined and cannot be included in the observations. Aside from this first ranking option, the respondents were most interested in food and celebrity content shown on their preferred social media channel. This channel was specified in the aforementioned question, where Instagram ranked first. Influencer marketing has become increasingly popular as a result of the rise of social media platforms (Michaelsen et al, 2022). When people that are looked up at by others, like celebrities, share content on their accounts, it improves the reach of the content and generates the perception of a good product just because the product is promoted by these individuals (Montgomery & Chester, 2009).



According to question seven of the survey, 87 participants feel pressured to fit in with the body standards that are represented on social media, and 52 participants did not feel the pressure to fit in with the body standards that are represented on social media. In Western society, social media body standards emphasise the slender norm for girls (Saucier, 2011). Tiggeman and Miller (2010) discovered that females who spent more time on social networking sites showed a greater desire to be skinny. According to Stice et al. (2000), during adolescence, the bodies of girls evolve and a dissonance between body image and the thin ideal develops, resulting in weight concerns and risk factors related to eating.

The various responses of the participants to the question “To what extent does dieting pill content on social media alter your self-perception?” show that 56 participants say that dieting pill content on social media does not alter their self-perception at all. Furthermore, 38 participants stated that it alters to a little extent while 31 participants said that dieting pill content on social media alters their self-perception to a somewhat degree. Contrarily, 11 participants said that it alters their self-perception to a large extent and 4 participants indicated that their self-perception gets altered to a great extent by dieting pill content on social media. On the internet and social media, there is a lot of promotion for diet pills and the thin ideal of women that is effortlessly reachable (Erdoğmuş & Çiçek, 2012). As a result, the number of teenagers with distorted body images has increased, as has the number of people desiring to reduce weight using drastic weight reduction measures (Das et al, 2014).

The questionnaire furthermore generated data on the question; “Are you currently suffering or have you suffered from mental health issues related to your body image (this can include; eating disorders and/or body image issues)?”. In response to this question, 19 individuals said "yes, but not anymore," while 26 said "yes, I still do.”. Contrarily, 87 participants stated that they do not now or have previously had mental health issues connected to their body image, and eight respondents indicated that they did not wish to answer this question. Mental illnesses impact one out of every seven teenagers, according to the World Health Organization (2021). Adolescents aged twelve to seventeen years old have a prevalence of roughly 5%, while young adults aged 18 to 25 years old have a rate of approximately 10% (Rijksinstituut voor Volksgezondheid en Milieu, 2019). One of the factors for the rise in mental health concerns among young adults is a desire to be flawless, which can also be related with having a perfect body (Rijksinstituut voor Volksgezondheid en Milieu, 2019).

Furthermore, the question "Do you believe that the content of dieting pill marketing on social media led to the development of mental health difficulties; eating disorders, and/or body image issues for you?" will be discussed. According to the questionnaire results, 118 participants believe that dieting pill advertising on social media led to the development of mental health concerns, eating disorders, and/or body image issues for them. In contrast, 20 participants did not believe that the content of diet pill marketing on social media led to the development of mental health issues for them. Indicated by Hesse-Biber et al. (2006), many women have acquired eating disorders in order to achieve beauty standards by seeking to lose weight by extreme methods. Such methods include dieting pill use meant for weight loss, this behaviour can put people at risk of developing an eating disorder (Neumark-Sztainer et al, 2006). With the rise of social media platforms, there has been an increase in the number of cases of eating disorders (Klein, 2013). Disordered eating behaviour can be the result of internalised body dissatisfaction caused by exaggerated feminine beauty standards displayed on social media (Tiggeman, 2011; Strauss, 2009).

## **Sub question two: How are dieting pills perceived by women between 15 and 24 years old in the Netherlands?**

The presence of dieting pills promotion on social media can be gathered from the questionnaire. According to the findings, 76 individuals claimed to have come across any form of dieting pills being advertised on social media. 42 participants, on the other hand, stated that they had not come across any promotion. Furthermore, 22 people indicated they couldn't recall ever seeing any form of dieting pill offered on social media. Advertising of weight loss pills is done frequently, mostly only focused on the alleged advantages that can be obtained by taking the pill (Davis, 2021). There is no explicit regulation in Europe controlling influencer marketing (Michaelsen et al, 2022). Moreover, according to the Federal Trade Commission (2019), there is no mention of avoiding any remarks that may be damaging to someone body image or mental health in the social media guidelines in the United States of America. The guidelines that social media influencers must follow do not specify what effect influencers' posts have on minors (Federal Trade Commission, 2019).

