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RISK FACTORS FOR THE DEVELOPMENT OF EATING DISORDERS AMONG FASHION MODELS

Ph.D. thesis

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List of abbreviations

AN	anorexia nervosa
ARFID	avoidant restrictive food intake disorder
BAT	Body Attitude Test
BAT-NABS	Body Attitude Test Negative appreciation of body size subscale
BAT-GBD	Body Attitude Test General body dissatisfaction subscale
BDD	body dysmorphic disorder
BED	binge eating disorder
BMI	body mass index
BN	bulimia nervosa
CFA	confirmatory factor analysis
CI	confidence interval
DSM-5-TR	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision
EBSS	Eating Behavior Severity Scale
ED	eating disorder
EDI	Eating Disorder Inventory
EDI-B	Eating Disorder Inventory Bulimia subscale
EDI-BD	Eating Disorder Inventory Body Dissatisfaction subscale
EDI-DT	Eating Disorder Inventory Drive for Thinness subscale
EHQ	Eating Habits Questionnaire
EHQ-F	Eating Habits Questionnaire Feelings subscale
EHQ-K	Eating Habits Questionnaire Knowledge subscale
EHQ-P	Eating Habits Questionnaire Problems subscale

GLM	general linear model
HeOr	healthy orthorexia
LL	lower limit
OCD	obsessive compulsive disorder
ON	orthorexia nervosa
OSFED	other specified feeding or eating disorder
SATAQ-3	Sociocultural Attitudes Towards Appearance Questionnaire-3
SEM	structural equation model
UFED	unspecified feeding or eating disorder
UL	upper limit

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1. INTRODUCTION

"In fashion, it is our job to sell a dream, not to live one."

(Anonymous model)

1.1 Preamble

Eating disorders (EDs) are multifactorial psychiatric disorders. Besides biological and environmental factors, background sociocultural influences play an important role in their development. Among these, the modern ideal of thinness is a well-known risk factor and exerts great cultural pressure on women. The fashion industry both maintains and shapes cultural patterns. The biggest luxury fashion houses expect anorexic thinness and the notion of *Paris thin* has emerged as a concept among models denoting the excessive thinness demanded by the *haute couture* fashion houses in France (Record & Austin, 2016). It sets expectations, and these expectations often put health at risk, indicating that health is compromised in the pursuit of fashion. Women believe that success, beauty, and happiness are associated with a slim body (Dignon et al., 2006). Yet, as obesity rates in the general population rise, the disparity between reality and ideals widens, leading to heightened body dissatisfaction, decreased self-esteem and increased risk of EDs (Pinhas et al., 1999). In the compelling landscape of the fashion industry, the prevailing beauty ideal has evolved into a paradigm that places an outstanding emphasis on extreme thinness. The thinness ideal, perpetuated by the fashion industry, permeates not only runways and glossy magazine pages but also seeps into societal norms and individual perceptions of beauty (Mills et al., 2022). Exposure to such ideals can lead to body dissatisfaction (Vandenbosch et al., 2022), which is associated with an increased risk of developing EDs (Uchôa et al., 2019). The impact is profound, influencing the ways individuals within and beyond the fashion domain perceive their bodies and engage with health and well-being. Several questions may arise when considering the links between EDs and the fashion industry:

1. Can the desired body shape in the fashion industry be attained through healthy dietary practices and regular exercise?
2. Do most fashion models experience eating disorders, or are they genetically gifted with their thin figures?

3. Does the pressure exerted by modeling agents and fashion designers elevate the likelihood of developing eating disorders, or are models resilient against such influences?
4. What are the risk factors for the development of eating disorders among fashion models?

This preface serves as an introduction to a comprehensive exploration of the intricate relationship between the highly coveted slimness ideal within the fashion realm and the concerning manifestations it generates, specifically in the form of EDs and body image disorders, but this time, not among the general population, but the fashion models themselves.

This exploration is motivated by a recognition of the urgency to understand, dissect, and address the multifaceted consequences of the thin beauty standard. By shining a spotlight on the intersections between the industry's standards and the mental and physical well-being of its individuals, I aim to contribute to a nuanced understanding of this complex relationship.

In the introduction, I will present the diagnostic criteria of EDs relevant for my research, body image disorders, the sociocultural context of EDs and some important insight into the fashion industry's dynamics.

1.2 Main characteristics of eating disorders

The DSM-5-TR (American Psychiatric Association [APA], 2022) recognizes the following EDs: pica, rumination disorder, avoidant restrictive food intake disorder (ARFID), anorexia nervosa (AN), bulimia nervosa (BN), binge eating disorder (BED), other specified feeding or eating disorder (OSFED), and unspecified feeding or eating disorder (UFED). In the introduction of this thesis, I shortly present the EDs pertinent to my research, which are AN, BN, and orthorexia nervosa (ON), which is not yet included in the DSM-5-TR.

1.2.1 Anorexia nervosa

The three main diagnostic criteria of AN according to DSM-5-TR (APA, 2022) are the significant abnormally low body weight (considering sex, age, developmental trajectory, and physical well-being) due to the restriction of energy intake; pathological fear of

becoming fat or persistent behavior disrupting normal weight gain, despite being at a markedly low body weight; and distorted body image (e.g., disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or persistent lack of recognition of the seriousness of the current low body weight). Menstruation frequently stops, but unlike in the DSM-IV (APA, 1994), it is no longer a diagnostic criterion, but an indicator of the severity of the disorder. The disease has two subtypes: restrictive type and binge-eating/purging type. The former indicates that weight loss is predominantly achieved through dietary measures, fasting, and/or rigorous exercise, and the latter includes bulimic symptoms (binge-purge cycles, self-induced vomiting and/or laxative-, diuretic-, enema abuse), but if the sufferer is abnormally thin, the symptoms of AN overwrite the symptoms of BN, thus the AN diagnosis is given. A body mass index (BMI) of less than 18.5 according to the DSM-5-TR (2022), and less than 17.5 according to BNO-10 indicates abnormal thinness. A BMI of lower than 17.0 has been considered by the WHO to indicate moderate or severe thinness (APA, 2022; Table 1).

Table 1. Severity specification of anorexia nervosa according to the DSM-5-TR (APA, 2022)

Severity specification of anorexia nervosa (DSM-5-TR)	
Mild:	BMI ≥ 17.00 kg/m^2
Moderate:	BMI 16.00–16.99 kg/m^2
Severe:	BMI 15.00–15.99 kg/m^2
Extreme:	BMI < 15.00 kg/m^2

Somatic symptoms of AN include hair loss, dry skin with lanugo, hormonal disturbances, gastrointestinal impairment, cardiac symptoms such as low blood pressure, low heart rate, or arrythmia, low body temperature, the disturbance of electrolyte homeostasis, and osteoporosis. Hyperactive behavior is common. Individuals with AN often exhibit characteristics such as perfectionism, an overemphasis on achievement, excessive control, or compulsive tendencies. Additionally, they may display signs of depression and tend to avoid

expressing emotions and are asexual. Thinness could be concealed or openly demonstrated. They lack patient insight, deny or hide their illness (Túry & Szabó, 2000; Vandereycken, 2006; APA, 2022). The dominance of the slim ideal is found in the history of AN. The total incidence of AN has been relatively stable in recent years, but it is increasing among young people under 15 years of age (van Eeden et al., 2023). The lifetime prevalence of AN in females is among 0.1% and 3.6% (van Eeden et al., 2021).
Subclinical AN occurs when an individual does not fulfill the strict diagnostic criteria for AN determined by the DSM-5-TR, but presents serious impairments of eating and weight concerns. Subjects with subclinical diagnosis might portray traits of excessive dieting, binge eating, purging, compulsive exercising, or extreme body dissatisfaction.

1.2.2 Bulimia nervosa

Bulimia nervosa (BN) is characterized by recurring episodes of binge eating followed by compensatory behaviors (self-induced vomiting, misuse of laxatives, diuretics or other medications, excessive exercising or fasting, etc.), and loss of control. According to the definition of the DSM-5-TR, binge-compensation cycles appear at least once a week for 3 months in BN (APA, 2022). However, binges can occur numerous times a day, sometimes meaning the consumption of several tens of thousands of calories which occur with a sense of lack of control, followed by self-blame and guilt. Severity specification is based on the frequency of inadequate compensatory behaviors (Table 2).

Table 2. Severity specification of bulimia nervosa according to the DSM-5-TR (APA,2022)

Severity specification of bulimia nervosa (DSM-5-TR)	
Mild:	1–3 episodes of compensatory behaviors/week
Moderate:	4–7 episodes of compensatory behaviors/week
Severe:	8–13 episodes of compensatory behaviors/week
Extreme:	≥ 14 episodes of compensatory behaviors/week

Patients with BN are preoccupied with their weight and body shape, and usually consider themselves fat even when at a normal weight. Self-esteem is often dependent on one's feeling about weight or shape at a given moment. This can influence social relationships, resulting in isolation. BN can occur at any nutritional status and can also be associated with repeated weight fluctuations. Similarly to AN, BN is usually accompanied by menstrual disorders, oligo- or amenorrhea. Vomiting episodes can cause severe damage to the tooth enamel, the esophagus or the stomach, and the loss of potassium and other electrolytes can be a source of heart rhythm disorders and convulsive ailments.

DSM-IV differentiated two subtypes of BN: purging type and non-purging type. The latter does not include purging and weight loss is achieved by intense physical exercise or fasting. This classification is not included in the DSM-5-TR.

BN is often associated with impulse control disorder, e.g., kleptomania, self-harm, suicide attempt, substance addiction, promiscuity—the multi-impulsive subtype of BN, linked with borderline personality disorder (Túry & Szabó, 2000; APA, 2022). The incidence of BN has been decreasing in recent years, its lifetime prevalence among females is among 0.3% and 4.6% (van Eeden et al., 2021).

1.2.3 Orthorexia nervosa

Orthorexia nervosa (ON) is an obsession with healthy eating, not yet included in the DSM-5-TR as a separate feeding or eating disorder, making it best fit the OSFED diagnosis. ON was first described by Bratman (1997) as an obsessive, oftentimes extreme, and physically damaging disorder, related to but different from AN. The syndrome can be described as healthy food dependence. Individuals with ON only consume food that is considered very healthy according to their subjective beliefs. "Ortho" means straight, correct, and true, indicating that other foods outside the putative perfect diet are improper. Thus, individuals affected by ON tend to spend excessive time purchasing the right ingredients and preparing the appropriate meal.

ON shows similarities with obsessive-compulsive disorder (OCD) regarding one's overly healthy eating habits (Mathieu, 2005), yet it aligns more closely with EDs than with OCD (Zagaria et al., 2022). ON is characterized with intense control towards food, similarly to AN (Koven & Abry, 2015), but unlike in AN, the focus is not the quantity but the quality of food. Obsessive thoughts and behaviors related to healthy foods emerge and may become pathological. Consequently, strict dietary restrictions develop leading to serious

nutrient deficiency and social isolation (Dunn & Bratman, 2016). A form of dieting, called "clean eating" has gained wide popularity in the past years (Nevin & Vartanian, 2017), which refers to a diet pattern of avoiding food with artificial ingredients, high sugar and salt content and that prefers food from natural sources (Koven & Abry, 2015). Due to the social appraisal of such forms of eating, ED symptoms can remain hidden, even so because orthorexic behavior could be a socially accepted form of AN tendencies (Cartwright, 2004). The term healthy orthorexia refers to an interest or fixation on healthy eating that does not lead to distress or impairment (Atchison & Zickgraf, 2022; Barrada & Roncero, 2018). The relationship between ON and other EDs is intricate, as ON can act both as a risk factor and a consequence of EDs. For instance, ON could precede or follow AN (Brytek-Matera et al., 2015), and it is further suggested that ON may represent a subtype of AN (Cosh et al., 2023).

To better articulate the concept of ON, a new diagnostic criterion was proposed by Dunn and Bratman (2016, p. 16.), in which *Criterion A* is intended as a summarized narrative description of the condition and *Criterion B* to assess the range of impairments associated with the condition: *Criterion A* assess the obsessive focus on "healthy" eating, as defined by a dietary theory or set of beliefs whose specific details may vary; marked by exaggerated emotional distress in relationship to food choices perceived as unhealthy; weight loss may ensue as a result of dietary choices, but this is not the primary goal. As evidenced by compulsive behavior and/or mental preoccupation regarding affirmative and restrictive dietary practices believed by the individual to promote optimum health; violation of self-imposed dietary rules causes exaggerated fear of disease, sense of personal impurity and/or negative physical sensations, accompanied by anxiety and shame; and dietary restrictions escalate over time, and may come to include elimination of entire food groups and involve progressively more frequent and/or severe "cleanses" (partial fasts) regarded as purifying or detoxifying. This escalation commonly leads to weight loss, but the desire to lose weight is absent, hidden or subordinated to ideation about healthy eating. *Criterion B* assesses the compulsive behavior and the mental preoccupation which becomes clinically impairing by malnutrition, severe weight loss or other medical complications from restricted diet; intrapersonal distress or impairment of social, academic or vocational functioning secondary to beliefs or behaviors about healthy diet; or positive body image,

self-worth, identity and/or satisfaction excessively dependent on compliance with self-defined “healthy” eating behavior.

1.3 Body image disorders

Disturbance in body image is a fundamental symptom of EDs and body dysmorphic disorder (BDD) (Thompson et al., 1999; Hrabosky et al., 2009). Disturbance in body image is a complex concept encompassing various dimensions. These include a perceptual component, involving the overestimation of one’s body size (Tuschen-Caffier, 2015), body fat (Skrzypek et al., 2001), and the underestimation of muscularity (Waldorf et al., 2014); a cognitive-affective component, which involves negative thoughts, attitudes, and emotions toward one’s body, leading to manifestations such as body dissatisfaction, sadness, disgust, or shame (Thompson et al., 1999; Cash, 2004; Tuschen-Caffier, 2015) and a behavioral component (Vocks et al., 2018), which refers to body-related action such as engaging in dieting or exercising, body-related avoidance or body checking (Rosen et al., 1991; Trautmann et al., 2007; Nikodijevic et al., 2018). Body image disturbance was proved to be a risk factor for the development and maintenance of EDs (Jacobi et al., 2004). In addition, the clinical symptoms and focal points on body areas (e.g., size of the stomach, hips or thighs) in both body image and eating disorders occasionally coincide (Grant & Philips, 2004; Philips et al., 2005). Generally, women tend to experience a more negative body image compared to men (Muth & Cash, 1997; Ogden, 2012), with as high as 80% of females expressing dissatisfaction with their bodies (Lawler & Nixon, 2011).
One of the classic types of body image disorders is BDD, which was previously known as dysmorphophobia, included in the DSM-5-TR under its own category of Obsessive-Compulsive and Related Disorders, and described as having distressing or impairing preoccupation with slight or conceived defects in one’s physical appearance (APA, 2022). Individuals suffering from BDD are dissatisfied with their appearance and perceive certain body parts as a flaw and will take serious efforts to hide it or alter it, most often focusing on facial features (e.g., nose, mouth, facial scars, etc.), but may pertain any region of the body (Phillips et al., 1993). This is a specific body image disorder, which is accompanied by great impairment and a decrease in quality of life (Phillips & Diaz, 1997; DeMarco et al., 1998), even increased prevalence of suicide attempts (Veale et al., 1996; Phillips & Diaz, 2000). Both EDs and BDD are defined by obsessive preoccupations and repetitive behaviors, such as mirror checking and measuring the body (Grant & Phillips,

2004; Phillips et al., 2005). Furthermore, clinical observations indicate that BDD and EDs commonly exhibit deeply integrated appearance-related beliefs, often valuing and strongly sustaining them, along with the pursuit to enhance one's appearance (Phillips et al., 1995). The syndrome can lead to the rapid growth of plastic surgery procedures, even though most patients who undergo cosmetic surgery do not experience improvement in BDD symptoms; therefore, BDD is a contraindication for cosmetic treatment (Sarwer & Crerand, 2004). The onset of the disorder is in adolescence, and it may become chronic if not treated properly (Phillips et al., 2005).

1.4 Sociocultural background of eating and body image disorders

While EDs are complex conditions understood through biological, psychological, and sociological dimensions (bio-psycho-social framework), this dissertation narrows its focus on the sociocultural aspects. This focused approach does not diminish the importance of the biological and psychological components of such diseases, but rather underscores the critical impact of sociocultural influences within the broader context of ED etiology.

1.4.1 Sociocultural context of eating patterns and body ideals

Sociocultural factors are important in the background of eating and body image disorders (Ata et al., 2015; Diedrichs, 2017; Izydorczyk & Sitnik-Warchulska, 2018). In the 19th century, it was already observed that AN was prevalent among the upper social classes (Vandereycken & van Deth, 1994). However, sociocultural models explaining EDs only gained prominence in the 1990s (DiNicola, 1990; Gordon, 1990; Szmukler & Patton, 1995; Wilfley & Rodin, 1995). EDs are now perceived as culturally influenced, referred to as „culture-bound" syndromes that can be comprehended only within the context of culture. DiNicola (1990) categorizes AN as a „culture-reactive" syndrome, further dividing it into a culture-bound syndrome and a culture-change syndrome.

Sociocultural factors, encompassing cultural values, economic resources, and social institutions, exert an immediate influence on the regulation of body weight, operating across various levels. Families, while providing food and structured activities, also transmit social values (Hoge et al., 1982). Weight patterns within families remain consistent and are not solely genetically determined, as they extend to non-biological relatives as well. The emotional dynamics within a family play a significant role (Morris et al., 2007). Additionally, social organizations like the workplace or school contribute significantly, as they

impose distinct requirements for eating and engaging in activities (Ball & Crawford, 2005). Values and norms related to eating, physical activities, and desired appearances are conveyed through media channels and interpersonal communication, thus reinforcing these concepts in everyday social interactions (Sobal, 1995).

Culture exerts a potent influence on body weight and imparts both moral and social significance to it. In traditional societies, obesity is perceived as a symbol of well-being due to food insecurity (Nettle et al., 2017). Conversely, in industrialized societies, thinness and an appealing appearance hold greater value, while obesity is subject to disdain and often carries a stigma. Physical attributes are perceived as more malleable than genetics, leading to the widespread adoption of various body contouring methods. Generally, public opinion supports the notion that individuals should take responsibility for their appearance. Consequently, obesity is commonly viewed as a manifestation of moral weakness, and individuals who make no effort to lose weight are often subject to criticism (Puhl & Brownell, 2001).

1.4.2 Body shape-related prejudice

Body shape-related prejudice plays a significant role in shaping societal norms due to the influential power of culture. Prejudice against obesity is a widespread occurrence, extending even to children, irrespective of gender (Pont et al., 2017). Therefore, obesity is viewed as a stigma (Puhl & Heuer, 2009). In a study conducted on children's prejudices by Richardson et al. (1961), participants were asked to rank six drawings of children depicting various health conditions. The drawings included a healthy child, a child on crutches, in a wheelchair, with a missing hand, with facial disfigurement, and one being obese. The obese child was consistently ranked last by the study subjects. The study was later replicated by Latner and Stunkard (2003), revealing that the dislike towards the obese child was even more pronounced than in the 1961 study. Furthermore, the negative attitude towards obesity was significantly more prevalent among girls compared to boys. Obesity carries negative associations, and obese individuals who face stereotyping, which is perpetuated through various channels of cultural transmission such as parents, peers, and the media (Stanford & McCabe, 2005). Parents, relatives, and peers often become sources of criticism and stigmatization for those dealing with obesity. Additionally, obese individuals frequently encounter disadvantages in employment, healthcare, and educational settings (Puhl & Latner, 2007; Puhl & Heuer, 2009). Employers tend to view obese

employees as lazier, lacking self-discipline, and less competent than their non-obese counterparts. Subsequently, they receive lower wages, hold lower-ranking positions, and are infrequently promoted (Roehling et al., 2008; Rudolph et al., 2009). Weight-bias is also evident in healthcare, discouraging obese individuals from seeking assistance due to the fear of criticism (Puhl & Heuer, 2009). Similarly, in education, obese children may face preconceptions from their teachers, who may consider them less intelligent or skilled (Puhl & Brownell, 2001). Peers are equally prone to prejudice, with teenagers perceiving their obese peers as unhealthy, lazy, and socially inept. This bias can lead to avoidance of educational, social, or recreational activities with obese individuals (Greenleaf et al., 2006), making them vulnerable to bullying and abuse (van Geel et al., 2014).

The contemporary standard of being thin is a widely recognized risk factor and imposes significant cultural pressure on women. Most women believe that there is a direct link between a slender body and being successful, beautiful, and happy (Dignon et al., 2006). Nonetheless, obesity rates in the general population are progressively increasing (Wright & Aronne, 2012), leading to a widening disparity between reality and societal ideals. This results in heightened body dissatisfaction, contributing to a decrease in women's self-esteem and an elevated risk of developing EDs (Pinhas et al., 1999). Not only the desire to be healthy effects one's food choice, but sociocultural influences are proven to have a strong negative effect on eating habits and body image (Aparicio-Martinez et al., 2019).

Those who embody cultural beauty ideals, such as fashion models, greatly influence societal perceptions. For these individuals, maintaining a slim physique is a professional obligation (Rodgers et al., 2021). This prompts inquiries into the ethical boundaries of utilizing cultural ideals to shape body standards within the fashion industry, giving rise to bioethical considerations (Bogár & Túry, 2019). Individuals employed in the fashion and beauty sectors (i.e., beauticians, hairdressers, manicurists, etc.) are also more vulnerable to the development of EDs (Lukács-Márton & Szabó, 2013).

Due to role modeling, public figures and celebrities play a crucial part in shaping the prevalent body ideal of a particular era (Strand, 2018). An early example from the 19th century is Queen Elisabeth, also known as Sisi (1937–1989), whose slender figure resulted from an anorexic lifestyle (Vandereycken & Abatzi, 1996). Later, Twiggy stood out among the first fashion models of the 1960s as a remarkably slim mannequin and actress. Presently, numerous renowned fashion models and celebrities, such as Victoria

Beckham, Keira Knightly, or Kaia Gerber (daughter of the famous supermodel, Cindy Crawford), maintain abnormally thin figures. The internalization of the thin ideals poses a risk factor for disordered eating behaviors (Unikel et al., 2013; Dakanalis et al., 2014), and the cultural emphasis on slimness and model learning contributes to the development of EDs (Jäger, 2024). Young individuals primarily emulate thin models, reflecting the pervasive societal endorsement of thinness (Lake et al., 2000). The media plays a substantial role in promoting the ideal of slimness (Rosewall et al., 2018). Brief exposure to extremely slender models has been shown to heighten subjects' body dissatisfaction (Stice & Shaw, 1994). Two-thirds of girls who regularly read fashion magazines reported that such images influenced their beauty standards, leading to dieting behaviors in almost half of them. Media influence on body image is more pronounced in women than in men (Latner et al., 2007).

1.4.3 Social media, eating disorders and body image disturbances

It is crucial to underscore the impact of social media (e.g., Facebook, Instagram, TikTok, Twitter, etc.), which is one of the most popular fields of media nowadays. Social media represents an unconventional type of media that is characterized by its interactive nature, with content predominantly created by its users, making it more reflective of society's desires, values and anxieties (Fuchs, 2017). Instagram is currently the leading social networking site, focusing on the sharing of photos and videos (Holland & Tiggemann, 2017). Users aged between 18 and 29 years of age spend on average 30 minutes daily by scrolling through Instagram (Cowen & Company, 2014). In the light of the aforementioned points, well-being is influenced more by the quality of interactions on social media rather than the amount of time spent on such platforms (Marks et al., 2020). A study has revealed that there is a positive relation between Facebook activity and body dissatisfaction: frequent Facebook users experience more body dissatisfaction (Meier & Gray, 2013). Studies that focused on how much time female adolescents spent viewing, commenting, and posting images on Facebook discovered that increased interaction with image-based content led to body dissatisfaction and embracing the thin ideal. However, this did not apply to general Facebook usage, only to specific engagement with image-focused content (Meier & Gary, 2013; Fardouly et al., 2018; Maymone et al., 2019).

Among those with social media accounts, 54% utilize them to explore and share their food experiences, while 42% seek food-related advice on these platforms (The Hartman

Group, 2012). A link was found between higher risks of ED development (including ON) and engaging with Instagram content focused on appearance and fitness (Holland & Tiggemann, 2017; Turner & Lefevre, 2017). These figures suggest a potential link between content on social media and an increased risk of EDs (Haines & Neumark-Sztainer, 2006). Moreover, bidirectional associations between fitspiration—visual content that inspire users to be fit (Talbot et al., 2017)—comparisons, negative body image, and dietary restraint were also established (Linardon, 2023).

A notable amount of content on social media sites focuses on promoting idealized body images, healthy foods, diets, and exercise routines, often garnering high levels of user engagement (Muralidhara & Paul, 2018). There is growing concern that increased use of such social media outlets might negatively impact mental health, leading to body image disturbance, the development of EDs, and increased psychological distress (Marks et al., 2020). Over the last decade, social media platforms have been increasingly focused on promoting an ideal body image (Raggat et al., 2018). Following unknown people on Instagram affects negative social comparisons and depressive symptoms, and positive correlation was found between following more strangers on Instagram and increased levels of negative social comparison (Lup et al., 2015; Shaw et al., 2015; Sidani et al., 2016; Wang et al., 2017). Media influence on body image is more pronounced in women than in men (Latner et al., 2007). It was later found that brief social media use can cause immediate body image disruptions in both sexes and lead to restrained snacking in females who endorse thin ideals (Pink et al., 2022).

Epidemiological, cross-cultural, and longitudinal studies highlight the significant role of thinness idealization and consequent weight concerns as psychosocial risk factors for EDs (Keel & Forney, 2013). Personality traits, such as perfectionism, and sociocultural factors related to the idealization of thinness have been implicated in the risk for EDs and disordered eating symptoms, including weight and shape concerns, and dietary restraint (Culbert et al., 2015). Perfectionism is a multi-faceted construct encompassing two main domains: positive achievement striving and maladaptive evaluative concerns (Frost et al., 1993). Elements from both domains are predictive of disordered eating symptoms (Sherry et al., 2004). It is indicated that maladaptive dimensions of perfectionism are related to disordered eating outcomes (Boone et al., 2011). Perfectionism may increase vulnerability to eating pathology and sociocultural risk factors, such as the idealization of thinness,

and pressures for thinness have been considered as key disorder-specific explanatory factors (Tissot & Crowther, 2008; Boone et al., 2011). Positive achievement striving dimensions of perfectionism (e.g., personal standards, and self-oriented perfectionism) have been indirectly associated with body dissatisfaction and bulimic symptoms through increased internalization of thin ideals (Tissot & Crowther, 2008; Boone et al., 2011). Additionally, appearance-related social comparisons act as an intervening variable between perfectionistic tendencies (comprising high personal standards, doubts about actions, and concern over mistakes), and disordered eating symptoms (van den Berg et al., 2002). These findings suggest that sociocultural risk factors may elucidate how a broad transdiagnostic risk factor like perfectionism can lead to disordered eating and concerns about body weight and shape (Habashy & Culbert, 2019).

A very distinctive type of networking sites is the "pro-ana" (pro-anorexia), "pro-mia" (pro-bulimia) or thinspiration websites that support weight loss and EDs. The term thinspiration is a portmanteau of 'thin' and 'inspiration' and is characterized by idealized depictions of excessively thin bodies, glorification of extreme caloric restriction and related dieting practices focused on thinness, along with emotional support and affirmation for those endeavouring to adhere to these thin-centric attitudes, and behaviors (Tiggemann et al., 2018; Wick & Harriger, 2018). Thinspiration content found on the internet is distinct from the typical portrayal of thin ideals in other media due to its more extreme and prominent nature (Griffiths et al., 2018). More frequent exposures to thinspiration were associated with more frequent physical appearance comparisons and greater ED symptoms (Lewallen & Behm-Morawitz, 2016). Intense exposure to social media has been influential in reshaping beauty standards and perceptions, potentially steering ideals towards unrealistic features that are often the result of filtered images (Glauert et al., 2009; Rajanala et al., 2018).