The survey gathered further information, such as the question; "have you ever taken a dieting pill?" . In the results of the question, it is shown that 18 respondents stated to have taken a dieting pill. Oppositely, 121 respondents said not to have ever taken a dieting pill. Helm (2021) stated that in the dieting pills obtainable in the Netherlands, the active ingredients are either one or more of the following three: diuretics, artificial dietary fibre, or caffeine-like substances. Dietary supplements such as Glucomannan, Phenq, and Fat Burn Active are common in the Netherlands and are used by Dutch women (Phenq, 2022; Fatburnactive.nl, 2022)

The following survey question, question 6, is linked to survey question 5 since it asks, "If yes, which of these two considerations persuaded you the most to buy this dieting pill?". This question may only be answered by selecting the factors if the respondents replied "Yes" to question 5: "Have you ever taken a diet pill?" As a result, the option to state "My response was no, I never used a diet pill" was included. 119 participants picked the option to answer no. This leads to 21 responders stating reasons why they consumed diet pills. Participants were asked to select their two most influencing factors. The two most important factors that were extracted from the questionnaire were social media with 15 people selecting it and personal reasons with 13 people choosing this factor. Personal reasons are not further elaborated. Furthermore, 5 people chose celebrities and 3 people chose friends as one of the two most important factors. Moreover, 1 person chose family as a factor and no one chose doctors as a reason. Research by Peden (2022) shows that almost one fifth of total dieting pills sales will be generated through online sales by the year 2023. Followers on social media channels form a connection rather with influencers than with businesses (Dhanesh & Duhtler, 2019).

Furthermore, question 10 of the survey is linked to the second sub question, as well as to sub question one. The contribution of dieting pill promotion on social media to development of mental health issues is investigated through this question. The results indicate that 118 responders said that they are of the opinion that the content of dieting pill promotion on social media contributed to the development of the mental health issues; eating disorders and/or body image issues. Oppositely, 20 participants said that that they did not think that the content of dieting pill promotion on social media contributed to the development of the mental health issues. According to Michaelsen et al. (2022), the regulatory environment around social media influencer marketing indicates the need for regulation, as well as supervision of these marketing activities to protect customer rights.

### **Sub question 3: What are the existing rules on advertisement on social media in the Netherlands?**

The eleventh question of the questionnaire states; “Do you think that dieting pill content on social media is well-regulated?”. What can be seen in the results is that 15 participants think that dieting pill content on social media is well-regulated. Contrarily, 125 participants said to not think that dieting pill content on social media is regulated in a sufficient way. The Food and Drug Administration of the United States recommends that before consuming dieting pills you should establish contact with a medical professional (United States Food and Drug Administration, 2015). It is also highlighted that these diet pills are not medications and should not be used to treat or prevent any issues (United States Food and Drug Administration, 2022). Therefore, these products cannot make claims such as "reduces pain" or "helps burn fat." (United States Food and Drug Administration, 2022). In terms of European marketing, there is no regulation governing influencer marketing. However, there are consumer protection laws that apply to influencer material as well. These legislations include both transparency regulations and the Unfair Commercial Practices Directives. Furthermore, the marketed items must comply with all applicable national and European legislation (Michaelsen et al, 2022). What the restrictions do not address is the impact that influencers' posts may have on adolescents, as well as the potential harm to this group (Federal Trade Commission, 2019).

#### **4.1 Limitations**

Gathering the information on all of the different scopes that this research covers, was challenging. Since there is limited information on dieting pills and on the impact of social media on mental health status, it was effortful to find the right amount and quality of data relevant to the subject investigated. A questionnaire had been created and sent out, and due to the sensitive topic, the target amount of people reached for the survey was set to a lower expectation, 100 respondents. Thereupon, a total of 140 respondents has been reached but what could be observed is that 95 additional participants opened the questionnaire but did not pursue after observing the disclaimer mentioned at the beginning of the questionnaire which can be found in Appendix 1 (Tourangeau & Yan, 2007). This rejection of participation can be due to several reasons, what can be assumed is that the nature of the research, covering mental health issues such as eating disorders, could have been considered sensitive or triggering by the participants. However, an amount of 100 participants could still be considered substantial by Alshibly (2018).