Sociocultural influences on body image can be mediated by several variables. Lowered moods, negative emotional states, such as anxiety, and depression which can be exacerbated by sociocultural pressures and contribute to body dissatisfaction (Cunningham et al., 2021; Hogue & Mills, 2019). Self-comparison with others, especially appearance-related comparison can lead to increased self-objectification, greater dissatisfaction with one's own body, and development of EDs (Holland & Tiggemann, 2016; Mingoia et al., 2017). The internalization of thin ideals and constant exposure to idealized body images

negatively affect self-esteem, which mediates the relationship between sociocultural pressures and body dissatisfaction (Vandenbosch et al., 2022). Sociocultural risk factors can help explain how a broad transdiagnostic risk factor, such as perfectionism can lead to disordered eating behaviors (Habashy & Culbert, 2019).

Transitioning from the general context, the subsequent discussion will focus on the fashion industry, and its potential influence on the development and manifestation of EDs.

1.5 The fashion industry

The world of fashion is generally considered an attractive, glamourous milieu. The word *glamour* originated from the Scottish term "grammar", to mean magical enchantment or spell, often associated with bewitching beauty or allure. The modern sense of glamour, referring to an alluring beauty or charm that can be seductive or fascinating, developed from this association with magical, enchanting qualities, a concept that has become intrinsically linked to the world of fashion models (Wilson, 2007).

Fashion modeling originated in the late 19th century with Charles Frederic Worth using live "mannequins" in his Paris salon (Evans, 2001). Initially, models—often from working-class backgrounds—were viewed with moral suspicion, likened to actresses or sex workers. The 1960s saw a significant shift in fashion from Parisian *haute couture* dominance to a more diverse, consumer-driven style influenced by youth culture, rock-and-roll, and street styles. This led to the introduction of luxury *prêt-à-porter* (ready-to-wear) lines by couture houses, making high fashion more accessible to the growing middle class. Haute couture, while still prestigious, became less about profit and more about brand reputation and publicity, and the modeling industry also grew (Crane, 2000; Arnold, 2001). Fashion shows evolved into larger events, and designers began hiring famous models to increase media coverage. In the 1980s, the fashion industry experienced significant changes due to globalization. As a result, the concept of the "supermodel" emerged in the 1970s and 1980s, with top models commanding extremely high fees for appearances, driven by the competition between designers and their agents. In the 1990s, supermodels like Linda Evangelista, Naomi Campbell, and Christy Turlington, known as "The Trinity", achieved revered status within the fashion world, becoming emblematic figures of the era (Bertoni & Blankfeld, 2010). This marked a significant transformation from the early 20th century, where models, often perceived as degraded shopgirls, evolved into iconic millionaires by the century's end. However, this fame has paradoxically led to

reduced individual earnings in the industry. The September 11th attacks coincided with Fall Fashion Week in New York, leading to cancellations and unsold collections, adversely affecting the entire advertising industry. In response to these challenges and the global economic downturn in 2008, agencies began signing more models, hoping to discover the next big star capable of securing rare multimillion-dollar contracts (Mears, 2011). However, this approach has led to a cycle of rapid turnover of new candidates, with bookers under constant pressure to find successful *new faces*. The oversupply of models and lower rates have intensified competition in the industry, leading to a crowded market with many striving for a limited number of lucrative opportunities (Scully, 2016). Today, the modeling industry includes a wide variety of models, such as editorial, catalogue, commercial, swimsuit and lingerie, plus-size, glamour, and runway models. Additionally, fashion models, perceived as representatives of the thin body ideal, are also regarded as epitome of beauty in society (Soley-Bertran, 2006).

1.5.1 The female slimness ideal

Throughout history, societal norms have dictated women's pursuit of often unattainable beauty standards. In ancient China, the 12th and 13th centuries witnessed the practice of foot binding, creating tiny "Lotus feet" as a symbol of beauty, sexuality, and high social status. This painful tradition rendered women largely immobile and unable to engage in physical labor (Ko, 2005). In certain African cultures, neck rings are worn to create the illusion of an elongated neck, reflecting an ideal of beauty. Starting as early as two years old, the weight of the rings gradually lowers the clavicle and upper ribs by about 45 degrees from their natural position (Ibuh, 2014).

During the medieval, baroque, and renaissance periods, a curvy, full-figured body exemplified fertility and was considered the epitome of feminine beauty, as seen in the works of Rubens and the depiction of the Mona Lisa. This perception shifted in the Victorian era, where a pale, slim, and slender physique was desired. The 19th century brought the trend of corsets and wasp waists, despite their detrimental effects on women's health, possibly signaling a woman's marriageability and non-pregnant status. Additionally, hip enhancements became fashionable to signify fertility (Banner, 1983). However, contrary to the 19th century's womanly ideal, the early 20th century saw a preference for a slim, boyish figure, with women wearing garments to flatten their chests. From the 1930s, a

rounder body shape symbolizing sexuality gained popularity again. This era marked a transition from women being primarily seen as mothers to becoming symbols of sex (Peiss, 2011). Today's beauty ideal is a thin, well-maintained body, pursued through diets, exercise, beauty products, and even plastic surgery. This societal obsession, fueled by technological advances, sets unrealistic beauty standards, suggesting that anyone can achieve attractiveness with enough effort. However, the thin ideal often demands women to maintain a body weight and fat percentage that is biologically impractical. For instance, the normal body fat percentage for a woman is 20–25% (Kupusinac et al., 2017), but it is significantly lower in fashion models (Park, 2017).

Media portrayal of female beauty has evolved, now advocating for a lower weight, increased height, along with traditionally desired features like large breasts. Iconic figures like Elle Macpherson, nicknamed "The Body", have influenced these ideals. However, achieving such a body shape naturally is rare, leading many to resort to extreme measures like plastic surgery and rigorous exercise. A study spanning between 1958 and 1978 (Garner et al., 1980) and later from 1979 to 1988 (Wiseman et al., 1992) revealed a trend towards thinner body ideals, as evidenced by Playboy centerfolds and Miss America contestants. This was accompanied by an increase in diet and cosmetic surgery articles in women's magazines, indicating a continuous cultural pressure towards slimness (Saraceni & Russell-Mayhew, 2007).

These evolving beauty standards reflect society's shifting views on femininity, often imposing unrealistic and potentially harmful expectations on women. The pursuit of these ideals speaks volumes about societal values and the pressure women face in conforming to them.

1.5.2 The male body ideal

In Greek mythology, Adonis epitomized male beauty, in modern times, his name is still applied for the archetype of handsome youths. Throughout history, from antiquity to the early modern era, the ideal male body was robust and muscular, as seen in equestrian sculptures, and thinness was often associated with negative figures like witches and devils. However, the 20th century witnessed a shift towards a slimmer male physique, heavily influenced by mass media and represented by sportsmen and actors (Túry & Babusa, 2012). This change has diversified male body ideals similarly to the female ideals, moving

from the dominant muscular form to include the slender, intellectual type (Daily Mail, 2016).

Akin to females, a study conducted among male participants shows that those exposed to advertisements including ideal male body images portray significantly more signs of depression and muscle dissatisfaction than those watching body neutral advertisements (Agliata & Tantleff-Dunn, 2004). Furthermore, men relate more to models who resemble them physically, and show dislike for idealized body types, and rejected the notion of muscularity as a masculinity symbol. They also prefer seeing a wider range of body types in fashion ads. When exposed to idealized models in ads, participants experienced body anxiety and viewed the advertisements negatively (Agliata & Tantleff-Dunn, 2004). In contrast, they felt body satisfaction and had positive views of advertisements featuring models with body types similar to their own (Barry, 2014).

To date, no studies have involved male fashion models. The current dissertation does not focus on the assessment of disordered eating behaviors and body image concerns among male models. In the following chapters, I will present key aspects of the current fashion industry, emphasizing its demands, the professional appearance-related pressure, similarities between fashion modeling and aesthetic sports, and the potential risk factors for the development of EDs in fashion models.

1.5.3 Requirements of the fashion industry

The fashion industry predominantly promotes the beauty ideal characterized by young Caucasian models with very slender physiques (Scully, 2016). On international fashion catwalks, models are required to possess a certain height (minimum 175 cm, up to 182 cm, although there are a few notable exceptions) as elongated bodies are believed to enhance the visual appeal of clothing both on the catwalk and on camera (Zancu & Enea, 2017). Measurement specifications dictate that bust, waist, and hip circumferences should not exceed 90–60–90 cm, respectively. However, most high fashion brands demand even smaller measurements, closer to 86–59–86 cm, that equals a European clothing size of 32–34 (Mears, 2011). Models deviating even slightly from these ideal physical parameters face considerable challenges in securing job opportunities (Mears & Finlay, 2005). Models conforming such demands are called “straight size models” (Mears, 2011). The term “plus-size” in the fashion industry typically refers to models who are larger than the standard sizing (Mears, 2020). While there is no universally concurred definition of plus-

size, it often includes models who wear a size 38 or above in European clothing size. These measurements, however, can vary slightly between different markets and fashion brands (Bogár & Túry, 2019). According to an American study including 85 fashion models, only 4.7% of the models had a BMI greater to 20.0, and 81% of the participating models' BMI was under 18.5 (Rodgers et al., 2017). Even today, after the rhapsodic appearance of plus size or curve models, fashion runways continue to be dominated by exceptionally slim mannequins (Pemberton, 2019; Franceinfo, 2023; Petter, 2023). Beyond body size requirements, a successful modeling career demands clear skin, well-maintained teeth, healthy hair and nails, and a discerning clothing style (Bogár & Túry, 2019). Models' personalities—although difficult to identify the desired traits—is also a crucial aspect in securing modeling jobs (Mears, 2011). These requirements can lead to professional appearance-pressure in models (Fixsen et al., 2023).

1.5.4 Appearance pressure

A successful modeling career requires models to conform to uniform high fashion standards but at the same time, to portray unique features, making models distinguishable for fashion clients, setting apart the sometimes even clone-like models (Mears, 2011). The pressure to conform to appearance standards is exceptionally high (Dauxerre, 2017). The fashion industry's competitive nature, often characterized as "brutal", compels models to undertake extraordinary measures to secure fashion shows, which is the highest stakes in fashion work (Fixsen et al., 2023). Consequently, fashion models contend with heightened levels of appearance-related professional pressure, a phenomenon linked to symptoms of disordered eating (Santonastaso et al., 2002; Rodgers et al., 2021). The pressure to conform to a remarkably thin aesthetic within the fashion industry can be best demonstrated by the concept of "Paris thin". This term has surfaced among models and agents, symbolizing the extreme thinness expected by *haute couture* fashion houses in France during their fashion shows (Record & Austin, 2016). Models subjected to heightened pressure from modeling agents have reported more substantial weight loss, highlighting how systemic pressure within the fashion industry may contribute to perpetuating an excessively slim aesthetic (Rodgers et al., 2021). Nevertheless, models are expected to maintain optimal physical condition, radiate a healthy appearance, and possess ample strength to meet the physically demanding nature of their profession (Howard, 2018). Modeling agents assert that models do not experience EDs as it could hinder their chances

of building a successful career (van Hanswijck de Jonge & van Furth, 1999; Bogár & Túry, 2019). Moreover, they state that undernourished models would be unable to fulfill the performance criteria for the job (van Hanswijck de Jonge & van Furth, 1999; Zancu & Enea, 2017). Agents are important actors in the fashion realm as they represent the high demands of the clients (e.g., fashion designers, magazine editors, photographers, stylists, etc.). Fashion models encounter significant demands from their agencies to undergo weight loss and uphold an extremely lean physique (Rodgers et al., 2017). The pressure to maintain a certain appearance in the modeling industry can lead to unhealthy weight controlling behaviors (Rodgers et al., 2021). Even though engaging in a diet alone is inadequate to trigger the onset of an ED, it can lead to disordered eating habits (Barakat et al., 2023). In the aforementioned study including 85 female fashion models, various weight control methods were reported, such as skipping meals, dieting, or using weight loss supplements, influenced by agents' pressure to lose weight (Rodgers et al., 2017). A higher level of appearance pressure might be conveyed by the so-called editorial models (Dauxerre, 2017). Editorial models are primarily featured in fashion magazines and high-end fashion campaigns, embodying the artistic vision of designers and photographers within the pages of style editorials. The industry often demands these models to maintain a very slender physique, aligning with the rigorous and narrowly defined physical standards that prioritize extreme thinness (Mears, 2011). Commercial models differ from editorial models concerning a wider representation of products and services, appealing to the everyday consumer through advertisements, catalogs, and various media platforms (Mears, 2011). Unlike their editorial counterparts, they showcase a more diverse range of body types and appearances, aimed at embodying the target demographic of the brands they represent. This versatility and relatability are central to commercial modeling, making it less about conforming to the stringent physical standards of high fashion and more about connecting with the public (Bogár & Túry, 2019). Contrary to the afore mentioned, some publications from the early '90s claim that the slim physique of models is not primarily due to excessive dieting or intentional slimming, but rather a result of their unique natural body types, falling within the range of genetic variability (Brenner & Cunningham, 1992; van Hanswijck de Jonge & van Furth, 1999).

1.5.5 Similarities between fashion models and athletes, dancers, ballerinas

Data on EDs in the fashion industry is scarce, yet comparisons with the aesthetic sports sector offer valuable insight due to similarities regarding the pressure to maintain a slim physique between these professions (Plateau & Arcelus, 2023). In the socio-professional context, similar to elite athletes (Smolak et al., 2000), dancers, ballerinas, and other groups in professions that prioritize physical appearance (Abraham, 1996), fashion models are identified as being vulnerable to disordered eating behaviors (Bogár & Túry, 2019). This susceptibility derives from a persistent preoccupation with maintaining specific body shapes (Treasure et al., 2008; Soltis, 2009). The heightened emphasis on weight and shape in sports and dance (e.g., via regular weight monitoring, critical comments, peer comparison, and wearing revealing attire) may play a role in the emergence of eating psychopathology among athletes (Plateau & Arcelus, 2023). Meta-analysis indicates that dancers are at a three times higher risk of developing EDs compared to non-dancers (Arcelus et al., 2014). It is suggested that interpersonal challenges, particularly social pressures from teammates and coaches, are significant factors in the emergence of disordered eating behaviors among athletes (Scott et al., 2019). Findings explain similar relationships between models and their agents, and their fellow model peers (Rodgers et al., 2017; Fixsen et al., 2023). Negative remarks from coaches and peers are associated with increased instances of disordered eating among athletes (Goodwin et al., 2014; Scott et al., 2022). Weight monitoring routines in sports have the potential to initiate or worsen disordered eating behaviors due to the pressure and expectation to conform to certain standards of weight, shape, and body composition (Cosh et al., 2012; Galli et al., 2017). Professional boxers often take extreme measures to meet the required weight limit before a fight (Wacquant, 2004). Even though body weight is not the most important bodily parameter for fashion models, their bust, waist, and hip circumferences are measured regularly (Mears, 2011). Athletes often resort to disordered eating and exercise behaviors in anticipation of weigh-ins, such as restricting food intake, intensifying exercise, using laxatives, inducing vomiting, or taking diet pills (Walsh et al., 2020), which resembles the heightened pressure models face at times of Fashion Week or other important events (Rodgers et al., 2021). Models who had been asked over the past year to lose weight or change their shape reported skipping meals more frequently and exercising to change their size (Rodgers et al., 2017). The emphasis that models place on their physical

appearance aligns closely with that of athletes, dancers, or boxers. Elite athletes may be at an increased risk compared to sub-elite and recreational athletes, and dancers (Sundgot-Borgen & Torstveit, 2004), which can be similarly applicable to aspiring or more established models. The frequency of ON is higher among performance artists (Aksoydan & Camci, 2009), and participation in the fitness industry is also linked to higher ON tendencies (Eriksson et al., 2008; Bóna et al., 2019). Lastly, the body-exposing attire dancers often required to wear promote body comparison, that can potentially increase body preoccupation and dissatisfaction which are known risk factors for EDs and body image disorders (Thompson & Sherman, 2010). Similarly, the body-exposing attire that fashion models often wear can heighten body comparison among peers and the public, potentially increasing body preoccupation and dissatisfaction. Fashion models, much like dancers, may be at increased risk due to the inherent demands of their profession on physical appearance.

1.5.6 Risk factors for the development of eating disorders in high fashion models

Advancing the introduction of the fashion industry's influence, I investigate the specific risk factors for the development of EDs in high fashion models. This section investigates the confluence of personal, environmental, psychological, and cultural pressures prevalent in the fashion industry and how they supposedly increase the risk of EDs among models. I aim to demonstrate how these various factors intersect and influence the susceptibility of EDs among fashion models.

1.5.6.1 Individual risk factors

EDs can manifest in individuals of any age from children to older adults. Clinical practice, however, indicates a peak in the incidence of EDs during adolescence and early adulthood (Szmukler et al., 1995). Considering the distribution among genders, while EDs can occur in both males and females, the lifetime prevalence of AN among women is 0.9%, the lifetime prevalence of BN among women is 1.5%, while among men the lifetime prevalence of AN is 0.3%, while BN is 0.5% (Hudson et al., 2007). EDs are among the most common psychiatric disorders in young women (Hudson et al., 2007). Therefore, teenage girls and young women are inherently identified as a specifically high-risk group for the development of EDs, especially AN. Modeling most often starts in early adolescence (Mears, 2011), making aspiring female fashion models fundamentally at risk for EDs.

Moreover, this is a vulnerable age as self-esteem and the personality is still under development. Many freshly signed models, or as the professional jargon says, *new faces*, are encouraged to lose weight as a prerequisite to engage in modeling, usually as young as 13–15 years of age (Bogár & Túry, 2019). The new faces, the aspiring fashion models could face heightened susceptibility to industry-related stressors. Castellano and colleagues (2021) found elevated stress levels in aspiring fashion models compared to a control group. It is suggested that stress levels partially mediate the relationship between eating attitude disorders and body dissatisfaction. New faces in the modeling industry face higher perceived competition, a stronger desire to conform to slim beauty standards, limited professional experience, and uncertainty about career outcomes, compared to their well-established counterparts. This competitive pressure can drive aspiring models to maintain a low body weight. Evidence indicates that aspiring fashion models score significantly higher in body dissatisfaction, stress levels, and disordered eating attitudes. Increased body dissatisfaction is associated with an increased risk of developing EDs in adolescent girls (Uchôa et al., 2019).

In terms of emotional risk factors, qualitative research revealed that models endure a profound feeling of humiliation, dehumanization, and emotional trauma (Fixsen et al., 2023). Trauma is both precipitating and maintenance factor for EDs (Trottier & MacDonald, 2017). Loneliness should also be mentioned as an individual psychological risk factor for EDs. Fashion models travel globally, which means that they spend several months away from their families and friends in foreign environments (Bündchen, 2018). A bidirectional connection was established between loneliness and EDs (Meneguzzo et al., 2024). As a psychological risk factor, alexithymia consistently shows associations with ED pathology and disturbances in body image (Franzoni et al., 2013; Westwood et al., 2017). However, considering the artistic nature of modeling work that involves emotional labor (Mears & Finlay, 2005; Entwistle & Wissinger, 2006), findings indicate that levels of alexithymia are notably lower among fashion models compared to athletes or controls (Zancu et al., 2022). This suggests a potentially heightened emotional competence, which may be linked to the emotional labor required in public performances. Appearance orientation is assessed to be higher among fashion models, meaning larger investment, and increased preoccupation in their looks (Zancu et al., 2022), that might exacerbate body image concerns due to the intense competition in the profession (Fixsen et al., 2023). Fitness

evaluation and fitness orientation, similarly to athletes, is significantly higher among fashion models compared to non-models, suggesting the importance of maintaining their fitness for body-focused performance (Zancu et al., 2022), and potentially employing exercise to control specific bodily measurements (Bogár & Túry, 2019). Notably, the duration of professional experience among fashion models is significantly negatively correlated with disordered eating (Zancu et al., 2022). This suggests that models who meet the size requirements of the fashion industry without resorting to disordered eating or exercise behaviors may have a higher likelihood of succeeding in prolonged modeling careers. Importantly, the drive for thinness was positively associated with longer duration of modeling (Swami & Szmigielska, 2013).

1.5.6.2 Interpersonal risk factors

Difficulties with and poor-quality interpersonal relationships have been identified as risk factors for the development of EDs in the general population (Arcelus et al., 2013). The career of fashion models is greatly influenced by modeling agents (Mears, 2011). This relationship is distinct and significantly influences not only models' careers but also their well-being (Dauxerre, 2017). Bookers serve as the link between models and clients, utilizing the models' physical attributes to negotiate deals. Their role is to foster relationships with the aim of ensuring that a client hires a model under their representation for an agreed-upon fee (Mears, 2011). The attitudes and behaviors of bookers regarding weight, shape, and diet can be key factors in influencing body image concerns and disordered eating habits in models. A study conducted in the United States revealed that different weight control methods were used by models: 56% skipped meals, 70% dieted, 52% fasted, and 24% used weight loss supplements, influenced by agents' pressure to lose weight. Furthermore, 69% of the fashion models were advised to tone up, 54% were urged to lose weight, and 63% received feedback from their agents that losing weight would increase their chances of securing more modeling jobs (Rodgers et al., 2017). Models who were asked to lose weight portrayed a significantly greater decrease in BMI (Rodgers et al., 2021). Evidence suggests that negative remarks from both coaches and peers are associated with higher instances of disordered eating among athletes, which could also apply to models, however, still under-researched (Goodwin et al., 2014; Scott et al., 2022). Models depend on their agents to secure high-end modeling jobs, with agents typically making career decisions based on their own interests and beliefs; consequently,

models often have little decision-making capacity, even if they desire more lucrative commercial jobs or prestigious editorial positions (Mears, 2011). This lack of autonomy mirrors the autonomy-dependency conflict common in patients with EDs (Rogers & Petrie, 2001). Patients with AN seek independence but also rely on others for validation to bolster their low self-esteem (Cassin & von Ranson, 2005). The dependence seen between models and agents can be similar to the dependence observed in anorexic patients. Competition among aspiring fashion models is described as "brutal" (Fixsen et al., 2023), the fashion market is flooded with young, slim and beautiful girls, leaving very few work opportunities for an extended number of models (Scully, 2016). Pressure is high to conform to industry standards from agents, designers, magazine editors, and other fashion personnels (Dauxerre, 2017). Models' responsibility includes attending castings to secure work opportunities (Bogár & Túry, 2019). These castings often involve numerous models competing for the same job (Mears, 2011). Such events could potentially exacerbate social comparison between models. Social comparison is a standard behavioral tactic used to assess one's status relative to others (Mills et al., 2017). Peer influences are recognized as potentially significant factors in the development of ED psychopathology in the general population (Marcos et al., 2013). Recent studies have expanded this investigation to include the impact of teammate influences on athletes (Scott et al., 2019). This competitive environment (i.e., castings) can lead to heightened appearance-based comparisons among models (Bogár et al., 2024a), called upwards appearance-based comparisons (Morrison et al., 2004; Verduyn et al., 2020). Comparing oneself to others can have either positive or negative effects, depending on the perceived disparity between oneself and the comparison target (Lewis-Smith et al., 2019). The casting environment is characterized by a prevailing sentiment that there's always someone younger, more attractive, or thinner (Bogár & Túry, 2019). In social media settings, engaging in upward appearance comparisons with thin ideal images, leads to heightened dissatisfaction with weight and appearance, and low confidence levels (McComb & Mills, 2021). The concept of "competitive thinness", originally used in the context of athletes, might also be relevant to the world of fashion modeling, particularly in terms of appearance-based social comparisons among peers (Thompson & Sherman, 2010). Moreover, the concept of the "contagion effect" proposes that the imitation of disordered eating behaviors occurs within social groups, leading to social pressures over time for group members to adhere to these established

norms (Crandall, 1988). In EDs, mimesis can play an important role (Strand, 2018). This phenomenon can be prominent among models, especially in model apartments where fashion models live in close proximity and can easily adopt each other's eating behaviors (Dauxerre, 2017). Evidence shows that in athletes, the perception of pressure from teammates to lose weight or alter body shape, coupled with observing or emulating teammates' disordered eating behaviors, has been identified as a predictor of increased levels of eating and exercise psychopathology (Scott et al., 2019). But not only models compare themselves to each other, they are also compared to one another by other industry professionals (e.g., agents, casting directors, designers, etc.) (Bogár et al., 2024b). These comparisons are almost solely based on measurements (thinness) and facial features of the models, and lead to rejections numerous times daily (Mears, 2011). Castings provide good opportunities to learn how to cope with negative feedback, however, the excessive and disproportionate rejection rate at castings is described as "soul-destroying" (Fixsen et al., 2023). Rejections are based on subtle physical attributes, and models tend to not receive specific feedback on why they were not chosen (Mears, 2011). This lack of clarity can aggravate feelings of body dissatisfaction and may lead to a greater motivation to meet industry standards, potentially resulting in unhealthy eating behaviors. Strict dietary control is a critical part of a modeling career (Mears, 2011), a viewpoint also emphasized by agents (Rodgers et al., 2017). As an interpersonal risk factor, sexual abuse must be mentioned due to its profound impact on self-esteem and body image, making it a significant risk factor for the development of EDs through apprehension about potential future sexual trauma, body dissatisfaction, shame or sexual dysfunction (Madowitz et al., 2015; Costin, 2018). Victims of abuse may attempt to regain a sense of control or cope with feelings of shame and trauma by managing their body size and shape through disordered eating behaviors (Waller, 1998). This can be particularly prevalent in the fashion industry, where there is intense scrutiny and pressure concerning appearance (Mears, 2011), and a heightened risk for sexual objectification (Ratajkowski, 2021; Rodgers et al., 2021; Russell, 2024).

Contrary to the above-mentioned, professional validation and recognition that more established fashion models receive from other industry personnel, may enhance their confidence in adhering to physical requirements (van Hanswijck & van Furth, 1999; Swami

& Szmigielska, 2013), however, it is crucial to keep in mind that social influence, especially on the appearance of one's body is a risk factor for ED (Corning et al., 2006).

1.5.6.3 Environmental and cultural risk factors

Fashion models are consistently pressured to meet sociocultural standards (Rodgers et al., 2017). The competition for modeling jobs is fierce, with minor variations in physique being the determining factor for selection by fashion clients (Mears & Finlay, 2005; Johnson, 2011). This population experiences heightened appearance pressure, often intentionally imposed by modeling agents (Rodgers et al., 2021). Fashion models are consistently expected to maintain a slim physique, but this pressure intensifies during major fashion events (Rodgers et al., 2021). These periods, particularly Fashion Weeks, are crucial and highly competitive for models, with an increased emphasis on adhering to an extremely thin standard of beauty (Mears, 2010). About 20% of models have been warned by industry professionals that their body measurements have prevented them from obtaining runway jobs, and 46% of models have reported adjusting their weight specifically for the New York Fashion Week Fall'18 event (Rodgers et al., 2021). Models who were advised by their agents to slim down for New York Fashion Week reported a larger decrease in their BMI and harmful weight controlling behaviors, including meal skipping or self-induced vomiting (Rodgers et al., 2021). This intense pursuit of an ultra-thin image during Fashion Week creates an environment conducive to disordered eating and diminished well-being among models. Fixsen and colleagues (2023) observed that during major fashion shows, models often resort to eating very little, over-exercising, and getting minimal rest. Furthermore, it is indicated that young women already showing signs of EDs might be more inclined to pursue a career in fashion, as they might more readily meet the industry's unrealistic beauty standards (Preti et al., 2008). A high fashion model's tenure in the high fashion industry is often short, lasting only a few seasons, additionally, the nature of the work is intermittent, and earnings are not consistent (Mears, 2011). This structure and the inherent uncertainty in the industry leave models with little control over their careers (Dauxerre, 2017). They have limited independence, with their body shape and size being almost the single aspect they can influence (Bogár & Túry, 2019). The sense of exerting control and making autonomous decisions can play a central role in the development of AN (Tan et al., 2003). Models face a particularly unpredictable work schedule (Bogár et al., 2021), which can lead to the feeling of lack of control, that potentially result

in the feeling of gaining control over food intake or engage in physical activity to control their body size—the only influenceable aspect of their career (Bogár et al., 2024a). Lastly, fashion models are at risk of disturbances of the circadian rhythm due to their inconsistent schedule and regularly crossing different time zones (Bogár et al., 2022). A bidirectional relationship was established between impaired circadian rhythms and disordered eating attitudes (Kandeger et al., 2021).

The above-mentioned studies highlight the increased vulnerability of fashion models towards EDs and body image concerns and reinforce that they are a high-risk group for several negative physical and mental health outcomes. Nonetheless, modeling remains a highly sought-after career, with significant financial benefits at the industry's pinnacle (Mears, 2011). For models with a less prominent presence, rewards such as travel experiences, social recognition, or photoshoot opportunities continue to be greatly motivating (Mears & Finlay, 2005).

1.6 Preliminary study and early observations

Prior to starting my Ph.D. studies, I conducted qualitative research which was the foundation of the current study that I present in this thesis (Bogár & Túry, 2019). The preliminary research included 53 registered narratives from high fashion models. Content analysis was performed on the narratives and symptoms of EDs, and body image disorder were assessed, besides maladaptive weight loss behaviors, such as the controlling of food intake, calorie restriction, excessive exercising or self-induced vomiting were investigated. Opinion of fashion models about the dynamics of the fashion industry was also observed. These early findings confirmed that according to the DSM-5 criteria, 4 models had AN and one model had BN. It was found that 7.5% of the models used temporary self-induced vomiting, and 74% of the models made efforts to reach the requirements held by the fashion industry. The BMI value of the majority of the models (92%) was under 18.5, which is considered underweight (WHO, 2000). It was also found that a large proportion of models were aware that they had not conveyed a healthy body image. Models expressed that they would welcome changes towards healthier body shapes. This pilot study served as the foundation of the here-present research. The initial findings helped me to define the hypotheses and to find better measuring tools for the assessment of maladaptive eating behaviors and body image concerns among fashion models. Models' narratives also reinforced that qualitative methodologies could discover more elusive details

prominent in the fashion industry that would otherwise remain hidden, yet, at the same time amplify the need for the use of quantitative measuring instruments to assess the modeling population. The pilot study also helped me to define more precise methodological qualitative assessment and the direction of more structured investigation, which is presented in this thesis.

1.7 Choosing the research topic

I decided to investigate the risk factors for EDs and body image disorders among fashion models for several reasons. Firstly, despite subtle changes in the fashion industry, such as the inclusion of plus-size models, the majority of fashion models are still underweight (Zancu & Enea, 2017). The phenomenon is frequently discussed across mass media platforms (Pemberton, 2019; Franceinfo, 2023; Petter, 2023). However, the evidence on this subject is limited, as most studies have small sample sizes (Brenner & Cunningham, 1992; Santonastaso et al., 2002; Preti et al., 2008; Swami & Szmigielska, 2013). Moreover, the prevalence of EDs is increasing (van Eden et al., 2023), and sociocultural pressures have intensified with the widespread accessibility of social media (Pink et al., 2022). These factors highlight the importance of conducting research in this area, which can benefit not only fashion models in terms of occupational health standards but also the general public. In spite of the clear need for such studies, gaining access to top fashion models for insights into their eating behaviors and body image perceptions presents significant challenges. The widespread belief in their use of extreme weight management strategies complicates trust-building, while their hectic schedules, spanning different time zones and continents, make their participation in research difficult. My ability to conduct this research successfully was largely due to two personal factors that are crucial even in the context of objectivity and evidence-based approaches. First, my own experience as an international fashion model between 2008 and 2013 provided me with an insider's understanding of the challenges involved in this study. The second factor is my personal journey of recovering from AN, a topic I openly discussed at the outset of my research. This transparency helped me earn the trust of my model colleagues and fostered an environment conducive to open discussions on the subject. My motivation lies in finding answers to often occurring questions about the frequency of EDs in fashion models by designing a multicultural study assessing ED risk factors in a large group of female fashion models using ED specific validated questionnaires and semi-structured qualitative methods. While numerous

studies have explored the adverse impact of the media's depiction of beauty ideals on the general population (Boone et al., 2011; Keel & Forney, 2013; Wang et al., 2017; Linardon, 2023), there is a dearth of comprehensive research on how the fashion industry's beauty standards affect its own employees and how this has evolved over time.

Numerous risk factors are prevalent among fashion models, such as intense appearance pressure, appearance-based judgment, increased competition, social comparison, uncertain working environment, isolation, frequent rejection, bodily criticism, dependency on modeling agents, and their particularly young age. I aimed to measure perceived sociocultural pressure, body image attitudes, maladaptive eating behaviors, the frequency of EDs, and varying BMI values. My goal was to better understand this under-researched population, and to contribute to the development of health-promoting prevention strategies. This research aims to enhance the well-being of fashion models.

2. OBJECTIVES

The frequency of EDs and body image disturbances among female fashion models is under-researched. Concurrently, mass media frequently highlights the concern of the extremely thin beauty ideal, and the unhealthy weight loss practices models employ to meet the fashion industry's standards. The data available in the literature is not only scarce, but also contradictory (Swami & Szmigielska, 2013; Castellano et al., 2021). My primary objective was to gain further insight and to fill the gap in the literature on this topic. Prior to the research presented in this dissertation, I conducted a preliminary qualitative study based on semi-structured interviews, which since has been published (Bogár & Túry, 2019). In this preliminary content analysis, I found that 74% of the models made purposeful efforts to reach the requirements held by the fashion industry and often engaged in various disordered eating behaviors. Starving, extreme calorie restriction, excessive physical exercising, laxative abuse, self-induced vomiting was used as means of weight loss. Analyzing those interviews led me to recognize that while qualitative research on the lived experiences of this difficult-to-reach group offers insights beyond those detectable by traditional quantitative methods, more objective and validated measures are also necessary for a thorough evaluation to address my research questions. The mixed-methodology of using quantitative and qualitative tools enhances the understanding of nuanced relationships and complex phenomena often depicted in mass media, yet absent from evidence-based literature. My initial goal was to ascertain the frequency of maladaptive eating behaviors and classic EDs among fashion models in comparison to a non-model group, and to assess the environmental risk factors for the development of EDs among fashion models. As I dwelt deeper in the subject, questions about the perceived pressure and body dissatisfaction also arose. Thus, the following hypotheses were made:

Hypothesis 1: **Models perceive increased sociocultural pressure to conform to the slim beauty ideal compared to non-models.** It has been previously researched how exposure to slender body ideals affect females (Rajanala et al., 2018; Vanderbosch et al., 2022), yet fashion models who embody these ideals might face even stronger pressure to conform to the slimness ideal as an occupational requirement. This hypothesis examines the impact of sociocultural attitudes towards appearance, the internalization of thinness, perceived information about the slim beauty ideal and general sociocultural pressure.

In light of my earlier observations (Bogár & Túry, 2019) and literature data about the unhealthy weight controlling behaviors of fashion models (Rodgers et al., 2017; Rodgers et al., 2021), I aimed to investigate both disordered eating attitudes and behaviors, considering two critical aspects which are (1) hypothesizing that models face increased environmental pressure to maintain a slim body ideal, which can be related to more negative attitudes towards eating and body perception, they might need to alter their natural physique through unhealthy weight-controlling behaviors, and (2) that EDs are multifaceted psychiatric disorders, thus, a large proportion of models might not be claimed to have EDs, but potentially use maladaptive eating and exercising behaviors to maintain their body size.

Hypothesis 2: **Models show more negative than positive eating attitudes.**

Hypothesis 3: **Maladaptive weight loss behaviors are more common among models than in the non-model group.**

Apart from maladaptive eating attitudes and behaviors, one of the main goals of this thesis was to investigate the frequency of simulated ED diagnoses and the frequency of ON in the modeling population. Partial syndrome EDs, especially partial syndrome AN, was found to be more frequent among fashion models (Santonastaso et al., 2002; Preti et al., 2008). Although, up to date, orthorexic tendencies among fashion models have not been studied.

It was hypothesized that:

Hypothesis 4: **The frequency of eating disorders (anorexia nervosa, bulimia nevosa) and orthorexia nervosa is higher in models than in the non-model group.**

Fashion models have a lower average BMI than non-models and a stronger drive for thinness (Zancu & Enea, 2017). My preliminary qualitative research revealed that three quarters of models make persistent and vigorous efforts to maintain their figures, several implications from models to have experienced severe criticism about their physical appearance, and parallelly they claimed that they would welcome the revision of the size requirements of the fashion industry, as it would prevent them from excessive dieting (Bogár & Túry, 2019). Fashion models are often encouraged by their agents to lose weight in order to book more modeling jobs (Rodgers et al., 2021). The following was hypothesized:

Hypothesis 5: **The difference between the actual BMI and the ideal BMI of fashion models is lower than the difference between the actual BMI and the ideal BMI of non-models.**

I further hypothesized that despite the small difference between models' current and ideal BMI, they remain dissatisfied with their bodies due to the negative criticism they receive from agents. Evidence suggests that negative remarks from coaches are linked to higher instances of disordered eating among athletes (Goodwin et al., 2014; Scott et al., 2022). This may also apply to models (Fixsen et al., 2023). Negative weight-related remarks can be remembered for years, reinforcing negative body perceptions (Anderson et al., 2014).

Hypothesis 6: **Models experiencing professional bodily criticism report negative body- or weight-related statements more frequently in their narratives than models who do not receive such criticism.**

Hypothesis 7: **Models experience heightened body dissatisfaction compared to non-models which can be associated with the general internalization of the thin body ideal.**

Preliminary observations indicate that the professional appearance-related pressure and the strict measurement requirements in the fashion industry compel models to maintain a body weight that is unnaturally low (Bogár & Túry, 2019). These narratives suggest that models do not inherently desire to be as skinny as the industry demands but feel forced to conform to these unrealistic standards to succeed in their careers. This imposed pressure often results in a body weight that is unsustainable and detrimental to their overall well-being (Dauxerre, 2017; Howard, 2018).

Hypothesis 8: **The ideal BMI of fashion models is higher than the BMI they had when they were most successful in their modeling careers.**

Finally, considering the pervasive sexual harassment within aesthetic professions, such as acting, music production, and notably, fashion modeling (Ratajkowski, 2021; Russell, 2024), and recognizing the statistically significant relationship between sexual harassment and EDs (Hayes et al., 2021), it was hypothesized in Hypothesis 9 that:

Hypothesis 9: **Models experience more frequent sexual abuse than women in the non-model group and it can be associated with the presence of eating disorders.**

3. METHODS

My research consists of two primary sections. I combined quantitative and qualitative methods to explore the frequency and underlying dynamics of EDs among fashion models. The quantitative analysis involved an online survey covering sociodemographic, anthropometric, and modeling-related factors, along with validated questionnaires assessing ED and body image disorder symptoms. In addition, qualitative analysis was conducted through narratives gathered from female fashion models using a list of open-ended questions. This combined approach aimed to provide a comprehensive understanding of EDs and body image concerns in the fashion industry, offering insights for future interventions and prevention strategies. I will expound upon the methods and findings separately for quantitative and qualitative analyses, ensuring a clear and systematic presentation of the study's outcomes.

3.1 Quantitative analysis

3.1.1 Sample description

Two independent samples were recruited for this section of the research. The study group included internationally heterogeneous female straight size fashion models. A control group of non-models was applied, who were internationally heterogeneous female individuals pursuing careers other than modeling, mostly but not exclusively consisting of university students. Fashion model participants were recruited via snowball sampling, as constructing a sampling frame for the model population was inexecutable. My objective was to recruit at least 120 straight size models in the recruitment phase of the study. Control group participants were also recruited with snowball sampling. Inclusion criteria for the model group participants included the following: female gender; age 16 years or older; being signed with international modeling agencies; work experience in major fashion capitals (i.e., Paris, Milan, New York, London, etc.); at least one year of experience as an international model; height equal to or above 170 cm; self-reported BMI under 25.0 (the aim of the study was to investigate straight size high fashion models and not plus size models); and strong knowledge of English. Inclusion criteria for the control group participants included the following: female gender; age 16 years or older; profession other than modeling; and strong knowledge of English. 196 models and 305 non-models responded to the questionnaire. Exclusion from the study was enforced in condition of missing data

either of age, height or weight; or providing scanty answers to any of the questionnaires. The control group was adjusted to the study group according to age (16–37 years old). All control group individuals above the age of 37 years were omitted. The final sample comprised 179 respondents in the model group and 261 respondents in the control group. In the fashion model group, the mean age was 25.9 years (*SD* = 4.70, range 16–37 years), mean height was 177.3 cm (*SD* = 3.58, range 170.0–188.0 cm), and the mean BMI was 18.1 (*SD* = 1.68, range = 14.0–24.8). The non-model group's mean age was 25.0 years (*SD* = 4.97, range 16–37 years), mean height was significantly lower, 167.4 (*SD* = 6.59 cm, range 150.0–188.0 cm), and their mean BMI was significantly higher, 22.1 (*SD* = 4.23, $p < .001$, range 14.7–43.3) (Table 3). Both the study group and the control group were ethnically heterogenous. Most fashion models and controls identified as white (101 models, 56.4% vs. 241 controls, 92.3%), 5 models (2.8%) were Asian (vs. 2.7%, 7 participants in the controls), 6 models (3.4%) were black (vs. 1.5%, 4 participants in the controls), 14 models (7.8%) of fashion models reported other racial identification (vs. 3.4%, 9 participants in the controls) while 53 (29.6%) of the fashion models did not provide data (vs. 0% of the controls; Table 4). Models participated from 36 different countries, and non-model controls participated from 17 countries, including but not limited to Austria, Belgium, Botswana, Canada, Ecuador, France, Iran, Korea, Norway, Pakistan, Russia, Tonga, and Vietnam. Most participants were from Hungary, France, Russia, the Netherlands, and the United States of America.

Table 3. Anthropometric data of fashion models and controls

	Fashion models	Non-models	Test statistic and effect size
Sample size	$n = 179$	$n = 261$	
Age (year)			$t_{(438)} = -1.773$
mean (SD)	25.9 (4.70)	25.0 (4.97)	$p = .077$
range	16–37	16–37	Cohen's d =0.19
Height (cm)			$t_{(419)} = -20.275$
mean (SD)	177.3 (3.58)	167.4 (6.59)	$p < .001$
range	170.0–188.0	150.0–188.0	Cohen's d =1.78
Weight (kg)			$U = 18056$

mean (SD)	56.9 (5.61)	61.9 (12.69)	$p < .001$
range	43.5–75.0	40.0–125.0	Cohen's d =0.48
BMI			$U = 7105$
mean (SD)	18.1 (1.68)	22.1 (4.23)	$p < .001$
range	14.0–24.8	14.7–43.3	Cohen's d =1.17

Note. Due to non-normal distribution of weight and BMI, Mann-Whitney U test was used.

Table 4. Distribution of fashion models and non-models by race and ethnicity

	Fashion models	**Non-models**
	$n = 179$	$n = 261$
Asian	**2.8%** CI [1.1, 6.6]	**2.7%** CI [1.2, 5.6]
Black	**3.4%** CI [1.4, 7.4]	**1.5%** CI [0.5, 4.0]
White	**56.4%** CI [49.1, 63.4]	**92.3%** CI [88.3, 95.0]
Other	**7.8%** CI [4.6, 12.8]	**3.4%** CI [1.7, 6.5]
No data	**29.6%** CI [23.4, 36.7]	**0.0%** CI [0.0, 1.8]
Test statistic and effect size		$\chi^2_{(4)} = 100{,}333$ Cramer's V = .478

3.1.2 Measuring instruments

Data collection for the quantitative evaluation was executed between July 2020 and May 2021. An online survey for the study group was created consisting of sociodemographic, anthropometric data and modeling-related questions, the Eating Behavior Severity Scale (EBSS), the Eating Disorders Inventory (EDI), the Body Attitude Test (BAT), the Socio-cultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3), the SCOFF, and

the Eating Habits Questionnaire (EHQ). The survey was uploaded to the EvaSys platform of Semmelweis University (www.evasys.sote.hu). The online survey was distributed to fashion models through online social media platforms (Instagram and Facebook). Several non-profit organisations advocate for policies that support the well-being of fashion models (Humans of Fashion; Models Empowered; Model Law; Model Mafia; Responsible Models Trust; The Models' Health Pledge) were contacted and collaborated in the distribution of the online survey. A separate EvaSys link was created for the control participants. This link included the exact same questionnaire package, with the exception of modeling-related questions. Similarly, the survey was distributed via online social media networks (Instagram and Facebook), and at international universities (King's College London, New York Law School, Semmelweis University, Université de Bourgogne). The measuring tools included in the quantitative online survey will be introduced in detail in the following chapters.

3.1.2.1 Sociodemographic and anthropometric data

After an introductory overview of the research, the first section of the survey solicited information on participants' demographic and anthropometric characteristics. This included gender, age, nationality, race, height, weight (current weight, highest weight excluding pregnancy, lowest adult weight, ideal weight), body measurements (circumferences of bust, waist, and hips), smoking habits, menstrual cycle status, history of suicidal attempts, and, specifically for models, the duration, and locations of their modeling career, as well as the types of modeling they engaged in (i.e., runway, catalogue, editorial, beauty, fit). Following the initial answers of the first 56 responses from models, the questionnaire was supplemented to broaden the scope of the research topic without altering its original form. Additional questions were introduced for the fashion model group regarding body weight and body measurements (circumferences of bust, waist, and hips) at the time when they secured the most modeling jobs. Moreover, questions pertaining to sexual assault were added for both the study and control groups. Out of 128 models who received the updated questions, 125 responded. A *t*-test was used to compare BMI, and a chi-square test was employed to examine ED involvement, neither of which showed significant differences between the groups. The results indicated that the two groups were identical in terms of both BMI and involvement in EDs. It appeared as though this group represented a random subsample. All control group participants received these inquiries. This section

of the survey was structured as the following: participants were asked whether they had ever experienced any sexual assault, the age of the participant at the time of that assault, the occasion of the assault (e.g., at castings, at backstage, at shootings, at private events, etc.) and the severity of the assault (e.g., unwanted touching, sexually suggestive comments, sexual harassment, rape, etc.). Explanations were provided to some categories. Questions that were added at a later stage of the research are marked with an asterisk (*) in the list of questions used for the online survey; please refer to the Appendix for details. The validated questionnaires used subsequently remained unaltered.

Based on height, and weight, BMI at different periods (actual, ideal, at the time of securing the most modeling jobs) were calculated: BMI_{actual}: $K_{model}(179) = 0.108$, $p < .001$, skewness = 1.178, kurtosis = 3.131; $K_{control}(261) = 0.118$, $p < .001$, skewness = 1.684, kurtosis = 4.553; BMI_{ideal}: $K_{model}(176) = 0.099$, $p < .001$, skewness = 1.221, kurtosis = 4.030; $K_{control}(261) = 0.078$, $p < .001$, skewness = 0.725, kurtosis = 1.743; BMI_{book} (when secured the most modeling jobs): $K_{model}(126) = 0.078$, $p = .058$, skewness = 1.281, kurtosis = 3.955. The distribution of the actual and the ideal BMI significantly differed from normal distribution in both groups. The distribution of BMI_{book} was calculated only in the model group, and it showed normal distribution.

3.1.2.2 Sociocultural Attitudes Towards Appearance Questionnaire-3

The SATAQ-3 is a self-reported questionnaire that measures the degree to which individuals have internalized societal expectations regarding appearance (Heinberg et al., 1995). It is scored on a 5-point Likert scale from 1 (definitely disagree) to 5 (definitely agree). The questionnaire has a four-factor structure: 1. Internalization-general—measures the extent to which individuals have internalized societal standards of attractiveness, 2. Internalization-athlete—focuses on the internalization of athletic body ideals, 3. Pressure—assesses the perceived pressure from media and societal messages to conform to ideal standards of appearance, 4. Information—evaluates the degree to which individuals look to media sources for information about appearance and beauty standards. Higher scores reflect increased internalization of sociocultural ideals about appearance and heightened appearance pressure. It is a valid and reliable measure, with good internal consistency and convergent validity. For the current dataset Cronbach's alphas were calculated that showed good reliability for all the subscales for both the model and non-model group.

Cronbach's alpha was .92/.94 (model/non-model subsamples) in the Internalization-general subscale, .84/.82 in the Internalization-athlete subscale, .93/.92 in the Pressure subscale and .87/.91 in the Information subscale. The distribution of the four SATAQ-3 subscales were tested. Based on Kolmogorov-Smirnov test, two groups—the control group in Internalization-general subscale, and the model group in the Information subscale—showed normal distribution. The distribution of every other group significantly differed from normal distribution: *1. Internalization-general*: $K_{model}(170) = 0.080$, $p = .010$, skewness = -0.302, kurtosis = -0.552; $K_{control}(254) = 0.056$, $p = .051$, skewness = -0.074, kurtosis = -0.912; *2. Internalization-athlete*: $K_{model}(170) = 0.079$, $p = .012$, skewness = 0.077, kurtosis = -0.670; $K_{control}(253) = 0.070$, $p = .004$, skewness = -0.174, kurtosis = -0.514; *3. Pressure*: $K_{model}(170) = 0.118$, $p < .001$, skewness = -0.320, kurtosis = -0.937; $K_{control}(253) = 0.085$, $p < .001$, skewness = -0.134, kurtosis = -1.099; *4. Information*: $K_{model}(169) = 0.056$, $p = .200$, skewness = -0.093, kurtosis = -0.473; $K_{control}(251) = 0.059$, $p = .033$, skewness = -0.093, kurtosis = -0.834.

3.1.2.3 Eating Behavior Severity Scale

The EBSS assesses the frequency of disturbed eating and purging behavior (i.e., binges, dieting, exercising, self-induced vomiting, use of diuretics) for the previous three months with a seven-item inventory on a seven-point Likert-type scale from 0 (never) to 6 (several times a day) (Yager et al., 1987). Higher scores indicate more severe symptoms; however, no cut-off score can be defined. Since the criteria for BN includes at least one binging-purging episode per week (APA, 2022), this is to be considered on the EBSS (i.e., minimum 3 points per item). This applies to the criteria of purging behavior as well (the use of self-induced vomiting, laxatives, diuretics) at least once per week (Demeter et al., 2015). Cronbach's alpha values were .81/.61 (model/controls).

3.1.2.4 SCOFF

The prognosis of EDs is best when detected and treated early. Morgan and colleagues (1999) created a short test for primary screening purposes of EDs mainly used in primary health care settings to provide alternative to the well-known ED specific assessment tools (i.e., EDI, EBSS, etc.), which are lengthy to complete and require the interpretation of a specialist. The SCOFF questionnaire is a five-question screening tool designed to clarify suspicion that an ED might exist rather than to establish clinical diagnosis. The

questionnaire includes five simple questions about the main symptoms of AN and BN, the initials of the keywords of those questions create the abbreviation SCOFF. Two or more "yes" answers raise the suspicion for an ED. The screening tool quickly became popular thanks to its simplicity, ease of application and being easy to remember, making it an effective screening tool for non-specialists as well. SCOFF can detect clinical severity ED cases with 80% sensitivity (Botella et al., 2013), and its specificity is over 87% (Morgan et al., 1999). The test is most suitable to detect severe ED cases. The questions can be delivered either verbally or in written form (Perry et al., 2002). Cronbach's alpha was calculated, although it was found that the Cronbach's alpha value is low for SCOFF due to the low number of dichotomous items (Siervo et al., 2005; Leung et al., 2009). The values were .77/.64 (models/controls). Based on Kolmogorov-Smirnov test, the distribution of SCOFF was significantly different from normal distribution in both groups: $K_{model}(179) = 0.203$, $p < .001$, skewness = 0.447, kurtosis = -1.072; $K_{control}(261) = 0.194$, $p < .001$, skewness = 0.701, kurtosis = -0.449.

3.1.2.5 Eating Disorders Inventory

Garner and colleagues developed the EDI in 1983. Up to date, the EDI is the most frequently employed self-rating multidimensional measuring tool for the assessment of disturbed eating attitudes and behavior and the psychological traits associated with classic EDs (Stanford & Lemberg, 2013). The 64-item inventory consists of eight subscales (Body dissatisfaction, Bulimia, Drive for thinness, Ineffectiveness, Interoceptive awareness, Maturity fears, Perfectionism, Interpersonal distrust, providing a comprehensive analysis of various dimensions related to EDs. Items are rated on a 6-point Likert-type scale ranging from 1 (never) to 6 (always). Three diagnostic subscales were used in the analysis: the Bulimia subscale (EDI-B), the Body Dissatisfaction subscale (EDI-BD), and the Drive for Thinness subscale (EDI-DT). The other subscales will be used for future research publications due to the limited scope of the dissertation. The EDI-B evaluates the proclivity for uncontrollable overeating (i.e., binging) and subsequent purging. The EDI-BD signifies the perception that specific body parts are deemed as fat and need shape alternation. The EDI-DT measures increased concerns about dieting, an intense focus on body weight, fear of weight gain, and strong commitment to maintaining a thin physique. For the data analysis, simulated (i.e., questionnaire-based) diagnoses for EDs were used. For this purpose, I used the BMI values, and the cut-off scores for the EDI-DT, and the

frequency of bulimic behaviors defined in the DSM-5-TR (APA, 2022). Simulated diagnosis criteria were defined upon the concurrent fulfilment of the following:

Simulated diagnosis of clinical AN: BMI < 17.0 and EDI-DT score ≥ 14.

Simulated diagnosis of clinical BN: at least one binge episode per week; at least one compensatory behavior (vomiting, use of laxatives/diuretics/diet pills, dieting) after binging; EDI-DT score ≥ 14 and EDI-B score ≥ 14.

Simulated diagnosis of subclinical AN: BMI < 18.5 and EDI-DT score: 10–13.

Simulated diagnosis of subclinical BN: binge eating episodes occurred no more than three times a month; at least one compensatory behavior (vomiting, use of laxatives/diuretics/diet pills, dieting) after bingeing; EDI-DT score: 10–13 and EDI-B score: 6–13.

Based on DSM-5-TR, I differentiated mild and more severe cases and categorized them as clinical and subclinical AN. As the sample size was not large enough to differentiate all the four severity categories. Mild cases were categorized as subclinical, while the clinical category contains moderate, severe and extreme cases. In accordance with the DSM-5-TR, the presence of amenorrhoea as a criterion was not included.