All of the results of the questionnaire are within the objective of this research, apart from two questions. Firstly, question 8 of the survey; “To what extent does dieting pill content on social media alter your self-perception?”. The results of the questionnaire state that only 15 participants in total stated that their self-perception is altered to a large or great extent by dieting pill content on social media. Within the 15, 11 participants said that it alters their self-perception to a large extent and 4 participants indicated that their self-perception gets altered to a great extent by dieting pill content on social media. That result differs from the original assumption, which was that more people would think that their self-perception alters to a large or great extent by dieting pill content. Considering, question 7 of the survey; “Do you feel pressured to fit in with the body standards represented on social media?” was additionally answered with a ‘yes’ by 87 participants which was correspondingly different from the results that can be seen from question 8 of the survey. Question seven poses an additional challenging aspect of the research, which can likely be explained by the nature of the study, which is considering the fact that the study did

not take into account different limitations that could stop participants from buying dieting pills such as monetary barriers or other external influences.

This result was furthermore surprising looking at question 10 that states; “Do you think that the content of dieting pill promotion on social media contributed to the development of the mental health issues; eating disorders and/or body image issues for you?” since the results of this question are that 118 respondents think that the content of dieting pill promotion on social media contributed to the development of these mental health issues. Since these issues were stated in the question to include body image issues, an altered self-perception with the presence of promotion of dieting pill content was assumed to be larger than stated by the participants. Therefore the recommendation is to make the questions more clear to avoid inconclusive answers. Moreover, regards question 3 of the survey which asks; “Rank the most to least followed social media content that you follow on this/these social media channel(s)”, within the answers to this question that participants could give, the option “Other” was given, this option was however not specified and could therefore not be used in the research. This option was ranked to the highest importance when summarising all of the responses given by the participants but had to be dismissed from the research.

Secondly, data that resulted into an unexpected outcome came from question 5 in the survey which states: “have you ever taken a dieting pill?”. The results from this question display that 18 respondents said to have taken a dieting pill, while 121 respondents said not to have taken a dieting pill in their lives. The results differ from the corresponding next question. Some of the respondents mentioned that they did not take a dieting pill, however by answering the following question, question 6 which states; “If yes, which of these two factors influenced you the most to buy this dieting pill?” something else is shown. This can indicate that the question was not formulated clearly enough or it can indicate that more participants were willing to give out personal opinions than personal information. This makes it more difficult to understand which factors actually influenced the buying of the dieting pills, and furthermore makes it unclear how many people answered truthfully to question 5.

Lastly, the low response rate of this age group that is between 15 and 18 years old, which has been 9 respondents out of 140 respondents, can represent a limitation for the research since consequently less data has been gathered from this age group. A recommendation regarding the research design is to gather more people belonging to the lower age group. This is because there is a big contrast between the lower age group of 15-18 and the higher age groups of 19-21 and 22-24. With gathering more responses from this age group, the research could have been more of a representation of the whole target group that is investigated throughout the study.

## 5: Conclusions and Recommendations

The subject of the research was the impact of dieting pills on young women's mental health in the Netherlands. The objective of this study was to specifically address the issue of dieting pill advertising on social media and the influence it has on young women in the Netherlands. There is a lack of study material on the relationship between diet pills, eating disorders, young women, and social media, and particularly a lack of research on diet pills and their presence on social media. Furthermore, there is not a vast amount of information about diet pills in general in the Netherlands. Therefore, the aim of this study was to gather and spread more information about the effect of the presence of dieting pills on social media and the additional effects that presence has on young women between the age of 15 and 24.

The main question created with these objectives and goals in mind is; “What is the effect of dieting pills on social media on the mental health, particularly body image and eating disorders, of women between 15 and 24 years old in the Netherlands?”

To answer this main question, the following sub-questions must be addressed:

1. How are women between 15 and 24 years old that are living in the Netherlands affected in regards to eating disorders and body image issues associated with social media contents?
2. How are dieting pills perceived by women between 15 and 24 years old in the Netherlands?
3. What are the existing rules on advertisement on social media in the Netherlands?