The internal consistencies were appropriate in both the model and control subsamples: in the Drive for Thinness subscale, Cronbach's alpha was .94/.92 (model/control subsamples); in the Bulimia subscale, .92/.86; and in the Body Dissatisfaction subscale, .93/.91. Based on Kolmogorov-Smirnov test the distribution of the three EDI subscales were significantly different from normal distribution in all groups: EDI-DT: $K_{model}(178) = 0.177$, $p < .001$, skewness = 0.816, kurtosis = -0.731; $K_{control}(258) = 0.172$, $p < .001$, skewness = 0.881, kurtosis = -0.454; EDI-B: $K_{model}(175) = 0.214$, $p < .001$, skewness = 1.263, kurtosis = 0.398; $K_{control}(259) = 0.278$ $p < .001$, skewness = 2.354, kurtosis = 6.597; EDI-BD: $K_{model}(175)=0.151$, $p < .001$, skewness = 0.671, kurtosis = -0.749; $K_{control}(256) = 0.128$, $p < .001$, skewness = 0.728, kurtosis = -0.414.

Two subsequent revisions, the EDI-2, and the EDI-3 have been published by Garner (Garner 1991; Garner 2004). The EDI inventory is still frequently used in epidemiological screening surveys and clinical trials, which is why I chose to use it in my research compared to the new versions.

3.1.2.6 Eating Habits Questionnaire

The EHQ is a widely used measurement tool for the assessment of ON, with good psychometric properties (Niedzielski & Kaźmierczak-Wojtaś, 2021). The EHQ assesses on three subscales cognitive, behavioral, and emotional aspects of ON. The Knowledge subscale (EHQ-K) measures the respondent's knowledge of healthy eating, the Problems subscale (EHQ-P) assesses the problems associated with healthy eating, and the Feelings subscale (EHQ-F) measures positive feelings about healthy eating (Gleaves et al., 2013). The original version of the EHQ was reevaluated during this research, for two reasons. Despite that the inclusion criteria contained the requirement of strong English knowledge, many of the respondent were not native English speakers, which might influence the reliability of the tool. Moreover, the original evaluation had an error: one item in the final battery was not part of the larger set of items that went through the selection procedure. As a result, it was decided to repeat the selection procedure of the original publication based on 35 items using confirmatory factor analysis (CFA). As a result, a similar three-factor solution was found with good psychometric properties (CFA fit indices showed fit). In the Knowledge subscale, Cronbach's alpha was .81/.79 (models/controls); in the Problems subscale .91/.87; and in the Feelings subscale .80/.77 (Simon et al., 2024).

According to Hayatbini and Oberle (2019), those were assessed with ON tendency who were in the top 25 percentile of the total EHQ score in the control group and whose average Likert ratings for both EHQ-P and EHQ-F were at least 2.0. Based on Kolmogorov-Smirnov test, the distribution of the three EHQ subscales were significantly different from normal distribution in all groups: EHQ-K: $K_{model}(171) = 0.081$, $p = .009$, skewness = 0.037, kurtosis = -0.480; $K_{control}(252) = 0.101$, $p < .001$, skewness = 0.310, kurtosis = -0.318; EHQ-P: $K_{model}(170)=0.109$, $p < .001$, skewness = 0.702, kurtosis = -0.220; $K_{control}(252) = 0.153$, $p < .001$, skewness = 1.268, kurtosis = 1.548, EHQ-F: $K_{model}(171) = 0.118$, $p < .001$, skewness = -0.666, kurtosis = 0.349; $K_{control}(255) = 0.130$, $p < .001$, skewness = -0.412, kurtosis = -0.032.

3.1.2.7 Body Attitude Test

The BAT is a practical and easy to use self-report tool designed to assess subjective body experience and attitude toward one's body (Probst et al., 1995). The BAT was designed for female subjects and includes 20 items. Items are rated on a 6-point Likert-type scale

ranging from 0 (never) to 5 (always). Higher scores indicate more deviation in body experience. The questionnaire has a four-factor structure: 1. Negative appreciation of body size—measures the tendency to find certain body parts too large or the feeling of being fat, 2. Lack of familiarity with one's body—assesses how disconnected or out of touch individuals feel with their own bodies, 3. General body dissatisfaction—indicates the level of overall dissatisfaction with external appearance, 4. Rest factor. The BAT is a valid and reliable test.

In case of the current data however, reliability problem occurred with the unifactorial scale in case of models, in two items: „My bodily appearance is very important to me."; „I observe my appearance in the mirror." where the item-total correlations were negative or close to zero (these items can have a model specific meaning). According to Probst et al. (2007) unifactorial scale cannot differentiate between patient and control group. Due to these facts, it was decided to use only three subscales and not use the unifactorial model. Reliability of the three subscales were appropriate regarding both the Cronbach's alpha values and item-total correlations. In the Negative appreciation of body size subscale, Cronbach's alpha was .88/.84 (models/controls); in the Lack of familiarity with one's own body subscale .88/.84; and in the General body dissatisfaction subscale .86/.84. Based on Kolmogorov-Smirnov test the distribution of the three BAT subscales were significantly different from normal distribution in all groups: *1. Negative appreciation of body size*: $K_{model}(172) = 0.102$, $p < .001$, skewness = 0.456, kurtosis = -0.749; $K_{control}(258) = 0.094$, $p < .001$, skewness = 0.533, kurtosis = -0.617; *2. Lack of familiarity with one's own body*: $K_{model}(172) = 0.073$, $p = .025$, skewness = 0.346, kurtosis = -0.856; $K_{control}(255) = 0.086$, $p < .001$, skewness = 0.728, kurtosis = 0.389, *3. General body dissatisfaction*: $K_{model}(172) = 0.071$, $p = .032$, skewness = 0.140, kurtosis = -0.506; $K_{control}(256)=0.075$, $p = .001$, skewness = 0.259, kurtosis = -0.573.

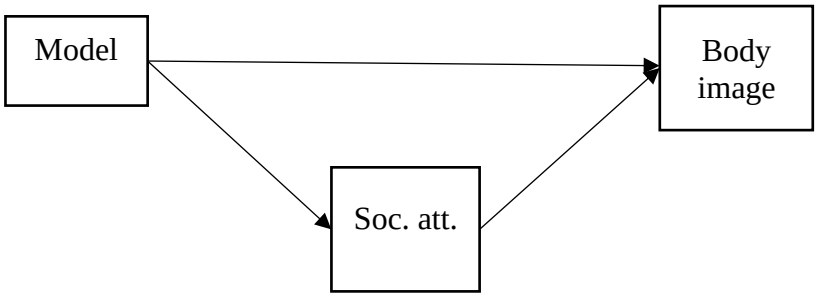
Refer to the Appendix for the complete survey and answer options.

3.1.3 Data analysis

The quantitative analysis is descriptive, cross-sectional, with the main focus to assess the frequencies of different disturbed eating attitudes, behaviors and simulated ED diagnoses. The investigations also aimed to detect differences between specific features of the two groups. BMI values were calculated by using self-reported height and weight data, following the established formula (weight [kg]/height [m^2]) (WHO, 2008). The SPSS 23

statistical software was used for the analysis. Descriptive statistics were carried out on the data, and averages and standard deviations were calculated. The normality of the variables was checked using the Kolmogorov-Smirnov test. Even though the distribution of variables was significantly different from normal, skewness and kurtosis values were within the range of ± 2, so this was not considered a violation of normality (Gravetter et al., 2021). Independent sample *t*-test was used for comparing group means if the normality assumption was not violated, while Wilcoxon test was used for the same purpose in case of non-normal distributions. Chi-square tests were used to compare proportions. Agresti-Coull interval estimates were given for the proportions as recommended by Brown and colleagues (2001). Cohen's d was used to determine the effect size for differences in means, and Cramer's V was used to assess effect size for proportions. Linear regression (for scale variables) or logistic regression (for dichotomous variables) was used to compare models and non-models controlled for height and age differences. Weight was not controlled because early age (pre-model) weight was not reported, and differences in weight could result from EDs; therefore, controlling for weight could reduce the measured effect of being a model on ED and related factors. BMI was not controlled, as it would implicitly control for weight after controlling for height. In order to further investigate the effect of being a model, the effect of the number of years spent with modeling was also assessed by linear regression for EDI, EHQ, BAT and SATAQ-3 subscales, using age as a control variable. To investigate the role of sociocultural attitudes in the relationship between body image and being a model, I built a structural equation model (SEM). The SEM assesses both the mediating effect of sociocultural attitudes between being a model and body image, as well as the direct effect of being a model on body image. A saturated model, based on the schematic structure (Figure 1), derived from the theoretical background, was used. All effects were assessed using the *Z* test.

Figure 1. Schematic structure of the effect of sociocultural attitudes towards appearance on being a model and body image



Note. Soc. att. = Sociocultural attitudes towards appearance

3.2 Qualitative analysis

3.2.1 Sample description

A separate sample group was included for the qualitative analysis, different from the one used in the previously presented quantitative analysis. High fashion model subjects were recruited with snowball sampling method. Inclusion criteria were as follows: female gender, age 16 years or older, being signed with international modeling agencies, work experience in major fashion capitals (i.e., Paris, Milan, New York, London, etc.), at least 1 year of experience as an international high fashion model, and strong knowledge of English. Testimonies of 87 models were registered during the investigation period. Three participants were excluded as one was not an active fashion model, and the testimonials of two models could not be fully recorded. After exclusion, 84 narratives were analyzed. Anthropometric data was collected from the participants, including age, nationality, height, weight, and the number of years spent with modeling. The main descriptive data of the study sample was the following: the mean age of the sample was 23.2 years (*SD* = 4.4, range 16–34 years), the mean height was 177.8 cm (*SD* = 3.64, range 171.0–186.0 cm), the mean weight was 52.9 kg (*SD* = 4.21, range 45–62 kg), and the mean BMI was 16.9 (*SD* = 1.60, range 14–23.7). According to the WHO (2000) criteria, 36.4% of the participants were mildly underweight ($17.0 \leq BMI \leq 18.49$), and 52.3% were moderately or severely underweight ($BMI < 17.0$). The participants spent 6.56 years (*SD* = 3.67, range 1–15 years) in the fashion industry on average. The sample was internationally heterogeneous, models from 18 different countries participated in the research, e.g.,

Canada, France, Hungary, Poland, Russia, the Netherlands, the United Kingdom, amongst others.

3.2.2 Measures

A series of 23 open-ended questions were distributed among fashion models to collect information about their careers, views on the fashion industry, relationships with agents, and attitudes towards body image, eating, exercising, and dieting habits. These questions addressed models' health, diets, industry requirements, and self-perception, including insecurities about their appearance. Data collection took part between 2016 June and 2021 May. All participants received the same questions, and all questions were registered on one occasion. Anthropometric data was collected about models' age, nationality, height and weight, and the years spent with modeling. The answers to the series of open questions were collected via e-mail (n = 73, in Microsoft Word format) and online video calls (n = 14). Participants were provided with the possibility to answer all questions in free text or free speech, enabling them to fully elaborate on their experience. The online calls were recorded, and their transcripts were created within 24 hours to be analyzed in the same format as the written answers. The average wordcount of the interviews was 2473.9 (SD = 2791.6). The full list of questions is included in the Appendix.

3.2.3 Procedures

3.2.3.1 Interview registering procedure

All questions were sent and registered on one occasion via email. The Microsoft Word format allowed the participating models to freely elaborate on their experience in the fashion industry. Written email attachment answers (n = 73) were saved for analysis. During the registration procedure, some participants expressed a desire to partake in the research but found it difficult to answer the questions in written format. As a result, online video calls were initiated with these participants. The online calls were recorded (n = 14), their transcripts were created, and then analyzed similarly to the written answers. Models were instructed to answer questions about their lived experiences in as much detail as they felt comfortable, including examples where possible for better understanding. Narratives were received either in Hungarian (n = 33) or English (n = 54) language. The anonymity of the participants was provided by assigning identification numbers to each model narrative then deleting the code key.

3.2.3.2 Coding procedure and thematic content analysis

Before starting the coding procedure, all transcripts were fully anonymized, and identifiers were omitted. Thematic content analysis was performed in the registered narratives. This method of analyzing qualitative data is applied to a set of texts, such as interviews or transcripts. The data is closely examined to identify common themes, topics, or patterns of meaning that appear repeatedly (Terry et al., 2017). After a systemic and critical reading of the texts, a coding booklet was developed. The booklet contained coding instructions on 38 codes identified in the interviews. Codes focused on the participants' attitudes towards eating; exercising; dieting; body image perception; symptoms of EDs based on the DSM-5-TR criteria for AN and BN; abuse; engagement in psychotherapy; amenorrhea; and some linguistic features such as agency, negation, social reference, intentionality, and coercion. The coding booklet is attached to the Appendix. Four MA psychology students, recruited from Pázmány Péter Catholic University, took part in the coding process (hereafter referred to as coders). Coders were blind to the aims of the assessment and were trained to use the coding booklet. The coders did not receive financial or other compensation. For training purposes, a sample interview was sent to each coder. The result of their coding was evaluated by a colleague experienced in content analysis research. The explicitly mentioned content categories were coded exclusively, while potential latent contents were disregarded to enhance reliability. The valency of some codes was assessed as positive, negative, or neutral. Such codes were attitudes towards eating, exercising, body size and body weight. Interview texts were segmented into multiple parts, divided at the punctuation marks within each sentence. These parts were the level of analysis in the current research. This was done in order to be able to isolate each code in the texts. Segmenting the sentences into smaller parts allowed for a more precise estimate of coding reliability measures. The segments were sent to the coders in a spreadsheet where each line of the first column contained one semi-sentence, and every column corresponded to one code. Coders needed to mark line by line whether the semi-sentence contained the specific code. A single sentence could potentially be assigned multiple instances of the same codes, including conflicting ones (e.g., positive and negative attitudes towards eating within one sentence or interview). Interviews were assigned randomly to coders. Each interview was hand-coded by at least two coders. Codes for each sentence segment were collected in an Excel sheet. All coders were native Hungarian and proficient English

speakers. After retrieving the coded interviews from the coders, coding discrepancies were assessed, discussed, corrected and coders were retrained if needed.

3.2.4 Data analysis

3.2.4.1 Occurrence of codes and relationships between descriptive data and codes

Data analysis was performed on two levels. Firstly, frequencies of each code were calculated and transformed into percentages to determine what rate each code appeared in all the transcripts. Secondly, due to the large fluctuations in the word counts, the analyses were conducted using relative frequencies. The codes' absolute frequency was standardized by dividing them by the word count of the respective interview. These relative frequencies allowed for the comparison of the transcripts. Kolmogorov-Smirnov and Shapiro-Wilk tests were used to test the normality of descriptive variables, such as age, height, weight, BMI, and years spent with modeling. The distribution of height and the years spent with modeling significantly differed from normal distribution. Correlation between age and BMI was analyzed with Pearson correlation coefficient. Non-parametric Mann-Whitney *U* tests were performed using the relative frequencies for each code for a more in-depth analysis of relationships between codes. The relative frequencies of codes were dependent variables while grouping the transcripts along various codes, e.g., transcripts with or without extreme calorie restriction. Table 17 contains the Krippendorff's alpha values for each code, the description of the codes and the occurrence rate of the codes in the fashion models' testimonies. The relationships between the years spent modeling and BMI, as well as the various codes, were analyzed using Spearman's rank correlation coefficient. Additionally, the relationship between BMI and the codes was assessed with the same statistical method, Spearman's rank correlation coefficient.

3.2.4.2 Reliability analysis

Krippendorff's alphas were calculated using Hayes & Krippendorff's (2007) KALPHA algorithm (Table 17). Krippendorff's alpha values showed moderate or good agreement among the coders for most codes. A very good agreement was found between the coders for the consumption of laxative code ($\alpha = .896$). Good agreement was found for negative and neutral exercise related content ($\alpha = .732$ and .746, respectively), positive and negative eating related content ($\alpha = .635$ and .618, respectively), body appreciating and body criticizing comments from other industry members ($\alpha = .664$ and .634, respectively),

dietary control (α = .618), loss of dietary control (α = .667), liquid diet (α = .750), over-eating (α = .628), self-induced vomiting (α = .731) and engagement in psychotherapy (α = .698). Agreement was moderate between the coders in terms the emotional valence of weight related contents (α = .547 for positive, .541 for negative, and .517 for neutral content), the emotional valence of body related content (α = .545 for positive, .551 for negative, and .499 for neutral content) positive exercise related content (α = .549), extreme calorie restriction (α = .487), extreme sport habits (α = .532), obsessive sport habits (α = .456), eating disorders (α = .5.67), and other psychological disturbances (α = .420). Agreement was fair between the coders for neutral eating related content (α = .391), monotrophic eating (α = .391), fear of gaining weight (α = .343) and body image disorder (α = .375). Agreement between the coders was poor in terms of defining abuse (α = .259). In all cases where the two coders did not agree, I re-coded those sentence segments and made the final decision, to increase internal reliability thereby establishing the gold standard for the analysis.

3.3 Ethical approval

The research, both the quantitative and the qualitative assessments, was conducted in accordance with the research principles of the Helsinki Declaration on Human Subjects and was approved by the Regional Research Ethical Board of the Semmelweis University Budapest. The two subparts of the research were submitted under the same request number (No. 3/2020). Participation in the research was voluntary and participants did not receive any form of compensation. Data collection for the online survey was anonym, and all narratives were fully anonymized, and identifiers were omitted. Informed written consent was obtained from all individual participants included in this study.

Regarding the methods used for this and potential further research, it has to be mentioned that the above-described measuring instruments were included in the online survey with the intention to collect the most data possible from fashion models, as they form a very sensitive study population, accessing them is difficult, thus recollecting data is almost unattainable from such a large set. My aim is to further analyse the collected data, that due to the scope limit of this doctoral dissertation will not be presented. Same applies to the codes included in the qualitative investigation, only the interpretation of specific selection of the codes is included in this thesis, again, due to limitation of the extent. I

strongly believe that both the qualitative and the quantitative evaluations could stand alone as separate thesis work, but my intentional decision was to combine the two methods to showcase better understanding on this unique study population and the dynamics apparent in the fashion industry, which might remain hidden by using only quantitative or qualitative analysis.

4. RESULTS

4.1 Quantitative analysis

4.1.1 Sociocultural attitudes towards appearance in models and non-models

Analysis of the SATAQ-3 results (Table 5) showed that models internalize significantly more messages from the media about the thin beauty ideal (scoring higher on the Internalization-general subscale). Moreover, fashion models considered the media a more important source of information regarding attractiveness compared to non-models (higher scores on the Information subscale). Fashion models scored significantly less on the Internalization-athletic subscale than non-models. Regarding the perceived level of social pressure, no significant difference was found between models and non-models. When controlling to age and height, the difference between the model and the non-model group in estimated marginal mean in the Internalization-general subscale (M = 28.2; CI [28.1, 28.4]; M = 24.8; CI [24.6, 25.0] $p < .001$, respectively), Internalization-athlete subscale (M = 14.6; CI [14.5, 14.8]; M = 16.0; CI [15.8, 16.2] $p < .001$, respectively) and Information subscale (M = 28.5; CI [28.3, 28.6]; M = 24.3; CI [24.1, 24.5] $p < .001$, respectively) remained significant, while in the Pressure subscale (M = 22.6; CI [22.5, 22.8]; M = 20.4; CI [20.2, 20.6], $p < .001$, respectively) it became significant.

Table 5. Comparison of SATAQ-3 subscales between fashion models and non-models

	Fashion models			Non-models			*t*	*df*	*p*	Cohen's d
	n	*M*	*SD*	*n*	*M*	*SD*				
Internalization - general	170	28.2	8.96	254	26.3	9.76	-2.06	422	.040	0.20
Internalization - athlete	170	14.6	4.76	253	16.1	4.61	3.14	421	.002	0.31
Pressure	170	22.6	8.20	253	21.3	8.02	-1.65	421	.099	0.16
Information	169	28.4	8.35	251	26.0	8.98	-2.89	418	.040	0.29

4.1.2 Frequency of maladaptive weight controlling behavior in models and non-models

To calculate the frequencies of unhealthy weight loss behaviors, responses of the EBSS that indicated "several times daily", "daily", "several times a week", or "once a week" (i.e., weekly or more often) were aggregated. The results of the EBSS confirmed that fashion models engaged in maladaptive weight controlling behaviors more frequently than non-models did, yet, significant differences were discovered only in using appetite suppressants (22 models, 12.3% and 13 non-models, 5.0%, $p < .050$), vomiting (12 models, 6.7% vs. 4 non-models, 1.5%, $p < .050$), using laxatives (11 models, 6.1% and 6 non-models, 2.3%, $p < .001$) and using diuretics (5 models, 2.8% and 2 non-models, 0.8%, $p < .001$) (Table 6).

Table 6. Weight controlling behaviors in models and non-models, measured on the EBSS

	Weekly, or more often (%)	Less frequently (%)	Never (%)	$\chi^2_{(df)}$ Cramer's V
Dieting				
Models (*n* = 177)	37.3	31.1	31.6	$\chi^2_{(2)}$=4.619
Non-models (*n* = 261)	32.2	26.1	41.8	Cramer's V=0.103
Exercising for weight control				
Models (*n* = 179)	58.1	20.7	21.2	$\chi^2_{(2)}$=5.466
Non-models (*n* = 261)	47.5	29.1	23.4	Cramer's V=0.111
Using appetite suppressants				
Models (*n* = 179)	12.3	4.5	83.2	$\chi^2_{(2)}$=8.199*
Non-models (*n* = 260)	5.0	6.5	88.5	Cramer's V=0.137
Binge eating				
Models (*n* = 178)	21.9	29.2	48.9	$\chi^2_{(2)}$=0.645
Non-models (*n* = 259)	20.5	32.8	46.7	Cramer's V=0.038
Vomiting				
Models (*n* = 179)	6.7	8.9	84.4	$\chi^2_{(2)}$=8.934*
Non-models (*n* = 260)	1.5	6.9	91.5	Cramer's V=0.143

Using laxatives				
Models (*n* = 179)	6.1	11.7	82.1	$\chi^2_{(2)}$=16.383***
Non-models (*n* = 260)	2.3	3.5	94.2	Cramer's V=0.193
Using diuretics				
Models (*n* = 178)	2.8	9.6	87.6	$\chi^2_{(2)}$=17.941***
Non-models (*n* = 259)	0.8	1.5	97.7	Cramer's V=0.203

*** $p < .001$, ** $p < .010$, * $p < .050$

4.1.3 Pre-screening results of SCOFF

A pre-screening for EDs was conducted with the SCOFF. The test was filled in by 179 fashion models and 261 non-models. I found that 50.3% of the models (90 models) and 40.3% of the non-models (105 non-models) reached the critical score (two or more answers of "yes"). The difference was not statistically significant. A bigger sample size could potentially lead to a significant result.

4.1.4 Frequency of anorexia nervosa and bulimia nervosa in models and non-models

Simulated diagnosis of clinical AN was made for seven models (3.9%; CI [1.8, 8.1]) and three non-model subjects (1.1%; CI [0.2, 3.5], $p = .057$). Subclinical AN symptoms showed a significantly higher frequency in the fashion model group (26 subjects, 14.6%; CI [10.1, 20.6]) than in the non-model group (7 subjects, 2.7%; CI [1.2, 5.6]). Three simulated clinical BN cases were detected among the models (1.7%; CI [0.4, 5.1]) and one (0.4%; CI [0.0, 2.4]) among the non-models. On the contrary, subclinical BN was more prevalent in non-models, 26 cases were found (10.0%; CI [6.9, 14.3]) while 11 models (6.2%; CI [3.4, 10.8]) fulfilled the criteria for subclinical BN (Table 7). The differences between the two groups for BN and subclinical BN were not significant. Logistic regression model for the unconstrained sample with controlling for age and height showed similar results as mentioned above. Based on estimated marginal proportions at mean age and height of the model group, no significant differences were found between the two groups regarding simulated clinical AN (1.5% CI [0.4, 5.3] in models; 0.3%; CI [0.0, 2.9] in non-models; $p = .195$,) or simulated clinical BN (1.1% CI [0.3, 4.7] in models; 0.7% CI [0.1, 7.1] in non-models; $p = .675$) as well as for subclinical BN (5.9% CI [3.3, 10.4] in models; 9.6% CI [4.9, 18.0] in non-models; $p = .306$), while significant difference was

found in subclinical AN (13.4% CI [9.0, 19.5] in models; 3.0% CI [1.1, 8.4] in non-models; $p = .001$).

Table 7. Frequency of simulated diagnoses of anorexia nervosa and bulimia nervosa among fashion models and in the non-model group

	Fashion models	Non-models
Sample size	$n = 179$	$n = 261$
Simulated anorexia nervosa	3.9% CI [1.8, 8.1]	1.1% CI [0.2, 3.5] $p = .057$ $\chi2(1)=3.683$ Cramer's V=.092
Simulated subclinical anorexia nervosa	14.6% CI [10.1, 20.6]	2.7% CI [1.2, 5.6] $p < .001$ $\chi2(1)=21.646$ Cramer's V=.222
Simulated bulimia nervosa	1.7% CI [0.4, 5.1]	0.4% CI [0.0, 2.4] $p = .186$ $\chi2(1)=1.970$ Cramer's V=.067
Simulated subclinical bulimia nervosa	6.2% CI [3.4, 10.8]	10.0% CI [6.9, 14.3] $p = .104$ $\chi2(1)=2.041$ Cramer's V=.068

4.1.5 Frequency of orthorexic tendencies in fashion models and non-models

For the assessment of orthorexic tendencies, the EHQ-K was filled in by 171 models and 252 non-models, the EHQ-P was filled in by 170 models and 252 non-models and the EHQ-F was filled in by 171 models and 255 non-models. Incomplete subscales were omitted from the analysis. The results of the EHQ answers' evaluation showed that models reached significantly ($p < .001$) higher scores on all three subscales compared to non-models. Mean scores on the Knowledge subscale were 2.42/2.08 (model/non-model); on

the Problems subscale were 1.93/1.61 (model/non-model), and on the Feelings subscale were 3.20/2.96 (model, non-model) (Table 8). Controlling the differences between model group and non-model group to age and height, estimated marginal mean for the Knowledge subscale (M = 2.41 CI [2.26, 2.56] in models; M = 2.11 CI [1.90, 2.32] in non-models, p = .020) and the Problem subscale (M = 1.93 CI [1.78,2.08] in models; M = 1.60 CI [1.38,1.81] in non-models, p = .012) remained significant, while the difference in the Feeling subscale (M = 3.20 CI [3.05, 3.35] in models; M = 2.98 CI [2.77, 3.19] in non-models, p = .090) was not significant.

Table 8. Comparison of EHQ subscales between fashion models and non-models

	Fashion models			Non-models			*t*	*p*	Cohen's d
	n	*M*	*SD*	*n*	*M*	*SD*			
EHQ-K	171	2.42	0.70	252	2.08	0.63	5.203	< .001	0.52
EHQ-P	170	1.93	0.73	252	1.61	0.59	4.727	< .001	0.49
EHQ-F	171	3.20	0.61	255	2.96	0.65	3.830	< .001	0.38

Note. EHQ-K: Knowledge; EHQ-P: Problems; EHQ-F: Feelings

Considering the percentage of individuals with elevated average scores (≥ 2) on each sub-scale, it was found that 76.6% of the models and 59.9% of the non-models scored equal to or exceeding 2 (p < .001) on the Knowledge subscale. Similarly, on the Problems sub-scale, 44.1% of the models and 25.0% of the non-models exhibited higher values (p < .001). Conversely, 97.1% of the models, versus 95.3% of non-model participants showed increased scores on the Feelings subscale, the difference was not significant (p = .353). Using the complex ON tendency assessment based on EHQ-P, EHQ-F and EHQ total score, 35.1% of the models and 20.2% of the control group showed ON tendencies (Table 9). The latter result was supported by the logistic regression controlling on age and height. Based on the estimated marginal proportions, the difference in ON tendency between the model group and the non-model group was significant (35.4% CI [28.5, 42.9] in models; 22.4% CI [14.8, 32.5] in non-models, p = .026).

Table 9. Proportion of fashion models and non-models scoring ≥ 2 on each subscale of EHQ and orthorexic tendencies

	Fashion models		Non-models		χ^2	*p*	Cramer's V
	n	%	*n*	%			
EHQ-K ≥ 2	171	76.6	252	59.9	12.766	< .001	.174
EHQ-P ≥ 2	170	44.1	252	25.0	16.859	< .001	.200
EHQ-F ≥ 2	171	97.1	255	95.3	0.848	.353	–
ON tendency	167	35.1	247	20.2	11.691	<.001	.168

4.1.6 BMI values of the fashion models and non-models

The mean actual BMI of fashion models was 18.1 (*SD* = 1.68, range = 14.0–24.8). The mean actual BMI of non-models was significantly higher, 22.1 (*SD* = 4.23, $p < .001$, range 14.7–43.3). Regarding BMI classification, 44.7% of the models reported BMI of between 18.5 and 17.0, and a further 21.2% reported it as under 17.0, which is severely underweight (WHO, 2000). Only 12.3% of the non-model group had BMI of between 17.0 and 18.5, and it was under 17.0 in 4.2% of the cases. The mean ideal BMI of fashion models was 17.8 (*SD* = 1.40, range 14.0–24.8), while the mean ideal BMI of the non-models was 20.4 (*SD* = 2.32, range 14.0–30.7). Fashion models' mean BMI when they secured the most modeling jobs was 17.0 (*SD* = 1.29, range 14.5–22.9). A considerably lower number of fashion models provided self-reported data about their BMI when they secured the most modeling jobs because the online survey was supplemented with this question (*What is your weight when you secure the most work as a model in the fashion industry?*) after the first 56 replies. This question was answered by 126 models. This slight discrepancy did not bias the results, because the models who responded to this question did not differ from those who did not receive it in terms of actual or ideal BMI (the difference in mean BMI were 0.2, $p = .468$; less than 0.1, $p = .780$ respectively tested by independent sample *t*-test). Paired samples Wilcoxon test was conducted to calculate the difference between the ideal BMI and the BMI that models had when they secured the most modeling jobs. I

found significant difference between the two median values (18.8 vs. 17.0, $p < .001$). The effect size was large ($r = .62$) (Table 10).

Table 10. Difference of calculated BMI of fashion models according to their ideal weight and the weight they had when the most modeling jobs were secured

	Ideal			Book		*Z*	*p*	r
	n	Median	IQR	Median	IQR			
BMI	126	18.8	3.1	17.0	1.53	6.99	<.001	0.62

Note. Due to the non-normal distribution of the difference between BMI ideal and book paired sample Wilcoxon Signed Ranks Test was used. The effect size measured by $r = \frac{Z}{\sqrt{N}}$.
In the modeling industry, „booking" refers to the process of securing a job or assignment for a model, such as a photoshoot, fashion show, or commercial job, through a modeling agency or directly with clients.
BMI_{book} = BMI when secured the most modeling jobs

Both the difference between the median of the actual BMI of models (17.9) and non-models (21.4) and the difference between the median of the ideal BMI of models (17.5) and non-models (20.3) were significant ($p < .001$). The effect size was very large. Models and non-models alike desired to have lower BMI, in spite of the already underweight BMI of fashion models (Table 11).

Table 11. Difference of actual BMI and difference of ideal BMI between models and non-models

	Fashion models			Non-models			*W*	*p*	*r*
	n	Median	IQR	*n*	Median	IQR			
BMI_{actual}	179	17.9	1.65	261	21.4	4.48	23 215	< .001	0.59
BMI_{ideal}	176	17.5	1.48	261	20.3	2.73	21 790	< .001	0.62

Note. Due to non-normal distribution of BMI_{actual} and BMI_{ideal}, Wilcoxon test was used. The effect size measured by $r = \frac{Z}{\sqrt{N}}$.

A significant difference was also found between the difference of the actual and the ideal BMI of fashion models (M = 0.38, SD = 1.05) and the difference of the actual and the ideal BMI of non-models (M = 1.66, SD = 2.68; $t_{(df)}$= -6.976$_{(364.527)}$, p < .001). The effect size is medium (Cohen's d = 0.59).

As the differences between models and non-models in the actual BMI compared to the ideal BMI might be the result of the difference in BMI between the two groups, a regression model was used for the effect of being model on the difference in ideal and actual BMI controlling for current BMI (there is a significant difference in actual BMI between the model and non-model groups, and there could be an inverse relationship between current and ideal BMI). The results show that for the same actual BMI, the ideal BMI is 0.81 lower in the model group compared to the non-models (b = -0.810, CI [-1.079, -0.530][1], p < .001).

4.1.7 Results of the Body Attitude Test

The difference between models and non-models was partially significant according to the subscales of BAT (Table 12). While general body dissatisfaction was similar in both groups, negative perception of body size and lack of familiarity with one's own body were significantly higher among models compared to non-models. Controlling to age and height, the difference between model and non-model group in estimated marginal mean for Negative perception of body size subscale (M = 12.44 CI [12.29, 12.59] in models; M = 10.18 CI [9.97, 10.39] in non-models, p < .001) and Lack of familiarity with one's own body subscale (M = 15.31 CI [15.16, 15.46] in models; M = 11.47 CI [11.26, 11.68] in non-models, p < .001) remained significant, while in General body dissatisfaction subscale (M = 9.55 CI [9.40, 9.70] in models; M = 9.89 CI [9.69, 10.11] in non-models, p = .008) the difference became significant, however the size of difference in the latter case remained negligible.

[1] As none of the variables were normally distributed, Bootstrap procedure (with 10 000 samples) was used to obtain a correct significance test and confidence interval for the estimated regression coefficients.

Table 12. Results of the Body Attitude Test among models and non-models

	Fashion models			Non-models			*t*	*df*	*p*	Cohen's d
	n	*M*	*SD*	*n*	*M*	*SD*				
BAT-1	172	12.4	8.5	258	10.2	7.4	2.86	331.83	.005	0.29
BAT-2	172	15.3	9.1	255	11.8	6.9	4.29	297.98	< .001	0.45
BAT-3	172	9.6	4.9	256	10.1	4.7	-1.14	426.00	.257	N/A

BAT-1: Negative perception of body size
BAT-2: Lack of familiarity with one's own body
BAT-3: General body dissatisfaction

4.1.8 The effect of the number of years spent with modeling and models' age

The results of the linear regression did not reveal any significant effect of the number of years as a model or models' age on any of the subscales of the EHQ or the SATAQ-3. The years spent with modeling had a significant positive effect on the EDI-B subscale, but the effect was minimal, and the age of the models did not have a significant effect on this subscale (Table 13). The model's age had a significant negative effect on the BAT-GBD subscale (Table 14). Younger models experienced more body dissatisfaction, and older models experienced less body dissatisfaction. Please refer to the Appendix for the regression tables of the not significant results.

Table 13. Effect of the number of years spent with modeling on the Eating Disorder Inventory Bulimia subscale

Effect	Estimate	SE	95% CI		*p*
			LL	UL	
Intercept	3.054	2.424	-1.746	7.854	.210
Age	0.042	0.114	-0.184	0.269	.712
Modeling years	-0.221	0.104	-0.427	-0.015	.036

Note. $n = 123$

Table 14. Effect of age on the Body Attitude Test General body dissatisfaction subscale

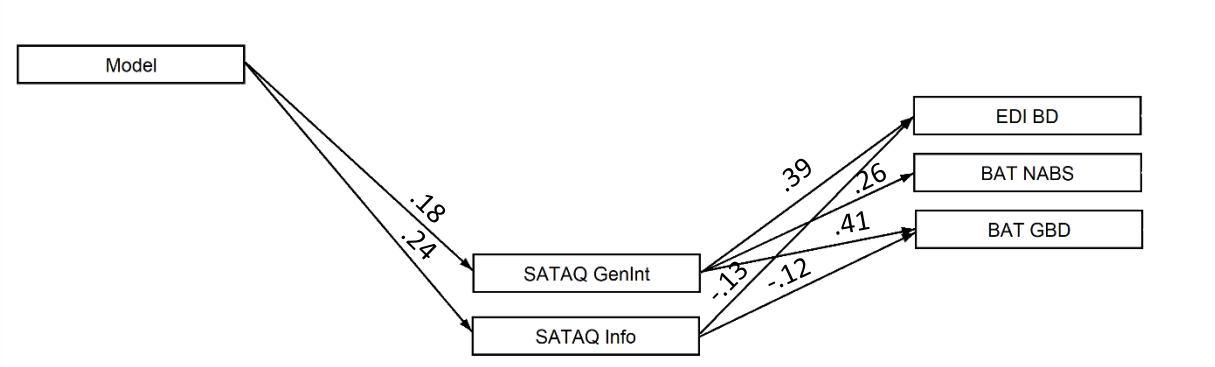
Effect	Estimate	SE	95% CI		*p*
			LL	UL	
Intercept	16.959	3.167	10.687	23.231	< .001
Age	-0.315	0.149	-0.610	-0.020	.037
Modeling years	0.078	0.135	-0.189	0.344	.566

Note. $n = 120$

4.1.9 The mediation effect of sociocultural attitudes towards appearance to the relationship between being a model and body image

The effect of being a model on body image, measured by the EDI-BD subscale, the BAT Negative appreciation of body size subscale (BAT-NABS) and the General body dissatisfaction subscale (BAT-GBD), was mediated by sociocultural attitudes measured by the SATAQ-3 was assessed in a SEM (the model was controlled for age and height). The SEM included all subscales of the SATAQ-3, but only the Internalization-general subscale (SATAQ-GenInt) and the Information subscale (SATAQ-Info) had a significant effect on body image (Figure 2).

Figure 2. Relationship between modeling, sociocultural attitudes, and body image (mediation model, standardized coefficients)



Note. Only significant paths, and variables with significant effect on body image are shown without control variables (height, age) and correlations.

Being a model had no significant direct distorting effect on body image in general (on the EDI-BD, the BAT-GBD and the BAT-NABS subscales). The mediated effect through

sociocultural attitudes towards appearance was mixed. While the mediated effect through general internalization is distorting, the mediated effect through sociocultural information shows a weak opposite effect, but only on general body image (the EDI-BD and the BAT-GBD). These effects resulted in a negligible overall effect of being a model on body dissatisfaction (on the EDI-BD and the BAT-GBD subscales), and a distorting effect on negative appreciation of body size (Table 15).

Table 15. Body dissatisfaction differences between models and non-models

	Fashion models			Non-models			χ^2	*p*
	n	*M*	*SE*	*n*	*M*	*SE*		
EDI-BD	175	8.75	0.08	256	9.56	0.10	16.84	< .001
BAT-GBD	172	9.55	0.08	256	9.90	0.11	7.09	.008
BAT-NABS	172	12.44	0.08	258	10.18	0.11	299.26	< .001

EDI-BD: Body dissatisfaction; BAT-GDB: General body dissatisfaction; BAT-NABS: Negative perception of body size
Note. Marginal means based on GLM model controlling for height and age, differences assessed by Wald Chi-square test.

4.1.10 Frequency of sexual abuse in models and non-models

Questions targeting sexual assault were asked of 128 models (out of which 125 participants answered to the questions) as they were included in the updated version of the online questionnaire package. First, it was checked whether the models who answered the question were different from those who were not asked the question. The result showed that both in terms of BMI and ED involvement, the two groups were identical. Sexual assault of any sort was occurrent in 76.5% of the models (96 participants), while 55.7% of the non-models (145 participants) experienced such instances. The difference was significant ($\chi^2_{(1)} = 13.056; p < .001$). To draw more precise conclusion, a subcategory of severe sexual assault was created, which included sexual violence, sexual harassment and rape. Such occasions were occurrent in 52.0% of the fashion models and 26.6% of the non-models, the difference was significant ($\chi^2_{(1)} = 10.806; p = .001$). When tested by logistic regression, controlling time (years) spent as a model for age did not significantly affect either the frequency of broader sexual abuse or the frequency of severe sexual abuse. Analyzing the whole sample (models and non-models), no relationship was found between the presence of EDs and broader sexual abuse (16.3% vs. 16.5%; $\chi^2_{(1)} = 0.020$; $p = .964$).

Narrowing the analysis to severe sexual abuse resulted in the rate of EDs to be 7.1 percentage points higher among those who have suffered severe sexual abuse (23.4% vs. 16.3%; $\chi^2_{(1)} = 1.445$; $p = .229$). This difference was still not significant but could potentially be in a larger sample. The circumstances of the sexual assault were asked only to models. Sexual assault of fashion models was most frequent during photo shoots. The distribution of sexual abuse in different fashion work settings is shown in Table 16.

Table 16. Distribution of sexual abuse of fashion models in different fashion work settings

Work setting of sexual abuse	Percentage of models experiencing broader sexual abuse in the work setting (n = 88) (%)	Percentage of models experiencing severe sexual abuse in the work setting (n = 26) (%)
Photo shoot	80.7	88.5
Social work gatherings	42.0	46.2
Casting	34.1	30.8
Private meetings	33.0	50.0
Backstage at a fashion show	23.9	30.8
Other workplace environment	22.7	19.2

Note. Questions about the work settings of sexual abuse were asked only to models.

4.2 Qualitative analysis

4.2.1 Occurrence of codes in the interviews

Here below I present the ratios of the occurrences of the codes in the participating fashion models' narratives, providing quotes from the testimonies to each code, and the significant relations between codes are also showcased below.

Codes about body experience

Negative statements about body weight were made by 46 models (54.8%), positive weight-related statements by 17 models (20.2%), and neutral statements by 66 models (78.6%). More general body-related remarks appeared to be neutral in 95.2% of the cases (80 models), negative in 89.3% (75 models), and positive in 64.3% (54 models) of the interviews. Fear of gaining weight was expressed by 18 models (21.4%). Models received

body appreciating comments from different actors of the industry in 44.0% of the cases (37 models) and body criticism in 83.3% of the cases (70 models).

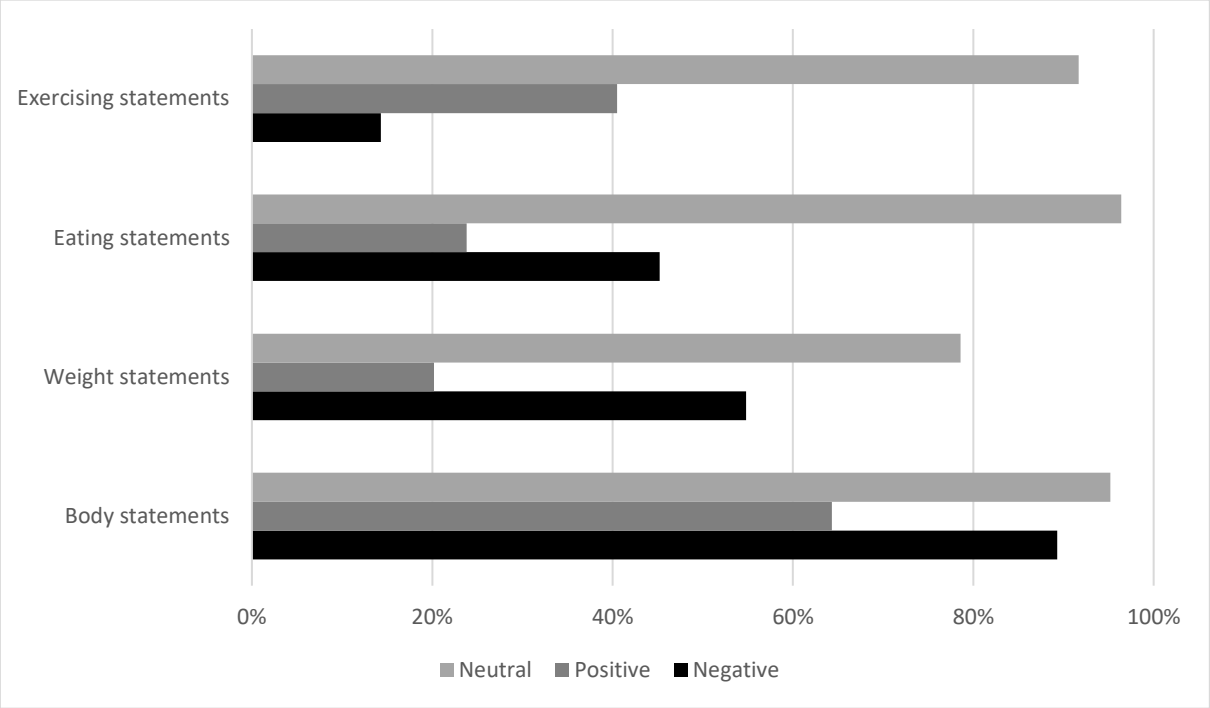
Codes about eating

Neutral statements about eating were made by 81 models (96.4%), nearly half of the participants, 38 models (45.2%) said something negative about eating, while only 20 interviewees (23.8%) made positive remarks about this aspect of their life. Besides general attitudes towards eating, specific eating behavior frequencies were also assessed. Controlling food intake was mentioned by 66 participants (78.6%). Extreme calorie restriction was used by 34 models (40.5%) during their modeling career. Monotrophic eating occurred in 27.4% of the answers (23 models). Fasting was mentioned by 3 interviewees (3.6%). Loss of control over food intake was experienced by 19 fashion models (22.6%). Binge eating was prominent amongst 14 participants (16.7%). Self-induced vomiting was occurrent in 12 participants (14.3%). Laxative abuse was reported by 6 models (7.1%).

Codes about exercising

Statements about exercising were predominantly positive (34 models, 40.5%) or neutral (77 models, 91.7%) and negative only in 14.3% of the cases (12 models). Extreme sports habits were portrayed by 20 participants (23.8%), while obsessive sports habits were claimed by 10 fashion models (11.9%). Figure 3 contains body-, weight-, eating-, and exercise-related codes and their emotional valence.

Figure 3. Occurrence of exercising-, eating-, weight-, and body-related codes and their emotional valence among fashion models



Note. A single sentence could potentially be assigned multiple instances of the same codes, including conflicting ones (e.g., positive and negative attitudes towards eating within one sentence or interview).

Codes about psychologic disturbances

Body image disorder-like symptoms were expressed by 53 respondents (63.1%). Previously diagnosed, or an active ED was mentioned by 31 models (36.9%). Other types of psychological problems (e.g., anxiety, depression, panic attacks, suicidal attempts) were claimed by 41 interviewees (48.8%). Abuse of any nature (e.g., sexual, physical, emotional, financial, etc.) was referred to by 21 models (25.0%). Most of the time, these abuses were of emotional or psychological nature, targeting body shaming, belittling and humiliation due to models' body measurements, mainly publicly in the presence of other actors of the fashion industry. Psychotherapy engagement was claimed by 14 fashion models (16.7%). Figure 4 and Table 17 present the frequency of the above-mentioned codes in the interviews.

Figure 4. Occurrence of codes among fashion models

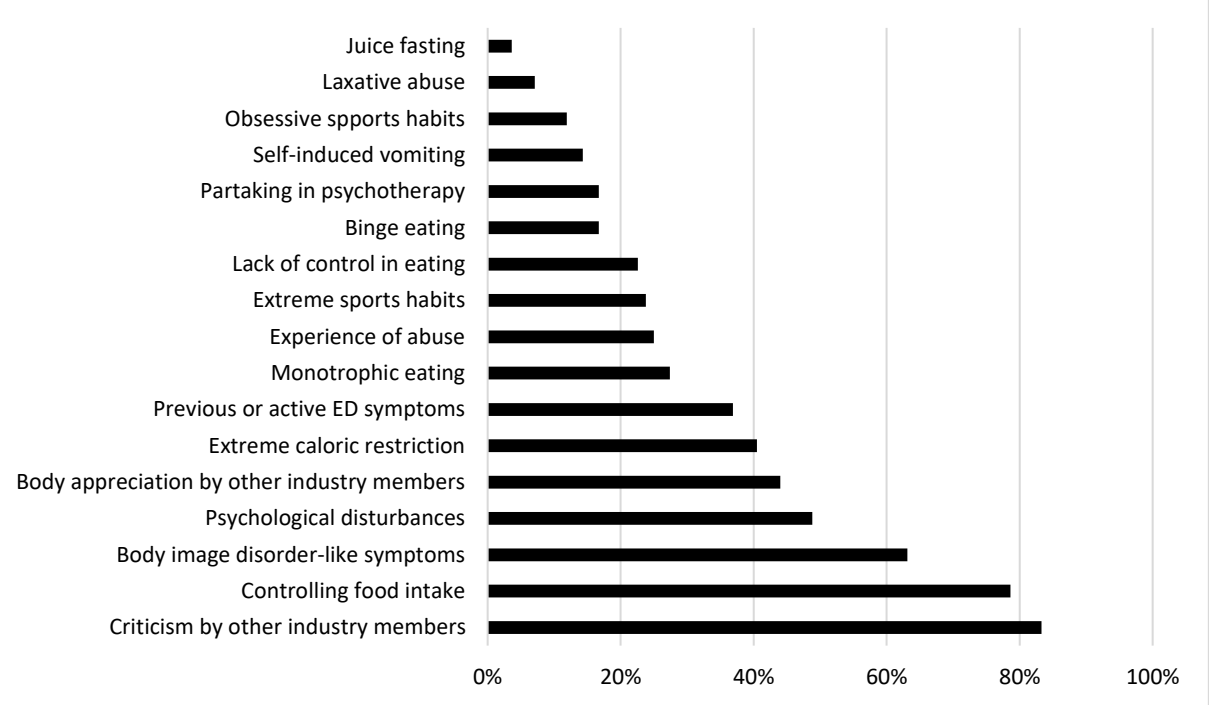


Table 17. Content analysis codes with their brief description, the Krippendorff's alpha values of the two independent judges' coding and their occurrence amongst fashion models

Code name (Krippendorff's alpha)	Code description	Occurring statements (Number of models; %)
Weight Positive: .545 Negative: .551 Neutral: .499	Every mention of the interviewee's weight, and its emotional valence.	Positive: 17; 20.2% Negative: 46; 54.8% Neutral: 66; 78.6%
Exercise, training, sport Positive: .549 Negative: .732 Neutral: .746	Every mention of the interviewee's exercise, training, or sports habits, and its emotional valence.	Positive: 34; 40.5% Negative: 12; 14.3% Neutral: 77; 91.7%
Body Positive: .547 Negative: .541 Neutral: .517	Every mention of the interviewee's body perception, and its emotional valence.	Positive: 54; 64.3% Negative: 75; 89.3% Neutral: 80; 95.2%

Eating Positive: .635 Negative: .618 Neutral: .391	Every mention of the interviewee's experiences, habits with eating, and its emotional valence.	Positive: 20; 23.8% Negative: 38; 45.2% Neutral: 81; 96.4%
Body appreciation .664	Every mention where the interviewee expresses receiving appreciation toward their body from other industry members.	37; 44.1%
Body critique .634	Every mention where the interviewee expresses receiving criticism toward their body from other industry members.	70; 83.3%
Abuse .259	Every explicit mention of abuse (verbal, physical, emotional, or other) suffered by the interviewee.	21; 25.0%
Monotrophic diet .391	Every explicit mention of a type of diet that involves eating only one food item.	23; 27.3%
Extreme calorie restriction .487	Every explicit mention of extreme calorie restriction by the interviewee.	34; 40.5%
Dietary control .618	Every explicit mention of the interviewee's will to greatly control their eating habits.	66; 78.6%
Loss of dietary control .667	Every explicit mention where the interviewee admits they lost control of their eating habits.	19; 22.6%
Liquid diet .750	Every explicit mention of the interviewee's liquid diet.	3; 3.6%
Overeating and binge eating episodes .628	Every explicit mention that the interviewee has significantly overeaten or had a binge eating episode.	14; 16.7%
Self-induced vomiting, purging .731	Every explicit mention that the interviewee has purged themselves by self-induced vomiting after eating.	12; 14.3%
Extreme sports habits .532	Every explicit mention that the interviewee has got extreme sporting habits.	20; 23.8%
Obsessive and/or compulsive sporting habits .456	Every explicit mention that the interviewee has got obsessive and/or compulsive sports habits.	10; 11.9%
Consumption of laxatives .896	Every explicit mention that the interviewee consumes laxatives without a specific medical reason.	6; 7.1%
Fear of weight gain .343	Every explicit mention that the interviewee had a fear of gaining weight during her modeling career.	18; 21.4%

Body image disorder .375	Explicit signs of body image disorder.	53; 63.1%
Eating disorder .567	Explicit signs of eating disorder.	31; 36.9%
Psychological disorders .420	Every explicit sign of psychological disorders.	41; 48.8%
Therapy .698	Every explicit mention that the interviewee underwent or is currently treated in psychotherapy.	14; 16.7%

Note. n = 84. Positive or negative valence was added to a code if the interviewee's attitude toward the subject is clearly stated. Neutral code was added if the attitude is not clearly mentioned. The valence is added to each individual occurrence. The data presented in the table is also discussed in the text; however, the table was included to facilitate a clearer understanding of the extensive dataset.

To better illustrate the findings and the codes that were assessed in the analysis, Table 18 presents direct quotes from the interviews for each identified code. This table serves to highlight the models' perspectives and provides a deeper insight into the topics assessed in the research.

Table 18. Interview quotes categorized by codes used in content analysis

Body weight	
Neutral	"Generally, I was around 49–51 kg."
Positive	"Feeling so comfortable, like with my body, with my weight..."
Negative	"Basically, not tolerating really, or not liking, or not really accepting my body."
Body perception	
Neutral	"I am 184 cm tall and 48–49 kg."
Positive	"I'm very confident in the way I look. My skin stays clear and I'm happy with my body."
Negative	"My upper thighs, I thought they were huge while actually they were super skinny."
Fear of weight gain	"This is where I got a little bit crazy. I just didn't really want to eat because I didn't want to put on weight."
Body appreciation	"… [the agents] measured me and like, they were like: Oh my God your body's perfect!"
Body criticism	"… you got a bit bigger here, you know, he [the agent] did this like sign touching his own hips."
Eating	
Neutral	"I eat everything I want. But of course, I prefer healthy food."
Positive	"I really enjoy porridge, so that varies with berries, or different fruits and honey."

Negative	"… connected with feeling guilty, you know, after eating…"
Monotrophic eating	"There definitely were some strictly celery days for me before Fashion Week."
Extreme calorie restriction	"I was eating a 1100 kcal diet."
Controlling food intake	"I was eating a pear, like that was my lunch, eating a pear."
Loss of control overeating	"… you start eating all these delicious foods again and you just don't know how to control it."
Fasting	"Cellulite is a recurring problem for me, so I regularly do water fasting."
Binge eating	"So, I binge on like whole loaf of bread, for example, that goes to the toaster, butter butter butter butter butter."
Exercising	
Neutral	"I exercise about two times a week, sometimes more if I feel like."
Positive	"I like being active for my physical and psychological health."
Negative	"I don't feel motivated to go to the gym."
Extreme sport habits	"I worked out every day for 2 hours."
Obsessive sports habits	"… sort of mark calories and wouldn't leave [from the gym] until I would burn that many calories."
Self-induced vomiting	"I made myself sick 5–6 times a day."
Laxative abuse	"… I used laxatives to 'look my best' for a runway season."
Body image disorder	"Obviously in my head I was like huge but they [the agents] were happy with my measurements."
Eating disorder	"I had suffered from anorexia, bulimia, and therefore a severe depression."
Psychological disturbance	"I was put on beta blockers due to my anxiety with my job and travelling."
Abuse	"I met my mother agent at 18 [years old]. Was targeted for being a model and being sold off and sex trafficked in LA."
Psychotherapy	"I just started therapy with a psychiatrist."