**Sub question one. How are women between 15 and 24 years old that are living in the Netherlands affected in regards to eating disorders and body image issues associated with social media contents?**

This sub question can be addressed first by determining which social media site is most often utilised by responders. This was Instagram, furthermore, given this study only included data from women aged 15 to 24, the finding that Instagram was the most widely utilised accords with the hypothesis of Kemp (2021) that females' main online activities consist of social connection. Engaging with influential brand content postings, for example, is a form of social interaction (Sánchez-Cobarro et al, 2020). The fact that the respondents stated that the most followed social media contents were food and celebrity content correlates with how dieting pill content is spread on social media. With the answers of the platform used by the respondents and the content followed by the respondents, what can be observed next is the respondents' feelings on the pressure to fit in with the body standards that are represented on social media. It can be concluded, when looking at the data collected, that 87 participants feel pressured to fit in with the body standards represented on social media. This pressure to fit in can lead to an increased desire to fit these standards, as Tiggeman and Miller (2010) show, females who spent more time on social networking sites had a stronger desire to be thin. The questionnaire results state that 15 participants in total stated that their self-perception is altered to a large or great extent by dieting pill content on social media. Furthermore, 38 participants stated to have their self-perception altered to a little extent and 31 stated to a somewhat extent. On the internet and social media, a significant amount of advertising for diet pills and the slim ideal of women is easily accessible (Erdoğan & Çiçek, 2012). As a result, the number of adolescents with distorted body views has grown, and with that a number of people wishing to lose weight by severe weight loss procedures (Das et al, 2014).

Moreover, the data states that 19 respondents said to have suffered from mental health issues related to their body image (this included; eating disorders and/or body image issues), while 26 respondents said to still suffer from these particular mental health issues. This fact can correspond with the data that the World Health Organization (2021) stated that one out of every seven teenagers are impacted by mental illnesses, however, in the questionnaire it is not clear to which age group the correspondents that replied with “yes, but not anymore” or “yes, I still do” belong to, that is why this fact might correspond with the data, but cannot be significantly concluded. Nevertheless, both percentages stated by Rijksinstituut voor Volksgezondheid en Milieu (2019), “adolescents aged twelve to seventeen years old have a prevalence of roughly 5% of mental health issues, while young adults aged 18 to 25 years old have a rate of prevalence of approximately 10% when it comes to mental health issues”, are corresponding with the data given by this study. This correlation can be seen due to the fact that 45 respondents out of 140 said to currently suffer or have suffered in the past from mental health issues related to their body image, which equals to 32%. Additionally, 118 respondents indicated that dieting pill advertising on social media contributed to the development of mental health issues, eating disorders, and/or body image issues for them.

What can be concluded is that women between 15 and 24 years old that are living in the Netherlands are affected in regards to eating disorders and body image issues associated with social media contents in many different aspects. More than half of the respondents are affected with a pressure to fit in with the body standards represented on social media. Moreover, 45 respondents said to currently suffer or have suffered from mental health issues related to their body image. 118 of the respondents think that the content of dieting pill promotion on social media contributed to the development of the mental health issues; eating disorders and/or body image issues for them. This means that the majority of the respondents are of the opinion that dieting pill content that is present on social media contributes to the development to eating disorders and body image issues associated with social media contents.

### **Sub question two. How are dieting pills perceived by women between 15 and 24 years old in the Netherlands?**

To find out how dieting pills are perceived by women between 15 and 24 years old that are living in the Netherlands, what is important to determine first is how many people came across any form of dieting pill advertisement. What can be concluded from the questionnaire is that 76 individuals claimed to have come across any form of dieting pills being advertised on social media. This can be correlated to research by Davis (2021) stating that advertising of weight loss pills is done frequently, most of the time focused solely about the allegedly beneficial effects of taking the pill. Furthermore, in the next question what can be concluded from looking at the data is that 18 respondents said to have taken a dieting pill in their lives. Moreover, the two most important factors that influenced the respondents the most to buy a dieting pill can be concluded from the questionnaire, the first factor being social media and the second one being personal reasons. Personal reasons were not expanded on. Social media being the most prominent factor is supported by Peden (2022) which shows that around one fifth of total dieting pills sales will be generated through online sales by the year 2023.

Moreover, what can be concluded from the data of the questionnaire is that 118 responders said that they are of the opinion that the content of dieting pill promotion on social media contributed to the development of the mental health issues; eating disorders and/or body image issues. Which confirms the expected outcome of this research which is that the presence of dieting pills on social media negatively influences the mental health of the target group.

**Sub question three. What are the existing rules on advertisement on social media in the Netherlands?**

The third and last sub question can be answered first by looking at the opinions of the respondents on the regulations of dieting pill content on social media. This can be done by looking at the final question of the questionnaire which gathered if the participants thought that dieting pill content on social media was well-regulated. What can be concluded from this question is that 125 out of 140 participants were of the opinion that the dieting pill content on social media was not well-regulated. These data outcomes correlate with the research of Michaelsen et al. (2022) which states that when it comes to European marketing, there are no specific regulations regarding influencer marketing. However, there are consumer protection rules that apply to influencer content as well. These laws encompass both transparency regulations and the Unfair Commercial Practices Directives (Michaelsen et al, 2022). Furthermore, the advertised products must conform with all applicable national and European regulations (Michaelsen et al, 2022).

Specifically Dutch regulations indicate that with social media and influencer marketing, it must be clear that it regards that type of marketing (Stichting Reclame Code, 2019). Moreover, if the influencer is paid, this must be indicated in the message that is brought to their followers (Stichting Reclame Code, 2019). It is also mentioned that manipulating posts on social media or other communications in such a way that the average buyer is misled is prohibited (Stichting Reclame Code, 2019). The potential harm that the posts of influencers have on people and in particular adolescents and young women, is not addressed in the regulations (Federal Trade Commission, 2019). As well as what impact these posts of influencers may have on adolescents is additionally not included in the restrictions that exist currently (Federal Trade Commission, 2019).

**Main question. “What is the effect of dieting pills on social media on the mental health, particularly body image and eating disorders, of women between 15 and 24 years old in the Netherlands?”**

The main question, which asks the effect of dieting pills on social media and the mental health, particularly body image and eating disorders, of the target group, can be answered with the different conclusions drawn from both the questionnaire outcomes and the answers given to the three sub questions.

What can be concluded is that women between 15 and 24 years old that are living in the Netherlands are affected in regards to eating disorders and body image issues associated with social media contents in many different aspects. More than half of the respondents are affected with a pressure to fit in with the body standards represented on social media. Moreover, 45 respondents said to currently suffer or have suffered from mental health issues related to their body images. More than 80% of the respondents think that the content of dieting pill promotion on social media contributed to the development of the mental health issues; eating disorders and/or body image issues for them. This means that the majority of the respondents are of the opinion that dieting pill content that is present on social media contributes to the development to eating disorders and body image issues associated with social media contents. Moreover, it is stated by Michaelsen et al. (2022) that when it comes to European marketing, there are no specific regulations regarding influencer marketing.

As stated, there has been an increase in the usage of dieting pills for weight reduction (Kruger et al, 2004). The online availability for dieting pills has been growing steadily (McKinsey, 2020). According to Peden (2022), selling of dieting pills online will make for almost 20% of total dietary supplement

sales by the year 2023. Unhealthy weight-control actions, such as the use of diet pills can put people at risk of establishing eating disorders (Neumark-Sztainer et al, 2006).

The relevance of this study can be explained through the stakeholders. The relevance for the first stakeholders, young women, can be proven with this research to have a risk of developing a negative self-image, that can be aggravated by the promotion of weight loss pills that encourage the objective of reducing weight to match what is depicted on social media as the ideal figure. With stating the facts supporting the aim of this study, awareness can be spread and further research can be carried out. Furthermore, the second stakeholders; policymakers, are encouraged with this research to adopt regulations that integrate stronger guidelines that address the presence of diet pills on social media, as well as the impact that this presence has on vulnerable populations' mental health issues and/or developments. Furthermore, the third stakeholders are social media platforms, they are encouraged to adhere to policymakers' policies that are recommended to be adopted. The relevance for the fourth stakeholder, dieting pill producers and firms, can be proven with this research pointing out the negative aspects of the presence of dieting pills, as well as the dieting pills in their general sense. This stakeholder is encouraged to follow the regulations that are recommended to be established by the policymakers.