4.2.2 Relationships between descriptive data and the codes

No significant correlation was found between age and BMI. A significant positive relationship was found between the years spent with modeling and BMI (r_s = .285, p = .013), and positive body-related statements (r_s = .248, p = .032). A significant negative relationship was found between the years spent with modeling and body appreciation from other industry members (r_s = -.255, p = .027), and abuse (r_s = .286, p = .013). Models with higher BMI mentioned significantly more often negative content about exercising (r_s = .293, p = .010) and neutral statements about eating (r_s = .232, p = .042). Models with lower BMI talked significantly more often about ED-related content (r_s = -.414, p < .001) monotrophic eating (r_s = -.272, p = .017), self-induced vomiting (r_s = -.299, p = .008), and psychological disturbances (r_s = -.249, p = .029). No other relationships between age, years spent with modeling or BMI and other codes were statistically significant.

To better understand relationships between codes, and thus gaining more insight to the lived experience of fashion models, non-parametric Mann-Whitney U tests were used to discover such relationships. Due to the extensive number of possible relationships between each code, only significant relationships are demonstrated.

Models who talked positively about their bodies also mention significantly more frequently extreme calorie restriction (U (n_{posbody} = 14, n_{negbody} = 70) = 661, z = 2.310, p = .021) and monotrophic eating (U (n_{posbody} = 14, n_{negbody} = 70) = 613, z = 1.879, p = .041). These individuals talked significantly more about body image disorder-like symptoms (U (n_{posbody} = 14, n_{negbody} = 70) = 715, z = 2.771, p = .006) and psychological disturbances (U (n_{posbody} = 14, n_{negbody} = 70) = 673, z = 2.360, p = .018). Participants who talked positively about their bodies made significantly more negative statements about their weight (U (n_{posbody} = 14, n_{negbody} = 70) = 682.5, z = 2.425, p = .015). Those participants mentioned significantly more positive statements about their bodies who did not talk about body image disorder-like symptoms (U ($n_{\text{nobodyimagedisorder}}$ = 31, $n_{\text{bodyimagedisorder}}$ = 53) = 611.5, z = -1.992, p = .001). Negative weight related statements were significantly more frequent among models who show body image disorder-like symptoms (U ($n_{\text{nobodyimagedisorder}}$ = 31, $n_{\text{bodyimagedisorder}}$ = 53) = 1151, z = 3.206, p = .001).

The models who talked negatively about eating mentioned significantly more body image disorder-like symptoms (U ($n_{\text{nobodyimagedisorder}}$ = 31, $n_{\text{bodyimagedisorder}}$ = 53) = 1071, z = 2.530,

p = .011). Those who talked more negatively about eating, talked significantly more often about overeating (U ($n_{noovereating}$ = 70, $n_{overeating}$ = 14) = 710, z = 2.888, p = .004). Models who mentioned loss of control over food portrayed significantly more frequent binge eating (U ($n_{lossofcontrol}$ = 19, $n_{nolossofcontrol}$ = 65) = 1033, z = 6.844, p < .001) , self-induced vomiting (U = 874, z = 4.507, p < .001), extreme caloric restriction (U ($n_{lossofcontrol}$ = 19, $n_{nolossofcontrol}$ = 65) = 888, z = 3.256, p = .001), and obsessive sports habits (U ($n_{lossofcontrol}$ = 19, $n_{nolossofcontrol}$ = 65) = 770.5, z = 2.908, p = .004). They made significantly less positive remarks about their bodies (U ($n_{lossofcontrol}$ = 19, $n_{nolossofcontrol}$ = 65) = 435.5, z = -1.992, p = .046), more negative remarks about eating (U ($n_{lossofcontrol}$ = 19, $n_{nolossofcontrol}$ = 65) = 983, z = 4.274, p < .001), more frequent controlling of food intake (U ($n_{lossofcontrol}$ = 19, $n_{nolossofcontrol}$ = 65) = 865.5, z = 2.665, p = .008) and monotrophic eating (U ($n_{lossofcontrol}$ = 19, $n_{nolossofcontrol}$ = 65) = 857, z = 3.260, p = .001). Moreover, ED related statements are also significantly more frequent amongst these models (U ($n_{lossofcontrol}$ = 19, $n_{nolossofcontrol}$ = 65) = 1018, z = 4.948, p < .001) and they also engaged more frequently in psychotherapy (U ($n_{lossofcontrol}$ = 19, $n_{nolossofcontrol}$ = 65) = 856, z = 3.928, p < .001). Models who stated binge eating talked significantly more frequently about extreme caloric restriction (U ($n_{noovereating}$ = 70, $n_{overeating}$ = 14) = 674.5, z = 2.493, p = .013), self-induced vomiting (U ($n_{noovereating}$ = 70, $n_{overeating}$ = 14) = 739, z = 4.911, p < .001), obsessive exercising (U ($n_{noovereating}$ = 70, $n_{overeating}$ = 14) = 626.5, z = 2.913, p = .004), weight gain (U ($n_{noovereating}$ = 70, $n_{overeating}$ = 14) = 692, z = 3.378, p = .001) and ED symptoms (U ($n_{noovereating}$ = 70, $n_{overeating}$ = 14) = 751, z = 3.620, p < .001).

Self-induced vomiting appeared significantly more frequently among models who experienced body image disorder-like symptoms (U ($n_{nobodyimagedisorder}$ = 31, $n_{bodyimagedisorder}$ = 53) = 1007.5, z = 2.833, p = .005). Laxative abuse was also mentioned significantly more by those individuals who talked about body image disorder-like symptoms (U ($n_{nobodyimagedisorder}$ = 31, $n_{bodyimagedisorder}$ = 53) = 914.5, z = 1.931, p = .050). None of the respondents who made positive statements about their bodies mentioned the usage of laxative substances.

Models who talked more frequently about external criticism mentioned more body image disorder-like symptoms (U (n_{nocrit} = 14, n_{crit} = 70) = 637, z = 1.810, p = .050). The participants who experienced body appreciation talked more positively about their body (U (n_{noappr}=47, n_{appr} = 37) = 1033, z = 2.099, p = .036). However, those individuals also talked

more about self-induced vomiting (U (n_{noappr} = 47, n_{appr} = 37) = 1059.5, z = 2.813, p = .050), laxative use (U (n_{noappr} = 47, n_{appr} = 37) = 966, z = 1.947, p = .049), and engagement in psychotherapy (U (n_{noappr}=47, n_{appr} = 37) = 1025.5, z = 2.165, p = .030).

Significantly more negative remarks about one's body were observed among participants who reported body image disorder-like symptoms (U ($n_{nobodyimagedisorder}$ = 31, $n_{bodyimagedisorder}$ = 53) = 1165.5, z = 3.186, p = .001). Models who reported body image disorder-like symptoms talked significantly more often about extreme caloric restriction (U ($n_{nobodyimagedisorder}$ = 31, $n_{bodyimagedisorder}$ = 53) = 1091, z = 2.812, p = .005), monotrophic eating (U ($n_{nobodyimagedisorder}$ = 31, $n_{bodyimagedisorder}$ = 53) = 1083, z = 3.086, p = .002), and losing control (U ($n_{nobodyimagedisorder}$ = 31, $n_{bodyimagedisorder}$ = 53) = 978, z = 1.980, p = .048). Those models who mentioned body image disorder-like symptoms mentioned significantly more often content about EDs as well (U ($n_{nobodyimagedisorder}$ = 31, $n_{bodyimagedisorder}$ = 53) = 1117, z = 3.165, p = .002).

Models who engaged in psychotherapy made significantly more remarks about losing control in eating (U (n_{nother} = 70, n_{ther} = 14) = 723, z = 3.817, p < .001), and talked significantly more about overeating (U (n_{nother} = 70, n_{ther} = 14) = 734, z = 4.512, p < .001) and self-induced vomiting (U (n_{nother} = 70, n_{ther} = 14) = 779, z = 5.710, p< .001). Furthermore, those who mentioned taking part in therapy talk significantly more about weight gain (U (n_{nother} = 70, n_{ther} = 14) = 694, z = 3.412, p < .001) and mentioned significantly more ED content (U (n_{nother} = 70, n_{ther} = 14) = 699, z = 2.899, p = .004) in their narratives. Those who did not engage in psychotherapy made significantly more negative remarks about their bodies (U (n_{nother} = 70, n_{ther} = 14) = 229, z = -3.135, p = .002).

5. DISCUSSION

The two separate analyses presented in this dissertation aim to contribute valuable data to the limited literature on the frequency of eating and body image disorders among fashion models. Despite the widespread discussion of this topic in the mass media, there is a lack of well-established evidence in academic literature. Using a mixed methodology in my research about fashion models' eating disorders and body image concerns is crucial for gaining comprehensive observations. Quantitative measuring instruments, such as the EBSS, the EDI, the EHQ, the BAT, the SATAQ-3, and the SCOFF, provide measurable and generalizable data on the frequency and severity of these disturbances. On the other hand, qualitative findings offer in-depth insights into the personal experiences and contextual factors that quantitative data alone cannot capture. In the following, I present the discussion of the study results following the structure of my hypotheses, as presented in the Objectives chapter, integrating findings from both methodologies to support or challenge each hypothesis. By placing these methods side by side throughout the discussion, a more in-depth understanding can be gained of the dynamics within the fashion industry. This approach allows us to appreciate the statistical significance of the quantitative results while also understanding the nuanced, lived experiences of the models, ultimately leading to more informed and effective interventions. In this study, a comprehensive examination will first assess sociocultural attitudes towards appearance and the pressures exerted by these attitudes. Following this, attitudes towards eating, eating behaviors, and simulated ED diagnoses will be addressed separately under different hypotheses. This approach ensures a thorough examination of the various dimensions of eating-related concerns among fashion models. Furthermore, the appearance-related criticism models experience from industry members will be discussed. By analyzing body attitudes, it is possible to gain insights into the internalization of these societal norms and their impact on perceived body image. Lastly, discussing BMI values provides a quantitative measure that—when combined with qualitative data—offers an extensive view of the health and well-being of the models. Together, these elements will enrich our understanding of the complex interplay between societal expectations and individual experiences.

5.1 Hypothesis 1: Models perceive increased sociocultural pressure to conform to the slim beauty ideal compared to non-models.

The SATAQ-3 was used to evaluate the impact of societal pressure, media, and cultural standards on models' and non-models' perceptions and attitudes towards their own bodies. Fashion models scored significantly higher on the Internalization-general, the Information, and the Pressure subscales, and scored significantly lower on the Internalization-athlete subscale. The results confirm that fashion models consider the media a more important source of information regarding attractiveness than non-models, and that models identified more strongly with unrealistically slim female beauty ideals and the media messages that promote striving for these ideals. Furthermore, social pressure exerted through the media has a stronger impact on models. In contrast, models were less likely to accept and endorse the media's portrayal of an athletic body ideal compared to non-models. The results support the hypothesis.

There is one extant paper in the literature that used the SATAQ-3 to assess sociocultural attitudes amongst models, and it found significant associations between the subscales of Information subscale and Pressure subscale between-group differences on indices of internalization of sociocultural messages of appearance (Swami & Szmigielska, 2013), which is partially in alignment with my findings.

Sociocultural theory emphasizes the internalization and adoption of socially constructed thinness standards, propagated by influential entities like the media and reinforced by parents and peers (Thompson & Stice, 2001; Tiggemann, 2012). Body image concerns are strongly correlated to ED symptomatology (Stice, 2002; Thompson & Stice, 2001). Within the fashion modeling profession, there exists a socio-professional pressure to conform to specific physical standards (Mears, 2011), which is potentially greater than the sociocultural pressure perceived by women in occupations other than modeling or aesthetic labor. This could be accompanied by a continual preoccupation with maintaining a slim body shape in the modeling population (Dauxerre, 2017). Models with a slimmer physique tend to embrace the thin ideal more strongly, and they might even view this as a contributing factor to their success (Rodgers et al., 2017). The athletic body type is not favored in the modeling industry (Bogár & Túry, 2019). Apart from the quantitative results, it was observed in the testimonies that models coming to the industry from a

competitive sports background are frequently advised to reduce muscle mass by ceasing sports activities and limiting their caloric intake:
"*[…] As I was really sportive, I had to lose my muscles to get in shape with the measurements required […]*" (Excerpt from interview #9)

"[…] But they [the agents] said, in order for me to walk in Paris [Fashion Week], I need to lose my muscle mass! Because I was 'very bulky', from swimming. It's not a model thing. Muscles. […]" (Excerpt from interview #75)

Even though certain aesthetic sport requires thinness, for example gymnastics, ballet, artistic swimming (Abraham, 1996), the strict size requirements of the fashion industry demand an even more slender body type which lacks visible muscle mass (Mears, 2011). This underlying phenomenon explains well the negative significant results on the SATAQ-3 Internalization-athletic subscale.
Many fashion models start their careers as minors, making parental involvement and consent crucial (Bogár & Túry, 2019). However, there's often an implicit agreement between agents, parents, and models to prioritize financial gain and social status over health, leading to the maintenance of unhealthy industry standards for the sake of income, status, and social reinforcement (Bogár & Túry, 2019). Representatives of the fashion industry often exert psychological pressure, enforcing practices that perpetuate the thin ideal, sometimes under the guise of benefiting the model's career (Dauxerre, 2011). Similar examples were found during the qualitative investigation:
"*[…] At a photo shoot, my agent saw a chocolate croissant in my hands and decided to make a scene by taking it away from me, claiming he just wanted to 'help me' and then savored it in front of me, sharing it with the photographer. […]*" (Excerpt from interview #1)

However, this approach overlooks the significant health risks, including increased susceptibility to EDs, that come with striving for unrealistic body standards (Bogár et al., 2022). This so-called unconscious collusion is important in understanding the fashion industry's dynamics (Bogár & Túry, 2019).
"*[…] They [the agents] would praise you if it looked like you lost some weight, and they would quickly remark if by any reason you had 92 cm on the hips […]*" (Excerpt from interview #3)

The common occurrence of dieting and body-shape dissatisfaction among young women and adolescent girls is associated with the media's portrayal of female images (Polivy et al., 2022; Tinning, 1985). The perceived level of social pressure, the extent to which an individual feels compelled by from the media to strive to achieve the culturally defined beauty ideal, can lead to engage in potentially harmful behaviors (e.g., dieting, exercising) to alter their physical appearance (Dane & Bhatia, 2023). Brief social media use can cause immediate body image disruptions in both sexes and lead to restrained snacking in females who endorse thin ideals (Pink et al., 2022). The findings that fashion models scored significantly higher on the Pressure, Internalization-general and Information subscales could be explained by the aesthetic labor they engage in and being under constant observation, either in their professional environment (Mears, 2011) or on media outlets (Bündchen, 2018).

The question rises whether young women who already exhibit EDs or tendencies towards such disorders are drawn to modeling because it legitimizes their condition, or whether modeling itself prompts the emergence of disordered eating behaviors and body image issues due to external pressures, remains a subject of debate (Preti et al., 2008). In order to draw such conclusion would require a longitudinal research setting involving aspiring fashion models from the time of signing their contract with an agency. This was not in the scope of the current research. Although, absurd statements among bookers, such as "Anorexia is in this season!" (Mears, 2011, p. 2.) and testimonies from casting directors confirming that agents prefer to choose young women with very slim, almost anorexic-like body frames (Scully, 2016) potentially further reinforces that the fashion industry sets a very demanding environment for models to conform to its bodily standards. Until longitudinal studies are conducted in this field, it remains uncertain whether these girls naturally have unique body types due to genetic diversity (Brenner & Cunningham, 1992), or if they must undertake strenuous efforts to maintain those specific measurements (Rodgers et al., 2017). Nonetheless, fashion models are under intense sociocultural pressure.

5.2 Hypothesis 2: Models show more negative than positive eating attitudes.

Attitudes towards eating were assessed by the qualitative analysis' eating-related emotional valence codes (positive, negative, or neutral codes). Additionally, the EHQ-F

subscale was employed. Statements about eating were very occurrent in the testimonies. Neutral statements about eating were mentioned in 96.4% of the narratives (81 models), 45.2% of the models (38 participants) gave negative remarks about eating and 23.8% of the models (20 participants) mentioned positive remarks about eating. On the EHQ-F subscale, 97.1% of the models, and 95.3% of non-model participants showed scores above the cut-off score, the difference was not significant. The results confirm the hypothesis that high fashion models' attitude towards eating is more negative than positive in general, and both groups show positive feelings about healthy eating with no significant difference.

Evidence indicates that aspiring fashion models score significantly higher in disordered eating attitudes (Castellano et al., 2021). The high frequency of neutral eating-related content in the models' narratives stems from the nature of the open-ended questions, which mainly targeted the exploration of eating attitudes and habits. However, attitudes towards eating were almost twice as frequently negative as positive in the sample. Receiving weight loss encouraging advice from modeling agents (Rodgers et al., 2017), facing peer-pressure (Dauxerre, 2017), aiming to conform to the industry standards (Mears, 2011) might cause the preoccupation with food and its frequent negative valence in models' narratives. An example for positive and a negative statement from the models' narratives as follows:

"*[…] I love sweets, and I can eat them without limits. I'm also a meat lover, and I often combine the two, which my roommates can't even bear to see. […]*" (Excerpt from interview #4)

"*[…] I felt guilty even if there was Christmas or Easter. I got a little bit crazy; I just didn't really want to eat because, I didn't want to put on weight. […]*" (Excerpt from interview #13)

The EHQ-F helps to identify positive feelings about healthy eating (Gleaves et al., 2013). The high scores on the EHQ-F in both groups suggest the internalization of healthy eating. The high score of EHQ-F in the non-model group could indicate that preoccupation with healthy food might be normative in today's society similarly to the internalization of the slim beauty ideal (Homan, 2010). Clean eating is normalized in our culture; thus, such disordered eating habits might remain hidden (Greville-Harris et al., 2019). These are not signs of psychopathology, however, raises the awareness of the risk of developing ON.

5.3 Hypothesis 3: Maladaptive weight loss behaviors are more common among models than in the non-model group.

Maladaptive weight controlling behaviors were assessed with the EBSS in both groups, and also by thematic content analysis among models. According to the quantitative findings, fashion models engaged significantly more often in unhealthy weight controlling behaviors, such as vomiting (12 models, 6.7%), using appetite suppressants (22 models, 12.3%), diuretics (5 models, 2.8%) or laxatives (11 models, 6.1%) versus non-models (4 participants [1.5%], 13 participants [5.0%], 21 participants [0.8%], 6 participants [2.3%], respectively). However, weekly, or more frequent dieting, exercising, and binge eating was not significantly higher among models than in non-models. The content analysis revealed that the participants showed dietary control in 78.6% of the cases, 40.5% of the models used extreme calorie restriction, 27.4% monotrophic eating, 7.4% abused laxatives, 14.3% used self-induced vomiting, and 3.6% did juice fasting with the purpose of losing weight. Extreme sports activities were mentioned in 23.8% of the interviews and obsessive exercising was reported by 11.9% of the models in the narratives. These results confirm the hypothesis.

Professional models were reported to skip meals (56.5%), diet (70.5%), fast (51.7%), or use weight loss pills (23.6%) in order to lose weight (Rodgers et al., 2017). The frequency of juice fasting, and the use of diet pills is considerably lower in my findings than published by Rodgers et al. (2017), and dieting was nearly half as frequent when measured with the EBSS questionnaire. The underlying reason could be that my findings must be interpreted more generally, as the study was not conducted at peak periods in the fashion industry (e.g., during Fashion Weeks). In Rodgers' later study which was conducted throughout New York Fashion Week Fall'18, 46% of models were found to specifically lose weight for the event (Rodgers et al., 2021). Self-induced vomiting also aggravated (25%) during preparation for New York Fashion Week (Rodgers et al., 2021). Bulimic episodes were reported up to 60% in fashion models in the previous 3 months according to a cross-sectional Italian study (Preti et al., 2008). This highlights the fashion industry's effect on disordered eating behaviors. Qualitative data shows that 74% of models made efforts to control their weight (Bogár & Túry, 2019). The testimonials revealed that self-purging is often linked to previous food restriction or intentional starvation, which can lead to yo-yo dieting and weight fluctuation (Laule & Atasoy, 2023).

"[...] but after a while we still gain weight and so in fact I especially imagine when you have not eaten for a very long time, when you eat, you eat again 10 times more. That's sure yoyo. So that's why diets are very bad but at first it works. […]" (Excerpt from interview #87)

Severe calorie restriction results in increased urge for binge eating and additionally, in weight gain, called *binge priming* (Corwin, 2006). The qualitative analysis revealed positive relationships between the loss of control over food intake and a higher occurrence of binge eating, self-induced vomiting, extreme calorie restriction, and ED related statements. Besides the severe control of food intake, or purging, hyperactivity is also a form of maladaptive weight controlling behavior. Extreme sports activities and obsessive exercising were reported by the models in 23.8% and 11.9% of the narratives respectively. The EBSS results showed higher frequencies of regular exercising but did not confirm significant differences among models and non-models. The underlying reason could be that EBSS measures overall exercising behavior and its frequency, while the thematic content analysis did not code regular sports activities, only extremities. The emotional valence of exercising was assessed, which showed more positive than negative attitudes towards exercising. Other authors observed that for the pursuit of weight control, 81.2% of the models consistently participate in physical activities, with 69.4% of them being advised to "tone up" in order to enhance their chances of securing modeling opportunities (Rodgers et al., 2017).

Maladaptive weight loss behaviors, such as strict dietary regimens, excessive exercising routines, purging, and the use of laxatives, particularly at young age, can lead to severe health consequences. Gastrointestinal problems, hair loss, amenorrhea, cardiac complications, hormonal imbalances, osteoporosis are all serious outcomes of inadequate food intake (Treasure et al., 2008; Sachs et al., 2016; Cusack et al., 2022). Fashion models usually start their career as minors, thus making them more vulnerable to such health consequences. The demanding expectations of the fashion industry often motivate models to adopt weight-manipulating behaviors such as restrictive eating, excessive exercise, laxative use, or self-induced vomiting (Rodgers et al., 2017; Bogár & Túry, 2019) which must be discontinued. Maladaptive weight loss behaviors, such as severe dieting are a risk factor for the development of EDs (Barakat et al. 2023).

5.4 Hypothesis 4: The frequency of eating disorders (anorexia nervosa, bulimia nervosa) and orthorexia nervosa is higher in models than in the non-model group.

A pre-screening for EDs using the SCOFF questionnaire showed that 50.3% of fashion models (90 models) and 40.3% of non-models (105 non-models) reached the critical score, with no statistically significant difference between the two groups. A bigger sample size could have resulted in a significant difference. It was found that fashion models exhibit a significantly higher frequency of subclinical AN (13.4%, 24 models vs. 3.0%, 8 non-models). Meanwhile, the frequency of clinically severe AN and BN was slightly, but not significantly higher among fashion models compared to non-model subjects (AN: 1.5% vs. 0.3%, [models/non-models]; BN: 1.1% vs. 0.7% [models/non-models]). There was a positive relationship between more years spent with modeling and higher scores on the EDI-B subscale. Orthorexic tendencies were the most prevalent disordered eating symptoms among fashion models (35.4%, 59 models compared to 22.4%, 55 non-models). The content analysis revealed that 36.9% of the participants mentioned statements about previous or active EDs. These results partially confirmed the hypothesis, as subclinical AN and ON are more frequent among models, but EDs of clinical severity are not.

An Italian study reports that fashion models exhibited a significantly increased frequency (12.7%) of partial ED symptoms compared to a control group, and only slightly higher prevalence of the full syndrome AN was found (Santonastaso et al., 2002). Preti and colleagues (2008) found strictly similar results (12.7% for subclinical AN among models). Nevertheless, Santonastaso et al. (2002) discovered that 13.0% of the models in their study cohort reported previous episodes of AN. This suggests that models may be at an elevated risk for lifetime AN, rather than current AN of clinical severity (Santonastaso et al., 2002). This finding, derived from a closely aligned research context, underscores the likely significance of being a fashion model in the etiology of EDs. Regarding clinical severity BN, similarly to my findings, the literature doesn't report increased prevalence rates compared to non-models (Santonastaso et al., 2002; Preti et al., 2008). Partial BN was occurrent in 7.9% of fashion models (Santonastaso et al., 2002), which is also comparable to my finding (6.2%). It is even argued in the literature that fashion models portray certain protective factors against EDs, such as higher self-esteem an body satisfaction, despite the risk factors due to pressure for slimness (Brenner & Cunningham, 1992;

Santonastaso et al., 2002). However, fashion models with higher BMI values show more ED symptoms (Ralph-Nearman et al., 2020) implying that models with closer to healthy body constructs engage in extreme weight loss methods to meet industry standards. Furthermore, there is a very fine balance between conforming to the extremely slim standards of the fashion industry, and not appearing ill-looking, or overly skinny (Dauxerre, 2017). Excessive weight loss can prevent fashion models from booking jobs (Howard, 2018; Fixsen et al., 2023), which might indicate reasons beyond elevated self-esteem or body satisfaction in models, as suggested by other authors (Brenner & Cunningham, 1992; Santonastaso et al., 2002). Some similar examples can be found in the testimonies as well: "*[…] He [the agent] said the clients are saying that you're too skinny you have to be careful now, don't lose any more weight blah blah blah. Only when the client said something was that my agent was realizing that I had a freaking problem. […]*" (Excerpt from interview #63)

"*[…] In my skinniest season I have been refused by agencies in Paris being told I was too skinny. […]*" (Excerpt from interview #78)

This aesthetic standard acts as a limiting factor, potentially explaining why full-syndrome EDs are not more frequent among fashion models. Clinically ill anorexic patients, with their severe physical symptoms and appearance, would not qualify for the industry's beauty standards (Mears, 2011; Howard, 2018; Bogár & Túry, 2019). This discrepancy ensures that those who become visibly and critically ill are less likely to be hired, effectively filtering out models with full-syndrome EDs. Consequently, while subclinical EDs and harmful behaviors remain prevalent, the industry's specific aesthetic criteria inadvertently prevent the presence of models who are visibly suffering from clinically severe EDs. This nuanced balance highlights the paradox within the fashion industry: while extreme slimness is desired, there is a point at which it becomes counterproductive. Models must navigate this delicate boundary, striving to maintain a figure that aligns with industry standards without compromising their health to the extent that it becomes visibly detrimental.

To the best of my knowledge, there is no extant publication about the frequency of orthorexic tendencies in fashion models. The current results show that fashion models are a high-risk group for the development of ON. Even though ON is still a controversial

psychiatric disorder, and it is not yet included in the DSM-5-TR, orthorexic tendencies seem to be the most prevalent disordered eating symptoms among fashion models. The fact that there was no significant difference in high-scoring responders on the EHQ-F suggests that EHQ-F may measure *healthy orthorexia* (HeOr), while EHQ-P assesses pathological dimensions (Simon et al., 2024). HeOr is an increased interest in diet, and healthy eating behavior as one's identity (Depa et al., 2019). The ratio of highly scored participants on the EHQ-P and with ON tendency based on the complex assessment of EHQ showcases the pathological aspects of being overly concerned by healthy food consumption, which is significantly higher among models. The high scores observed in certain subscales among the non-model group can be attributed to the fact that participants in this group were mostly, but not exclusively university students, a demographic that is considered at high risk for developing EDs (Parra-Fernández et al., 2018; Erol & Özer, 2019). This comparison makes my findings about fashion models even more alarming, as they reached higher scores on the EHQ compared to an already high-scoring population. The relationship between ON and other EDs is complex because ON may be a risk factor for EDs, and vice versa. For instance, ON could both precede or follow AN (Brytek-Matera et al., 2015). ON may be overlooked in the fashion industry due to the prevalent promotion of clean diets by modeling agents (Rodgers et al., 2017). The hidden message to follow a pure diet is a common weight management tool as it may inadvertently contribute to malnutrition and weight loss (Moroze et al., 2015).

As demonstrated in the Introduction, models are exposed to several risk factors for the development of EDs. Individual, interpersonal and environmental variables all play a role and unique factors similar to athletes, dancers or boxers should be considered. Appearance pressure, constant rejection, unpredictability, extreme competition, body criticism from agents (Mears, 2011; Dauxerre, 2017; Rodgers et al., 2017; Fixsen et al., 2023) are all potential risk factors that might be associated with EDs in this population. Feeling out of control in managing one's own career can cause distress (Creed et al., 2016). Restricting the quality and quantity of food can give a sense of control in uncertain circumstances (Koven & Abry, 2015; Lawrence, 1979), and modeling is described as unpredictable and uninfluenceable (Mears, 2011). The 36.9% of ED frequency that was revealed in the content analysis is remarkably higher than my quantitative results or other literature data. The difference could stem from the nature of questionnaire-based and interview-based

evaluations. An Italian study states that while fashion models showed no significant distinctions from their peers on self-compiled inventories, they were more inclined to acknowledge symptoms within the spectrum of EDs during face-to-face interviews (Preti et al., 2008), which could explain the discrepancy in my findings as well. Moreover, the self-reported symptoms might be biased as no medical examinations were performed. However, some of the models explicitly talked about their EDs (e.g., AN or BN), and ON was also directly mentioned:

"*[…] They [the doctors] put in my form, they wrote anorexia nervosa, and I was like, you're kidding me, I'm fat! […]*" (Excerpt from interview #72)

"*[…] Those eating disorders when it came to the orthorexia thing, it was just so hard to live normally, to eat normally and just be with people. […]*" (Excerpt from interview #85)

The risk of EDs in the young fashion model population is particularly concerning, as the lack of proper nutrition can cause several somatic symptoms, such as osteoporosis, cardiac complications, brain shrinkage or amenorrhoea (Treasure et al., 2008; Sachs et al., 2016; Cusack et al., 2022). My findings confirm that fashion models show significantly more frequent manifestation of the subclinical form of AN, and ON. However, AN or BN of clinical severity are not significantly higher in the fashion model population. These findings in my sample are in accordance with previous literature data and underscore that fashion models are a high-risk group for the development of partial syndrome EDs.

5.5 Hypothesis 5: The difference between the actual BMI and the ideal BMI of fashion models is lower than the difference between the actual BMI and the ideal BMI of non-models.

The mean actual BMI of fashion models was 18.1, and the mean actual BMI of the non-models was 22.1. The mean ideal BMI of fashion models was 17.8, while the mean ideal BMI of non-models was 20.4. The differences were significant. I found that there is a significant difference between the differences of the actual and ideal BMI values of the two groups. The desired BMI of models was closer to their actual BMI than it was for non-models (0.38 vs. 1.66 BMI points). However, when controlled for the same actual BMI, the ideal BMI was 0.81 BMI points lower in the model group than in the non-model group. The results support the hypothesis.

It was formerly reported that the self-designated ideal weights of female fashion models were 19% below average body weights, albeit being significantly underweight (Brenner & Cunningham, 1992). It was also reported that 88.5% of females consider underweight body types ideal (MacNeil & Best, 2015). Swami and Szmigielska (2013) found that despite fashion models typically having a slightly below-normal average BMI, they exhibit a considerably stronger pursuit of slimness and a more elevated unhealthy preoccupation with their appearance. Fashion models show lower actual-ideal weight discrepancy than the control sample, yet they portray higher drive for thinness (Swami & Szmigielska, 2013). In my sample, 44.7% of the models (80 out of 179) reported a BMI between 18.5 and 17.0, and an additional 21.2% (38 out of 179) reported a BMI below 17.0, indicating severe underweight. These findings suggest that models, who are already below a healthy weight threshold (WHO, 2000), possess a significant inclination to either sustain their low BMI or achieve an even thinner physique. Moreover, higher BMI was significantly associated with poorer body appreciation and increased body dissatisfaction in models (Swami & Szmigielska, 2013). It is important to highlight that despite having an underweight BMI, fashion models idealize being statistically significantly slimmer more strongly than non-models. This finding can be supported with the results of Hypothesis 1, notably that fashion models tend to strongly identify with the unrealistically slim female beauty ideals portrayed in the media and the messages promoting these ideals. Moreover, the social pressure exerted by the media has a more profound impact on models. One might argue that having a small actual-ideal BMI difference may cause experiencing less weight discrepancy or body dissatisfaction. The fact that fashion models have a lower weight discrepancy, but wish to have an even thinner body albeit embodying the extremely thin beauty ideal (Mears, 2011), raises the question whether models are more satisfied or dissatisfied with their bodies, and where this pressure stems from.

5.6 Hypothesis 6: Models experiencing professional bodily criticism report negative body- or weight-related statements more frequently in their narratives than models who do not receive such criticism.

The thematic content analysis revealed that bodily criticism received from industry personnel (e.g., modeling agents, fashion designers, photographers, stylists, magazine editors, etc.) was apparent in 83.3% of the narratives. In contrast, only 44.1% of the models received body-appreciating affirmations from other industry actors. More criticism than

appreciation was received by 61 models, while 12 models reported more appreciation than criticism. The remaining 11 models received equal amounts of body-related negative and positive remarks. The models who experienced more external body criticism did not talk significantly more often negatively about their bodies or their weight than models who did not receive body criticism. However, they mentioned more body image disorder-related statements. Models who talked about body appreciation mentioned significantly more often positive weight-related remarks, but also mentioned more frequently self-induced vomiting, abuse of laxatives and engagement in psychotherapy. Models who spent more years with modeling talked significantly less about body appreciating comments. Neutral statements about body appearance occurred in 95.2% of the interviews, positive claims were made in 64.3% of the testimonies, and 89.3% of the models talked negatively about their body, leading to an overall more negative ratio about body related narratives. Statements about models' weight appeared neutral in 78.6%, negative in 54.8%, and positive in 20.2% of the interviews, similarly to the content about body, a more negative ratio in the narratives. Models who spent more time with modeling talked significantly more frequently positively about their weight. The results partially support my hypothesis. Models receiving bodily criticism report significantly more frequently body image disorder-like symptoms, however, they do not talk significantly more negatively about their body or their weight. The number of models receiving professional criticism is outstanding and the frequency of negative content about body is also remarkable.

In a study conducted in the USA, Rodgers and colleagues (2017) found that fashion models experience heightened pressure to alter their body shape and size, received from modeling agents. They published that models were advised to lose weight (54.1%), told that they will not be successful unless they lost weight (63.1%), to "tone up" (69.4%), and that the agency will not be able to find jobs for the models if they did not lose weight (54.1%). Particularly in anticipation of New York Fashion Week Fall'18, appearance pressure from modeling agents led to 28% of models being asked to lose weight, and 20% of the models being told that their weight hindered them from securing runway shows, and 42% lost weight specifically for New York Fashion Week Fall'18 (Rodgers et al., 2021). Fashion models experience high levels of pressure from their agents to maintain a very low body weight and to further lose weight albeit their already underweight BMI (Rodgers et al., 2017). The continuous judgement of modeling agents and clients about

models' bodies creates anxiety and heightened body consciousness (Fixsen et al., 2023). Models not conforming to the strict industry standards get eliminated from the fashion capitals by their agents (Dauxerre, 2017). Analyzing the body appreciating quotes of the participating fashion models reveals an interesting phenomenon. Based on the interviews, fashion models receive positive body-related remarks from their agents if they lost weight or maintain an extremely slim figure:

"*[…] Everyone applauded me saying 'Oh! Look there how beautiful you look in this dream body!' while here I was still so clearly anorexic since I was 47 kilos for 1m80. […]*" (Excerpt from interview #82)

"*[…] I was 'admired' always when I lost weight. […]*" (Excerpt from interview #11)

These reinforcements for an extremely thin body could explain the significant relationship between models receiving more criticism and reporting more body image disorder symptoms. At the same time, this could also interpret the finding that models receiving more body appreciating comments reported significantly more often self-induced vomiting and the use of laxatives, implying that such maladaptive weight loss behaviors resulted in favorable measurement outcomes. A few exceptions were prominent, and models did report accepting comments from agents:

"*[…] They told me that it doesn't matter that I am this size; here they like it when the girls are a bit bigger. […]*" (Excerpt from interview #34)

"*[…] Fortunately, my agents always reacted by saying 'At 26, this is normal' whenever I told them that I had gained weight. […]*" (Excerpt from interview #37)

While body size is a common focal point of criticism, models are also critiqued for other physical attributes, including facial features, teeth, hair, and skin (Mears, 2011). This pervasive scrutiny extends beyond weight, encompassing a wide range of aesthetic aspects, which adds to the pressure models experience to maintain an idealized appearance.

"*[…] I received little comments that stayed in my mind for a long time, like: 'she needs to work her angles', 'I'm not sure about her nose', 'she has too many birthmarks', 'her smile is not perfect', 'shoot her from lower because of the hips'. All of these stupid little comments which wouldn't bother anyone unless his/her income depends on this. […]*" (Excerpt from interview #42)

"*[…] When my measurements were 81–57–88 [cm] my mother agent told me that my nose is too big for Fashion Weeks. […]*" (Excerpt from interview #42)

The more years spent with modeling was associated with less body appreciating comments, which could be attributed to the fashion industry's constant search for new faces (Mears, 2011; Russell, 2024). Established models may no longer represent the potential for discovering the next big star in the eyes of modeling agents, leading to a perceived decrease in their value (Ratajkowski, 2018).

The above mentioned explains why the fashion industry has been criticized for creating a "toxic" environment and being the foundation of increasing body image disturbances and EDs (Treasure et al., 2008; Fixsen et al., 2023). Criticism related to appearance, that can even be considered bullying or verbal abuse (Day et al., 2021), are very dangerous during adolescence—most fashion models are still minors (Mears, 2010)—as personality development hasn't finished yet and such sentences can lead to low self-esteem, distorted self-perception, body image disorders and potential development of EDs (Gattario et al., 2020). Moreover, negative weight-related remarks can be remembered for years, maintaining negative body associations (Anderson et al., 2014). Negative feedback from both coaches and peers correlates with an increased occurrence of disordered eating in athletes, a phenomenon that may extend to models (Goodwin et al., 2014; Scott et al., 2022). My findings further underscore the pervasive nature of the overly critical approach of modeling agents towards fashion models' bodies. This critical attitude is widespread and affects eight out of ten models within the industry. It is important to acknowledge, however, that modeling agents fulfill an intermediary role between the fashion clients and the fashion models (Mears, 2011). Agents act as messengers, conveying specific preferences, demands, and feedback from clients (i.e., fashion designers, brands, magazine editors, or photographers, etc.) to the models. This involves communicating the desired body types, looks, and other physical attributes that clients seek for their campaigns, shows, and photoshoots (Mears & Finlay, 2005). As intermediaries, agents are tasked with ensuring that models meet these stringent requirements, which can result in them adopting an overly critical approach towards the models' bodies (Dauxerre, 2017). This critical scrutiny is often a reflection of the high standards and expectations imposed by the fashion industry itself, rather than the personal judgments of the agents (Mears, 2011). Understanding this dynamic helps contextualize the pressures faced by models and highlights the systemic

nature of the issue within the fashion industry. The dynamics prevalent in the fashion industry raises the question why such behavior from modeling agents, fashion designers, photographers and other industry members is tolerated. Individuals who pursue modeling may be more vulnerable and often come from unstable emotional or financial backgrounds (Mears 2011; Dauxerre, 2017; Bündchen, 2018), potentially including abusive or difficult family situations. The findings could be interpreted in this context, suggesting that such individuals might gravitate towards modeling as it aligns with their past experiences of verbal abuse, trauma, and neglect. However, it remains unclear whether these vulnerabilities were a result of their experiences within the modeling industry or pre-existing conditions that led them to choose this profession. The topic should be the basis for future research to explore the origins and impacts of these vulnerabilities in fashion models.

5.7 Hypothesis 7: Models experience heightened body dissatisfaction compared to non-models which can be associated with the general internalization of the thin body ideal.

Significant differences were found between fashion models and non-models in terms of negative appreciation of body size and lack of familiarity with one's own body, but not general body dissatisfaction. The effect of being a model on the negative appreciation of body size was mediated by general internalization of the thin body ideal. The lack of effect of being a model on the general body dissatisfaction, however, is the result of two opposite mediated effects. The mediated effect through general internalization of the thin ideal increases body dissatisfaction, on the other hand, the mediated effect though information seeking about the thin body ideal decreases it. The results partially confirm the hypothesis. Furthermore, younger fashion models experienced more body dissatisfaction compared to older models.

The literature about fashion models' body satisfaction is very scant and contradictory. It was previously found that fashion models experience higher body satisfaction and lower body dissatisfaction (Brenner & Cunningham, 1992; Santonastaso et al., 2002). It was proposed that models may recognize that their adherence to societal standards of appearance could serve as a protective factor mitigating negative body image (Swami & Szmigielska, 2013). Brenner and Cunningham (1992) argue that the significantly higher body satisfaction, associated with higher self-esteem serve as protective factors against EDs

among fashion models, and their slimness can be attributed to naturally slender body types within the range of genetic diversity, rather than to excessive dieting or intentional weight loss efforts. The same conclusion was drawn by Santonastaso et al. (2002). In their study models portrayed significantly lower levels of body dissatisfaction. Concurrently, Swami and Szmigielska (2013) suggested that even though models do not have negative body image, they still experience significantly higher drive for thinness and higher level of dysfunctional investment in appearance, despite being underweight. This implies strong appreciation for a slender physique in models that may act as a rewarding and reinforcing factor in their commitment to maintain thinness (Zancu & Enea, 2017).

Extended time period in the modeling profession correlated with enhanced body appreciation but concurrently showed stronger drive for thinness, indicating that already underweight models have a strong desire to maintain their low body weight or become thinner (Swami & Szmigielska, 2013). In my sample, there was no significant relationship between the years spent with modeling and scores on the EDI-DT or EDI-BD subscales, any subscales of the BAT or the SATAQ-3. However, the qualitative analysis showed similar results to Swami and Szmigielska (2013). The more time models spend in the industry, the more positive body-related remarks they made. This could be due to several factors. Firstly, as models gain experience and success, they may develop greater confidence and a more positive self-image, leading them to make more positive comments about their bodies. Additionally, experienced models might have learned to navigate the industry's pressures more effectively, adopting healthier attitudes towards their bodies over time. This positive shift could also reflect a selection bias, where only those who develop a resilient and appreciative view of their bodies continue to thrive and remain in the industry for longer periods (Dauxerre, 2017; Bündchen, 2018). The increased positive body-related remarks among models with longer careers suggest complex dynamics between experience, self-perception, and professional resilience. It has been proposed that fashion models may possess personality profiles enabling them to cope better with the pressures of maintaining a thin figure, or alternatively, that certain aspects of the job, such as the boost of self-esteem derived from conforming to societal or industry ideals, may serve as a defense against negative body image (van Hanswijck de Jonge & van Furth, 1999). Conversely, a study involving both fashion models and ballerinas reported significantly higher body image distortions and dissatisfaction in this group compared to

controls (Zoletic´ & Durakovic´-Belko, 2009). Aspiring fashion models showed significantly higher scores on body dissatisfaction measured by the EDI-BD (Castellano et al., 2021). Additionally, models' higher self-reported BMI (in an already underweight sample) is significantly associated with poorer body appreciation and greater body dissatisfaction (Swami & Szmigielska, 2013).

I found that fashion models experience significantly increased negative appreciation of body size on the BAT, and the qualitative findings also revealed a more negative than positive attitude towards models' body perception. The perceived component of body image seems more impaired in the model group. The intense pressure models receive from within the fashion industry, especially targeting models' body measurements, can affect negatively their perception of body size.

"*[…] In Paris they [the agents] were saying like 'you're still too big, you're still not proportional'. […]*" (Excerpt from interview #22)

However, no causality can be established by my research methods, as only the qualitative analysis assessed the body-related criticism received from other industry actors. The negative appreciation of body size was mediated by general internalization of the thin body ideal. Scoring higher on the negative perception of body size can be explained by models being constantly observed and actively partaking in the size zero culture (Mears, 2011). This means being continuously judged (Dauxerre, 2017), and compared to extremely small bodily measurements (Bogár & Túry, 2019). The typical female high fashion model's bust, waist and hips measurements are approximately 86 cm, 59 cm, 86 cm, respectively (Mears, 2011). The internalization of thin ideals is a risk factor of disordered eating (Unikel et al., 2013; Dakanalis et al., 2014), and in my sample, fashion models reached significantly higher scores on all SATAQ-3 subscales (see Hypothesis 1). Similarly to the argumentation of Fixsen et al. (2023), I also observed that models garner appreciation for their physical form predominantly when they went through visible weight loss.

"*[…] They [the agents] would praise you if it looked like you lost some weight, and they would quickly remark if by any reason you had 92 cm hips. […]*" (Excerpt from interview #80)

"*[…] They [the agents] were like 'oh my god you look so much better have you lost weight?' […]*" (Excerpt from interview #9)

Both fashion models and non-models scored high on the general body dissatisfaction subscale of the BAT, however, the size of the difference was negligible. This can be interpreted as women's anxiety about appearance and body image disturbances are increased and can be considered normative in the general population (Smolak, 2011; Swami, 2015). My findings show that fashion models experience increased body dissatisfaction, which contradicts certain data (Brenner & Cunningham, 1992; Santonastaso et al., 2002) but aligns with others (Zoletic´ & Durakovic´-Belko, 2009; Castellano et al., 2021) from the extant literature. My findings might be explained by the appearance pressure and the daily comparison to very slim and attractive peers (Russell, 2024) have a negative impact on models' body perception. Body dissatisfaction is related to feelings of inferiority stemming from social comparisons of physical appearance, and both factors were connected to disordered eating attitudes and behaviors (Duarte et al., 2016). Exposure to pictures of slim female figures lead to body dissatisfaction and food restriction in women (Harrison et al., 2006). It has been previously researched how exposure to slender body ideals affect females (Scott et al., 2019; Rajanala et al., 2018; Vanderbosch et al., 2022), yet fashion models who embody these ideals might face even stronger pressure to conform to the slimness ideal as an occupational requirement. Fashion models live in an environment where they are the object of such imagery, and are constantly surrounded by other thin peers, which can lead to body-focused social comparison (Bogár et al., 2024b). Moreover, disobeying modeling agents' requests to lose weight and reduce the size of certain body parts can result in cancellation from important jobs or even in exclusion from the agency (Zancu & Enea, 2017).

"*[…] At some point in my career when I was about 20 years old, I was comparing myself a lot to other models, I was jealous when someone had skinnier legs. I didn't like my body at that point, and I was skinnier than ever. […]*" (Excerpt from interview #25)

The findings of Swami and Szmigielska (2013) that higher BMI among fashion models was associated with more body dissatisfaction are in alignment with some of the testimonies from my sample. The following narrative excerpt underscores that conforming to the fashion industry's measurement standards can lead to body satisfaction:

"*[…] It is sad to say I don't feel confident unless I am model thin. […]*" (Excerpt from interview #5)

Yet, as the fashion industry is highly unpredictable, holding a lot of uncertainty about new trends, the desired looks (Mears, 2010), it is difficult to draw conclusion about models' body perception by a cross-sectional study design. Fashion models' self-perception can be dependent on the professional feedback they receive (Bogár & Túry, 2019) and the amount of fashion jobs secured, which can be highly fluctuant by each season (Russell, 2024).

"*[…] One day, 'I look good!', the other day 'Oh Jesus break the mirror!' […]*" (Excerpt from interview #26)

My findings are in alignment with that of Fixsen et al. (2023) and Rodgers et al. (2017; 2021) regarding the strong pressure deriving from industry personnel towards fashion models to maintain an extremely slender physique. In parallel with the methodology of Fixsen et al., qualitative investigation can shed more light on understanding this complex phenomenon and the nuances of industry dynamics, rather than relying solely on quantitative measuring tools. The contradictory result between my findings and earlier publications can be attributed to the following factors. The data available in the extant literature assessing fashion models' body dissatisfaction is rather outdated, published in 1992 by Brenner and Cunningham, in 1999 by van Hanswijck de Jonge and van Furth, and in 2002 by Santonastaso et al. It is important to note that the beauty ideal in the '90s was considerably different than the current beauty ideal (Scully, 2016). In the 1990s, supermodels like Linda Evangelista, Naomi Campbell, and Cindy Crowford, became iconic figures of the era who left a lasting impact on the industry (Mears, 2011). Their body type was described as sporty and feminine, showcasing strength and elegance. However, in the early 2000s, the beauty ideal shifted to a more waif like, much skinnier, heroin chic body ideal, an emblematic figure of this era was Kate Moss (Howard, 2018). This ideal is still prevalent on the fashion runways up to this day (Petter, 2023), even though the societal beauty ideal has changed to a more womanly figure (Aniulis et al., 2021). Similarly to my findings, the same conclusion was drawn by Santonastaso et al. (2002) by using the BAT. Even though in their study models portrayed significantly lower levels of body dissatisfaction, they further argue that models' weight was significantly lower, and fashion models reported fear of weight gain. Furthermore, participants were more likely to place greater importance on weight and shape in their self-evaluation and exhibited a heightened preoccupation with food, even in the absence of an ED. In the studies of both

Brenner and Cunningham, and van Hanswijck de Jonge and van Furth, sample sizes were relatively small (n = 30 and n = 63, respectively). A more recent publication by Castellano et al. (2021) also confirms higher body dissatisfaction rates among fashion models, similarly to my findings.

The heightened scores on the Lack of familiarity with one's body subscale may be attributable to the intrinsic characteristics of modeling as a profession. The frequent objectification of models, where they are primarily utilized for the commercial purpose of showcasing clothing often referred to derogatorily as "being alive cloth hangers" (Mears, 2011) can profoundly affect models' relationship with their bodies. The constant scrutiny and rejection based on physical appearance alone (Fixsen et al., 2023) may prompt models to dissociate their sense of self from their physicality. Internationally acclaimed supermodel, Cameron Russell states it is required to disassociate from one's body to build a successful career around one's appearance and that the model's body is simply a tool (Russell, 2024). In her memoire, Giselle Bündchen says that models are best to be seen as blank canvases or objects to be able to project the dream of the creative team (Bündchen, 2018). Fashion models reported not being respected as individuals, feeling highly objectified and the need to participate as a passive actor without intellectual values in the industry (Fixsen et al., 2023). This disassociation can be a psychological defense mechanism against the commodification and depersonalization experienced within the industry, leading to a diminished sense of bodily awareness and familiarity. This elicits Michael Foucault's argument that modern societies exert power over individuals by disciplining their bodies to conform to norms and expectations, thus creating "docile bodies" that are efficient and obedient (Foucault, 1977).

The excessive emphasis on appearance and body weight, the intense competition, and the prevalent use of clinically underweight models (i.e., peer-pressure) in the fashion industry may be linked to appearance concerns among fashion models, which could explain the increased body dissatisfaction and negative perception of body size. The pressure to excel, to adhere to industry norms, in the pursuit of success at a young age can even be anxiety-forming (Fixsen et al., 2023) and can lead to negative perception of body size and lack of familiarity with one's body. Such negative body image concerns can lead to manifesting symptoms of disordered eating (Neumark-Sztainer et al., 2006).

5.8 Hypothesis 8: The ideal BMI of fashion models is higher than the BMI they had when they were most successful in their modeling careers.

The average ideal BMI of fashion models was BMI 17.8 and the average BMI models had when they secured the most modeling jobs was 17.0, the difference was significant. This result confirmed Hypothesis 8, the ideal BMI was higher than the BMI models maintained at the peak of their careers.

My preliminary findings were the basis to formulate this hypothesis. It was found that fashion models would prefer body measurements higher than what the industry requires, as the external pressure of the fashion environment pressures them to sustain figures slimmer than their natural body type (Bogár & Túry, 2019). Specifically, models proposed that an adjustment in the hip measurement standards from the current 86–90 cm to a more inclusive range of 91–95 cm would constitute a meaningful modification (Bogár & Túry, 2019). This suggestion reflects the models' viewpoint that existing size norms are not only unattainable for the non-model population but also unrealistic for themselves. Models may perceive pressure to achieve and sustain excessively slim figures, influenced by social sanctions, for example, exclusion from agencies, or incentives such as increased opportunities for steady employment (Mears, 2011).

"*[…] It is hard to judge the size requirements, as I understand that models have to fit a given clothing size, and I also believe that everything looks good on a slim figure, whatever the designers create. But I think the insistence on the actual measurements measured in cm is absurd. I tried to get under 90 cm for years, as it is a basic requirement for a high-fashion girl. Unfortunately, I could never achieve this and so I could never book the biggest shows. Given all this, I cannot declare that it is easily maintainable as everyone is different in shape, and it is not enough for everyone to give up one or two items of junk food to stay thin. Average people can achieve it, as we are all average people! But we are the genetically thin average. […]*" (Excerpt from interview #19)

"*[…] For example, I wish that the body size of the models would shift to the healthy side again. This wouldn't mean a lot of change and it could be as simple as accepting 2-3 cm bigger measurements. […]*" (Excerpt from interview #12)

Literature shows self-reported BMI of fashion models as follows: 17.0 (Ralph-Nearman et al., 2020), 17.5 (Rodgers et al., 2017) 17.7 (Santonastaso et al., 2002), 17.9 (Preti et al., 2008), 18.1 (Swami & Szmigielska, 2013), and 18.6 (Rodgers et al., 2021). However,

it was suggested that professional models' perceived BMI is significantly lower than the experimenter-measured BMI (i.e., 17.0 vs. 18.6) (Ralph-Nearman et al., 2020). The ratio of underweight models in all fellow study groups is alarming, ranging from 54.5% to 81.0% (Brenner & Cunningham, 1992; Preti et al., 2008; Swami & Szmigielska, 2013, Rodgers et al., 2017; Rodgers et al., 2021). However, the bodyweight of models is not a key bodily parameter in their professional evaluation, as models are judged by the circumference of their bust, waist and hips, and their height (Mears, 2011). This suggests that fashion models may have uncertainties about their body weight, potentially leading to inaccurate BMI values (Ralph-Nearman et al., 2020). By using a 3-dimensional avatar, models demonstrated a greater accuracy in estimating their own body measurements and size than non-model individuals (Ralph-Nearman et al., 2020). My qualitative findings revealed that the more years spent with modeling can be associated with a higher BMI. Experienced models might feel less pressure to maintain extreme body standards, allowing for a more natural body weight. Additionally, the many years spent conforming to industry standards can lead to prioritizing overall well-being and health, resulting in a higher BMI.

Models who were asked to lose weight during the course of New York Fashion Week reported significantly larger decrease in BMI than models who were not encouraged for weight loss (Rodgers et al., 2021). Higher BMI values in models were correlated with higher levels of ED symptoms (Ralph-Nearman et al., 2020). Fashion models are encouraged by modeling agents to reduce their weight, even if it negatively impacts their well-being.