## **5.1 Recommendations**

There are recommendations that were established and written towards the different stakeholders. Furthermore, the recommendations can be taken into consideration by an individual wanting to continue the research or can be taken into mind by someone wanting to research a similar topic. The recommendations are sorted by short term and long term recommendations.

Long term recommendations that are directed towards the stakeholders and what should be done with this research include first of all, the recommendations towards the policymakers. Regarding the policymakers, it is highly recommended to take action towards creating regulations on social media content, specifically dieting pill content that is present on social media. This is recommended keeping the outcome of the study in mind, seeing what the effect is of dieting pills on social media on the mental health, particularly body image and eating disorders, on women between 15 and 24 years old that are living in the Netherlands. It is furthermore recommended to establish specific regulations towards influencer marketing and to work towards making legislations that keep different groups of society into mind, especially the vulnerable age group that is young women.

Moreover, recommendations towards the dieting pill producers include to be aware of the harmful effects their products can give. Additionally, it is recommended to not only show the advantages of the product but to give a disclaimer regarding the potential disadvantages. Another long term recommendation towards dieting pill companies regards the changes to the composition of the products that can be made. The dieting pill industry is not expected to stop growing, as can be seen from the literature, however changes regarding the ingredients used in the products can be taken into account, which can include using less harmful components.



As a short term recommendation, which should be implemented as soon as possible, it is recommended to young women to be aware of the information that is being spread on social media. Furthermore, it is recommended to be aware of which regulations are present and which regulations are not present regarding the content available. Moreover, a recommendation towards young women is given saying that what is depicted on social media is a small representation of reality. The endorsement of the thin-ideal is not based on actual representations but it is endorsed by the fact that businesses aim for profit maximization and businesses feed on providing the ways of potentially reaching this thin-ideal. It is furthermore recommended to the dieting pill producers to be aware of the effect that the thin-ideal that is present on social media, that is also endorsed by these businesses, can be harmful, especially on young women. It is additionally recommended to be aware that consuming dieting pills and endorsing the thin-ideal can result in the development of mental health issues such as body image issues and eating disorders. Lastly, the policy makers are recommended to be aware of the issue described in the research, it is valuable to become aware of an issue before actual legislations that cover multiple bases can be implemented.

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# Appendix

## Appendix 1 - Survey with questions, introductions and instructions

Hallo! Mijn naam is Isabella Kleine, ik doe de opleiding International Food Business en voor mijn scriptie doe ik onderzoek naar de relatie tussen het gebruik van dieetpillen, social media en zelfbeeld. De volgende enquête is gericht aan vrouwen tussen de leeftijd van 15 en 24 die in Nederland wonen, ik wil u graag vragen om alleen mee te doen aan dit onderzoek als u in deze categorie valt, zo niet, dan dank ik u voor uw tijd. De enquête zal vragen over zelfbeeld en mentale gezondheid bevatten. De antwoorden zullen uiteraard anoniem zijn. Ik zou het zeer op prijs stellen als u zou willen deelnemen aan deze enquête om mij te helpen deze kwestie aan te pakken. Mocht u deze vragen niet willen beantwoorden, wordt deze keuze gerespecteerd en krijgt u de kans in de enquête om uw mening niet bekend te maken. Het invullen van deze enquête zal ongeveer 3-5 minuten in beslag nemen.

Alvast hartelijk bedankt voor uw tijd om de volgende enquête in te vullen! -----

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Hello! My name is Isabella Kleine, I am studying International Food Business and for my thesis I am researching the relationship between the use of diet pills, social media and self-image. The following survey is addressed to women between the ages of 15 and 24 living in the Netherlands, I would like to ask you to participate in this survey only if you belong to this category, if not, I thank you for your time. The impact of dieting pills on young women in the Netherlands 13 The survey will contain questions on self-image and mental health questions. The answers will be anonymous. I would appreciate it very much if you could participate in this survey to help me address this issue. If you don't want to answer these questions, this choice will be respected and you will get the chance within the survey to not voice your opinion. Filling in this survey will take approximately 3-5 minutes. Thank you in advance for taking the time to complete the following survey!

### **1 In welke leeftijdscategorie valt u? / In which age category do you fit?**

15-18

19-21

22-24

### **2 Welk(e) social media kana(a)l(en) gebruikt u dagelijks? / Which social media channel(s) do you use on a daily basis?**

*Vraag instructies: Rangschik de volgorde van meest naar minst dagelijks gebruikt.*

*Rank the order from most to least used daily*

Facebook

Instagram

Snapchat

Twitter

**3 Rangschik de van meest naar minst gevolgde social media content die je volgt op dit/deze social media kana(a)l(en) / Rank the most to least followed social media content that you follow on this/these social media channel(s)**

*Vraag instructies: Verander de volgorde volgens uw voorkeur (1. - belangrijkste, laatste - minst belangrijke). / Change the order according to your preference (1. - most important, last - least important)*

Voedsel / Food

Beroemdheden / Celebrities

Fitness

Dieren / Animals

Overig / Other

**4 Bent u ooit een soort dieetpil tegengekomen die werd gepromoot via social media? / Have you ever come across any type of dieting pill being promoted through social media?**

*Vraag instructies: Met een dieetpil wordt een pil bedoeld die als functie heeft om gewicht te verliezen of onder controle te houden. / With a dieting pill, what is meant is a pill meant for losing or controlling weight.*

Ja / Yes

Nee / No

Ik weet het niet meer / I don't remember

**5 Heeft u ooit een dieetpil genomen? Have you ever taken a dieting pill?**

Ja / Yes

Nee / No

Ik zeg het liever niet / I would rather not say

**6 Zo ja, welke van deze twee factoren heeft u het meest beïnvloed om deze dieetpillen te kopen? / If yes, which of these two factors influenced you the most to buy this dieting pill?**

*Vraag instructies: Selecteer de 2 meest beïnvloedende factoren. / Select the 2 most influencing factors.*

Familie / Family

Vrienden / Friends

Social Media

Beroemdheden / Celebrities

Dokters / Doctors

Persoonlijke redenen / Personal reasons

Mijn antwoord was nee, ik heb nooit een dieetpil genomen / My answer was no, I never took a dieting pill

**7 Voelt u zich onder druk gezet om u aan te passen aan de lichaamsnormen die op sociale media worden weergegeven? / Do you feel pressured to fit in with the body standards represented on social media?**

Ja / Yes

Nee / No

Ik zeg het liever niet / I would rather not say

**8 In hoeverre verandert de content van dieetpillen op sociale media je zelfbeeld? / To what extent does dieting pill content on social media alter your self-perception?**

In zeer grote mate / To a great extent

In grote mate / To a large extent

Enigszins / Somewhat

Weinig / Little

Helemaal niet / Not at all

**9 Heeft u aan psychische problemen geleden of heeft u momenteel last van psychische problemen gerelateerd aan lichaamsproblemen? (specifiek eetstoornissen en/of lichaamsbeeld problemen) Are you currently suffering or have you suffered from mental health issues related to your body image (this can include; eating disorders and/or body image issues)?**

*Vraag instructies: Gelieve alleen te antwoorden als u zich prettig voelt bij het beantwoorden, anders kan antwoord D worden ingevuld. Please only answer if you are comfortable with answering, otherwise answer D can be filled in*

Ja maar niet meer / Yes but not anymore

Ja, nog steeds / Yes I still do

Nee / No

Ik wil deze vraag niet beantwoorden / I don't want to answer this question

**10 Denkt u dat de content van de promotie van dieetpillen op sociale media bijdraagt aan de ontwikkeling van de psychische problemen: eetstoornissen en/of lichaamsbeeld problemen? Do you think that the content of dieting pill promotion on social media contributed to the development of the mental health issues; eating disorders and/or body image issues for you?**

*Vraag instructies: Gelieve alleen te antwoorden als u zich prettig voelt bij het beantwoorden, anders kan antwoord D worden ingevuld. Please only answer if you are comfortable with answering, otherwise answer D can be filled*

Ja / Yes

Nee / No

Ik wil deze vraag niet beantwoorden / I don't want to answer this question

**11 Denkt u dat de content van dieetpillen op sociale media goed gereguleerd is? Do you think that dieting pill content on social media is well-regulated?**

*Vraag instructies: Met gereguleerd wordt hier bedoelt of er goede regels zijn omtrent wat er wel of niet op social media gepost mag worden. Well-regulated in this question means whether there are good rules about what may or may not be posted on social media*

Ja / Yes

Nee / No