"*[…] I was told by my agent that: 'Every day you look better and better, and you're getting more requests and more options! Eating like a bird is a good thing! If you eat like a bird is how models get the jobs!' So, I kind of denied that I was feeling really low on energy and depressed and I was cold, and I didn't have enthusiasm about what I was doing. But at the same time the validation from the agency and from the clients, because of course they started booking like good jobs, was like the complete opposite of what I was feeling. The sicker I was the more approval I was getting. […]*" (Excerpt from interview #19)

"*[…] I cannot lose it because it's just my body structure, so it made me feel quite hopeless because I had to stay at home quiet lot of time just to lose that one or two centimeters.*

Sometimes I was 60 centimeters, but I just didn't even feel beautiful being 60 [cm] because [it is] just too skinny for my body. […]" (Excerpt from interview #19)

These results suggest that models face external pressures to maintain an extremely slim physique to achieve success in their modeling careers, despite their personal preference for a healthier body weight. A shared perspective among fashion models supports the need for revising the industry's strict size criteria.

5.9 Hypothesis 9: Models experience more frequent sexual abuse than women in the non-model group and it can be associated with the presence of eating disorders.

My findings reveal a shocking frequency of sexual abuse among female fashion models. The models experienced sexual misconduct in 76.5% of the cases, compared to 55.7% of the non-models, and when narrowed to more severe sexual assault, 52.0% of the models and 26.6% of the non-models reported such incidences. Both differences were significant. It was found that sexual violence against models was committed most often in photo shootings, in 80.7% of the cases in my sample. The second highest frequency of sexual abuse was experienced at social work settings (42.0%), while castings were also a frequent place of sexual misconduct (34.1%). In my sample, no significant relationship was identified between EDs and sexual violence. My hypothesis was partially confirmed, sexual abuse is significantly more frequent among fashion models, but it cannot be associated with the presence of EDs.

Meta-analysis reports an estimated prevalence of sexual abuse for girls between 8% and 31% (Barth et al., 2013). The high frequency of broader sexual misconduct in my sample among non-models could be explained by the fact that unwanted touching, sexually suggestive comments, and unwelcome invitations were also included, which other epidemiology surveys might not include (Audu et al., 2009). Serious sexual violations, such as assault and rape among non-models, are aligned with literature data (Barth et al., 2013). Meta-analysis suggests that risk factors for childhood sexual abuse include prior victimization of the child and/or its family members, parental history of child abuse victimization, parental problems (e.g., intimate partner violence), parenting problems (e.g., low quality of parent-child relationship), a non-nuclear family structure, family problems, child problems (e.g., having a mental/physical chronic condition), and other child characteristics (e.g., being female) (Assink et al., 2019). To date, no empirical study has been

conducted about the frequency of sexual abuse among fashion models. Individuals choosing the modeling profession might be more vulnerable to sexual abuse due to their family backgrounds or psychological factors. It is common for aspiring models to come from families with low socioeconomic status and to view modeling as a means to financially establish themselves or to support their families (Mears, 2011; Dauxerre, 2017; Bündchen, 2018; Mears 2020).

Strong evidence in the literature has been established regarding the association between a history of sexual abuse and a lifetime diagnosis of EDs (Chen et al., 2010). Two main etiological pathways, the body perception pathway (including body dissatisfaction, shame, sexual dysfunction, and fear of future sexual trauma) and the psychological difficulties pathway (involving the need for control, regulation of emotions, psychological diagnoses, and the desire to cope with the failure of the average expected environment) were identified in the relationship between EDs and sexual trauma. However, the evidence regarding causality and directionality of the relationship between EDs and sexual violence is limited (Madowitz et al., 2015). It is important to note that findings on this topic are somewhat inconsistent, as studies have also reported no significant correlation between EDs and sexual trauma (Connors & Morse, 1993; Stice, 2002). My results may be affected by the fact that a precise sampling frame for the modeling population was not available, I relied on simulated diagnosis of EDs due to the absence of in-person examination of participants, and the questions about the history of sexual trauma were based on non-validated questionnaires. The potential for a significant relationship between sexual abuse and EDs deserve careful attention, even if the underlying pathways are not fully understood (Madowitz et al., 2015).

Fashion models are akin to dancers regarding performing aesthetic labor. Inappropriate sexual transgressions are very common among ballet dancers (Moola & Krahn, 2018). Sweet and Tewksbury (2000) found that 33% of exotic dancers had been sexually abused as children, a higher rate than in the general population. Fashion models leverage their physicality as a form of capital, resulting in being constantly observed and evaluated publicly, or even objectified (Mears, 2011). Women have been portrayed as passive subjects of visual pleasure across various mediums, from advertisements and Renaissance art to cinema and fashion photography (Mulvey, 1989; Bordo, 1993). Emily Ratajkowski, a world-famous model, states in her essay collection, My Body (2021) that she largely

capitalized on her sexuality through the male gaze. She later alleged several industry members of sexual assault, during photo and video shoots (Ratajkowski, 2021). Aspiring fashion models, as young as 15–16 years old are oversexualized by male fashion industry members and humiliated or deprived of career opportunities when they reject such actions (Russell, 2024). The #MeToo movement began in October 2017 when allegations of sexual harassment and assault by film producer Harvey Weinstein were reported by The New York Times (2017). Instances of sexual harassment within the fashion industry have received heightened awareness, for example two renowned photographers, Mario Testino and Terry Richardson faced allegations of sexual misconduct, or Gérald Marie, the former European head of Elite Models, ex-husband of the famous supermodel, Linda Evangelista, faced accusations of raping several fashion models (Russell, 2024). It is common practice for models to do photo shoots at private residencies of fashion photographers, without other personnel being present (Ratajkowski, 2021; Russell, 2024). Models are often required to pose in sheer clothing without underwear, from partially to fully naked, a *mood* considered art, without being pre-informed about these requirements prior to the job (Russell, 2024). Such occasions potentially raise the risk for models to be sexually harassed. Fashion Weeks can also pose a significant risk for fashion models, exposing them to unwanted sexual attention, harassment, and assault due to the industry's often ambiguous and intimate work settings, such as backstage areas. A survey conducted during New York Fashion Week Fall'18 reported that 43% of the participants had never had access to private changing rooms and 50% reported having experienced being photographed while changing backstage (Rodgers et al., 2021). In my research, 23.9% of the abuse was committed at fashion show backstages. This environment can blur professional and personal boundaries, increasing vulnerability to objectification and safety concerns, including unwanted sexual attention (Winn, 2018). The experience of sexual assault is linked to negative outcomes like body image issues and disordered eating (Augustus-Horvath & Tylka, 2009; Capitaine et al., 2011). Consequently, my findings further reinforce those of Rodgers and colleagues (2021), identifying Fashion Week as a critical period of heightened risk for models, particularly in relation to their working conditions. Some of the models participating in the qualitative analysis talked about sexual assault during their modeling careers.

"*[…] To be honest, all of my professional traumas have been related to sexual and power-based abuse […]*" (Excerpt from interview #41)

However, examining the underlying causes of the extremely high ratio of sexual abuse among female fashion models within the complex framework of the fashion industry sheds some light to some more factors to be considered. The phenomenon could appear even unusual, as the industry occupies a relatively large proportion of homosexual male designers, bookers and clients, who favor suppressed feminine features and emphasizing asexuality while exposing male fashion models to be victims of sexual predators (Mears, 2011). Feminine attributes and sexual attractiveness are not welcomed in the high fashion world (Mears, 2011). The ideal body is often linked to that of a young boy: very slim, without breasts, bottoms, or hips. The emphasis on asexuality plays a key role in creating high-end fashion aesthetics (Mears, 2011). Sexual attractiveness is more valued in the commercial domain of the fashion industry. In commercial fashion jobs, a look that features healthier figures is considered standard and classic, attracting the middle-class consumer's preferences (Mears, 2011). Models participating in the qualitative analysis explained:

"*[…] In China or Japan, where I lost a lot of work because of my slightly larger breasts, they even made me wear a breast-reducing bra. I had a job where they tried to flatten my chest with duct tape. […]*" (Excerpt from interview #32)

"*[…] I had an experience in America during a show where they tied down my breasts so they wouldn't move when I walked. […] my breasts were bouncing with every step, and everyone in the room was looking at my breasts, not the dress. […]*" (Excerpt from interview #37)

Recent years have seen significant strides toward protecting models from sexual violence and ensuring their privacy during photoshoots involving nudity (Condé Nast, 2018). Condé Nast, a global media company, has implemented a Code of Conduct requiring all partners to adhere. This Code of Conduct stipulates that only models over 18 years of age will be employed, and any photoshoot involving underwear, swimwear, transparent clothing, nudity, or sexually suggestive poses must be communicated in advance to the models, who then have the option to consent or decline participation. They also commit to providing private dressing areas for models and ensuring models are never left alone with any crew member (Condé Nast, 2018). Similarly, French luxury fashion conglomerates

LVMH and Kering (owners of brands such as Louis Vuitton, Fendi, Céline, Christian Dior, Givenchy, Marc Jacobs, Gucci, Saint Laurent, Bottega Veneta, Alexander McQueen, Balenciaga, etc.) have issued "The Charter on Working Models and Their Well-Being". This charter mandates that models must not be isolated with production staff or photographers during vulnerable moments, such as changing clothes or nude photoshoots, and emphasizes the necessity of access to a private space for models during shoots or shows (Fashion Law Institute, 2018).

As discussed, participation in the modeling industry encompasses challenges that transcend eating and body image difficulties. The frequency of sexual assault is immense. This is an alarming finding that highlights the utmost need for stronger preventative measures within the fashion industry.

5.10 Prevention strategies

In the light of the results, prioritizing changes to reflect the physical and mental well-being of fashion models and adhering to occupational health standards in the fashion industry is crucial. An international consensus would therefore be needed to safeguard models' health and to counteract the unhealthy behaviors often promoted by modeling agents, who act on the demands of fashion clients. The modeling profession raises concerns regarding malnutrition and the increasing occurrence of subclinical EDs and body image concerns. Although countries like France, Spain, and Romania have begun implementing policies to protect models' health, these initiatives are still nascent (Rodgers et al., 2017; Zancu et al., 2019; Bogár et al., 2021), easily circumvented (Bogár & Túry, 2019), and the depiction of extremely slim models persists (Franceinfo, 2023; Petter, 2023).

To protect the health of the models, the following recommendations can be outlined:

1) Health check-ups should be conducted by independent medical professionals to ensure objectivity and prevent any potential conflicts of interest with fashion industry personnels.
2) Health check-ups must also explore psychological factors that could contribute to the development of EDs.
3) Modeling agencies should expand their professional teams to include personal trainers, dietitians, and psychologists. This multidisciplinary approach is essential for assisting models in meeting industry requirements while safeguarding their health. Such teams could also counsel against modeling as a career for individuals

whose physical or psychological condition is incompatible with a health-focused professional environment.

4) It is worth considering employing fashion models above the age of 18, recognizing that many models currently enter the industry as minors.
5) The formation of an interest group or advocacy organization by models themselves is imperative. This would empower them to address industry issues actively and foster safer working conditions.
6) Finally, it is critical to overcome the cultural pressure prominent in the fashion environment, and to represent a broader spectrum of body shapes.

5.11 Strengths and novelties of the research

To the best of my knowledge, this research assesses ED risk factors among a more diverse and internationally heterogeneous group of top female fashion models than any prior study of its kind, including an age-adjusted control group, which distinguishes it as unique and pioneering. The sample size of the quantitative study is the largest to date in the field of fashion model-related research. Both the quantitative and the qualitative analyses were performed with the inclusion of reputable fashion models, working in the main fashion capitals, whose clientele includes leading fashion magazines, luxury fashion houses, and haute couture designers. Moreover, a range of specific, validated questionnaires were used to simulate diagnoses of EDs, addressing both their clinical and subclinical forms, as well as assessing body image attitudes. It may be the most comprehensive multicultural empirical study to date examining whether international fashion models exhibit higher frequencies of AN, BN, and ON, and body image concerns than non-models. This is the first study to ever assess orthorexic tendencies among fashion models. Furthermore, this study is the first to apply thematic content analysis to a sample of this population. The extensive number of interviews is a notable achievement not only in fashion model-targeted studies, but generally in qualitative research, potentially pioneering future investigations in the field related to fashion models. The assurance of anonymity likely enhanced the authenticity of the responses, providing a more accurate depiction of the conditions affecting the research participants.

I trust that my findings make a significant contribution to the extant literature and evidence for key decision-makers in the fashion industry to reconsider the prevailing standards of extreme thinness required of models. The research outcomes were presented at

the panel discussion organized by the French Senate's Delegation for Women's Rights and Equal Opportunities for Men and Women in April 2023 by Ekaterina Ozhiganova, founder of Model Law, with the purpose of initiating a transformative dialogue and actions within the industry, promoting a safer, healthier professional environment for models. The study holds public health implications and raises awareness of fashion models being a high-risk group for the development of subclinical EDs and body image disturbances.

5.12 Limitations

The study displays certain limitations. Firstly, the control group was not adjusted to the study group for socioeconomic and cultural backgrounds. Secondly, the exclusive use of self-reported measures in the quantitative research might cause divergences, resulting in distorted calculation of BMI (Giacchi et al., 1998). Thirdly, the timing of the online survey during the COVID-19 pandemic—a period of reduced fashion industry activity—might have influenced the responses of models differently than during normal time periods. Moreover, models in their late twenties or thirties may not be as professionally active as they were in their teenage years, potentially impacting both their self-reported BMI and responses to the online survey or the open-ended questions. The increased probability of models dissatisfied with the current dynamics of the fashion industry participating in the study could have introduced bias into both the quantitative and the qualitative analyses. Simultaneously, models may have chosen to withhold specific details in an effort to safeguard their careers, despite the assurance of complete anonymity. This could stem from the fear of disclosure of sensitive information and the desire to portray socially favorable responses and deny stigmatizing behaviors. Questions concerning previous EDs were not included in the online survey.

It is noteworthy that the survey only asked for the current height of both the fashion model group and the non-model group, despite collecting various weight-related data. Since body height can differ depending on the time period being considered (e.g., current height versus height during most active modeling work), this might affect the accuracy of BMI calculations. However, given that the models were adults or nearing adulthood, any discrepancy in height is likely to be minimal.

The absence of medical examinations by health professionals means that self-reported diagnoses obtained during the research might not be accurate. Most of the models were

not native English speakers which could cause disparity due to misunderstanding questionnaires or to the lack of ability to express complex ideas during the interview. However, international fashion models are required to have a stable level of English, as it is the common language of the whole industry, and the level of linguistic complexity in the testimonials contradict this assumption. Furthermore, hand-coding a big number of lengthy interviews is an exceptionally demanding task, challenging even the most experienced coders. The enduring efforts of coding 84 narratives might have caused inconsistencies.

The cross-sectional design precludes us from detecting causality between modeling and ED development. The selection criteria for models might already hold underlying ED symptomatology, which would highly influence the study design. Even though the sampling facilitated recruitment of the high fashion models, it likely introduced selection biases that limit the generalizability of the findings. Since the sample was not randomly chosen, the innate bias of the sampling method means that the sample is unlikely to be representative of the entire population of female high fashion models. Lastly, my personal experience as a former fashion model may introduce an inherent bias to this research, potentially influencing the framing of questions, interpretation of responses, and overall analysis, despite efforts to maintain objectivity throughout the study.

5.13 Future research

Future examinations should be conducted to solidify and expand upon the novel findings of this research. Primarily, longitudinal studies are needed for establishing the potential causal relationships between working in the fashion industry and the development of EDs, or body image disorders. Additionally, employing newly validated questionnaires (e.g., EDE) is recommended.

Given the extensive data collection, my objective is to further analyze both the quantitative and the qualitative data pools. The coded interviews will facilitate future investigation purposes between linguistic features and EDs or body image concerns, including themes such as agency, social-reference, intentionality, negation, and coercion. Further analysis of the quantitative data pool will aim to uncover more complex underlying factors.

Future research should also target the male fashion model population, as the ideal male body is increasingly leaning towards slimmer and traditionally more feminine standards.

Despite the continued popularity of muscular ideals, male fashion models might face similar pressure to meet the industry's standards as their female counterparts.

Investigations focusing solely on aspiring fashion models could provide valuable insights into the challenges they face while trying to establish themselves in the industry. Similarly, studies examining the experiences of women who have left the modeling profession, and how their body ideals or eating habits have shifted, would be important. Engaging other actors of the fashion industry in qualitative research could discover new facets of the fashion dynamics, contributing to a deeper understanding of current misconduct. Distinguished periods in the fashion domain, such as Fashion Weeks and peak working seasons deserve separate examination due to the increased appearance pressure associated with these events. A more detailed investigation into the ratio of sexual abuse within the fashion industry, including the nature, context, and timing of such abuse, could yield more precise findings. Finally, with the increasing prominence of artificial intelligence in fashion, it is imperative to explore the impact of such technologies on fashion models' body image.

6. CONCLUSION

The fashion industry influences and shapes cultural ideals to a great extent. As a sociocultural risk factor, the extreme thin ideal plays a role in the development of EDs. Models must adhere to the industry's strict size requirements as their occupational criterion, often encouraged by their agents to employ unhealthy weight controlling methods to conform to such standards, especially before major fashion events, such as Fashion Weeks. This dissertation reveals that female fashion models, internalize significantly more media messages about the thin beauty ideal, and they identify more strongly with unrealistically slim beauty standards. Additionally, models feel more compelled by media to pursue culturally defined beauty ideals and engage in potentially dangerous behaviors, such as dieting and excessive exercise, to alter their appearance. It was also confirmed that negative eating attitudes and maladaptive eating behaviors are more prevalent among female high fashion models than among non-models which might be associated with the professional and sociocultural pressure to conform to the industry's measurement standards. Extreme calorie restriction, excessive exercising, use of laxatives, or self-induced vomiting are all frequently employed health damaging behaviors among fashion models. High fashion models are at an increased risk for developing partial ED symptoms, albeit without a higher propensity for clinical severity EDs compared to non-models. Fashion models are most at risk for subclinical AN and orthorexic tendencies. It seems that modeling is not chosen by women who are more prone to the development of EDs, but maladaptive eating behaviors are used to conform to the standards of the fashion industry. Both general body dissatisfaction, and negative perception of body size are more frequent among models than in non-models. Eight out of ten female fashion models are criticized based on their appearance. Nearly five times more female fashion models receive body-related criticism rather than appreciation from industry members compared to those who receive more positive than negative remarks about their bodies. Negative weight-related comments can increase body dissatisfaction and lead to disordered eating habits. The competitive environment, regular rejection, and bodily criticism can contribute to body image concerns among fashion models. Fashion models are less familiar with their own bodies compared to non-models, which could be due to psychological disassociation as a coping mechanism for the objectification and depersonalization that models experience. Beyond eating and body image disturbances, modeling involves challenges including psychological

abuse (humiliation, objectification, exploitation, etc.) by agents, a practice that must be discontinued. Research indicates that body criticism is associated with increased engagement in weight loss efforts among models. Additionally, the frequency of sexual violence among fashion models is alarmingly high, and protection policies against such abusive maltreatments are still in their infancy. This might further enhance the risk for the development of EDs, as both traumatic events and the lack of psychosocial resources are associated with higher ED frequency. The findings of this research indicate a significant risk of subclinical AN, orthorexic tendencies and negative attitudes toward body image, which is more likely to be related to the environmental pressure fashion models face rather than intrinsic factors. Such subclinical symptoms can later lead to the manifestation of clinically severe EDs in biologically or psychologically more vulnerable individuals. This increased risk is particularly dangerous due to the severe physical and mental health consequences associated with such conditions. EDs have the highest mortality rates of any psychiatric disorders, often leading to life-threatening complications including heart failure, electrolyte imbalances, and severe malnutrition. Recovery from EDs can be a prolonged and arduous process, often taking years and requiring intensive therapeutic and medical interventions. Moreover, the pervasive influence of fashion models as cultural icons means that their struggles with disordered eating can perpetuate unhealthy body image standards and behaviors among the broader population, especially young and impressionable individuals. This underscores the urgent need for preventive measures and supportive interventions within the fashion industry, including healthy body standards, mental health resources, and body diversity promotion. Modeling agencies should expand their professional teams to include personal trainers, dietitians, and psychologists. This multidisciplinary approach helps models meet industry requirements while safeguarding their health. These teams can also advise against modeling for individuals whose physical or psychological conditions are incompatible with a health-focused professional environment. Considering the physical and mental well-being of models is essential in redefining the beauty standards of the fashion industry. There is an urgent need to revisit unrealistic body measurement standards and eliminate the industry's coercive practices promoting harmful behaviors. As many models are underage, the responsibility of parents and agents is crucial, further underscoring the need for health protective regulations. Despite regulations aimed at preventing unhealthy BMI values among models, the implementation

remains incomplete, as the majority of the models still display an underweight BMI. These new international regulations to protect models' health are encouraged by models themselves, who advocate for the representation of healthier body types. Models have a higher average ideal BMI than what is required by the industry to be successful. This study fills a significant gap in the literature, providing insights into the pressures faced by models and contributing to effective strategies for addressing these issues in high-pressure professions. The integration of both qualitative and quantitative analyses in my thesis proves the value of a mixed methods approach for a nuanced understanding of this subject. Future research is needed to further assess the unique and complex background of eating and body image disorders among fashion models, including personal, interpersonal, and environmental factors. Addressing eating and body image disorders in the fashion industry requires a focus not on attributing blame but on finding solutions to foster healthy work environments. By prioritizing individual health and supporting a culture of well-being, the industry can progress responsibly towards a sustainable and positive future benefiting all personnels involved.

7. SUMMARY

The present study compared the frequency of AN, BN, ON among female top fashion models to an age-adjusted control group, and to explore maladaptive eating behaviors, attitudes towards appearance, body image, and the occurrence of sexual abuse in this group with quantitative and qualitative methodologies. The mean BMI of fashion models was 18.1, significantly lower than the mean BMI of non-models (22.1). The mean ideal BMI of fashion models was 17.8, significantly lower than the mean ideal BMI of non-models (20.4). The results show that for the same actual BMI, the ideal BMI was 0.81 lower for the models compared to the non-models. Fashion models' BMI when they secured the most modeling jobs was 17.0, significantly lower than their ideal BMI. The present study confirms that the frequency of subclinical AN is significantly higher in fashion models than in non-models (13.4% vs. 3.0%). No significant differences were found in EDs of clinical severity between the two groups. Models demonstrated significantly higher presence of orthorexic tendencies than non-models (35.4% vs 22.4%). Fashion models engaged in maladaptive weight controlling behavior significantly more frequently than non-models in instances of using appetite suppressants (12.3% vs. 5.0%), vomiting (6.7% vs. 1.5%), using laxatives (6.1% vs. 2.3%) and using diuretics (2.8% vs. 0.8%). Models internalize significantly more media messages about the thin beauty ideal. They also consider the media a more important source of information about attractiveness. They experience greater pressure from the media to achieve such ideals than non-models. Fashion models experience significantly increased body dissatisfaction, negative perception of body size and a lack of familiarity with one's body compared to non-models. Sexual assault was reported by 76.5% of models and 55.7% of non-models. Thematic content analysis confirmed that body and eating related statements were more negative than positive in models' narratives. Controlling food intake occurred in 78.6%, extreme calorie restriction in 40.5%, self-induced vomiting in 14.3% of the narratives. Testimonies contained professional criticism in 83.3% of the cases while 44.0% included body appreciation from other industry members. Body image disorder-like symptoms were expressed by 63.1%, and EDs by 36.9% of the models. Models who received bodily criticism talked significantly more about body image disorder symptoms. The findings confirm that models are at a higher risk for the development of partial EDs which might be due to the challenging professional environment.

ÖSSZEFOGLALÁS

A tanulmány célja az AN, BN és ON gyakoriságának összehasonlítása a női divatmodellek és egy életkorhoz illesztett kontrollcsoport között, valamint a maladaptív evési magatartások, a megjelenéssel kapcsolatos attitűdök, a testkép és a szexuális zaklatás előfordulásának vizsgálata ebben a csoportban, kvantitatív és kvalitatív módszerekkel. A divatmodellek átlagos BMI-je 18,1 volt, szignifikánsan alacsonyabb, mint a nem modelleké (22,1). A divatmodellek ideális BMI-je átlagosan 17,8 volt, ami szintén szignifikánsan alacsonyabb, mint a nem modelleké (20,4). Azonos aktuális BMI mellett a modellek ideális BMI-je 0,81-el alacsonyabb volt, mint a nem modelleké. A divatmodellek BMI-je, amikor a leginkább foglalkoztatottak voltak, 17,0 volt, ami szignifikánsan alacsonyabb, mint az ideális BMI-jük. A jelen tanulmány megerősíti, hogy a szubklinikai AN előfordulása szignifikánsan magasabb a divatmodellek körében, mint a nem modellek esetében (13,4% vs. 3,0%). Az evészavarok klinikai súlyosságában azonban nem volt szignifikáns különbség a két csoport között. A modellek szignifikánsan nagyobb arányban mutattak ortorexiás tendenciákat, mint a nem modellek (35,4% vs. 22,4%). A divatmodellek szignifikánsan gyakrabban mutattak maladaptív testsúly-szabályozó magatartást, mint étvágycsökkentők használatát (12,3% vs. 5,0%), önhánytatást (6,7% vs. 1,5%), hashajtók alkalmazását (6,1% vs. 2,3%) és vízhajtók használatát (2,8% vs. 0,8%). A modellek szignifikánsan több médiában megjelenő üzenetet internalizáltak a karcsú szépségideálról. A médiát fontosabb forrásnak tekintik a vonzerővel kapcsolatos információk szempontjából. Több nyomást éreznek a médiától e szépségideálok elérése érdekében, mint a nem modellek. A divatmodellek szignifikánsan nagyobb mértékű negatív testméret-észlelést és a saját test ismeretének hiányos voltát erősebben tapasztaltak a nem modellekhez képest. A modellek 76,5%-a, míg a nem modellek 55,7%-a számolt be szexuális zaklatásról. A tematikus tartalomelemzés megerősítette, hogy a modellek narratíváiban a testtel és evéssel kapcsolatos kijelentések inkább negatívak, mint pozitívak. Az ételek bevitelének kontrollálása 78,6%-ban, az extrém kalóriakorlátozás 40,5%-ban, az önhánytatás pedig 14,3%-ban jelent meg a narratívákban. A beszámolók 83,3%-ában kritikát, míg 44,0%-ban testtel kapcsolatos elismerést említettek az ipar más szereplőitől. A modellek 63,1%-a számolt be a testképzavar tünetekről, míg 36,9%-uk evészavarokról. Azok a modellek, akik testükkel kapcsolatos kritikákat kaptak, szignifikánsan többet beszéltek testképzavarról.

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9. BIBLIOGRAPHY OF THE CANDIDATE'S PUBLICATIONS

Book in foreign language

1. Bogár, N., & Túry, F. (2019). *The fashion industry and eating disorders: The dangers of the catwalk*. Cambridge Scholars Publishing. (Also published in Hungarian: Bogár, N., & Túry, F. (2019). *A divatipar és az evészavarok: A kifutók veszélyei*. Semmelweis Kiadó)

Book chapter in foreign language

1. Bogár, N., & Túry, F. (2024). Eating disorders and the modelling industry. In P. Robinson et al. (Eds.), *Eating disorders: An international comprehensive view*. Springer. https://doi.org/10.1007/978-3-030-97416-9_95-1

Peer reviewed publication in foreign language

1. Bogár, N., Dukay-Szabó, Sz., Simon, D., Túry, F., & Pászthy, B. (2022). Frequency of disordered eating habits among fashion models. *European Eating Disorders Review, 30*(6), 823-829. https://doi.org/10.1002/erv.2912
2. Bogár, N., Dukay-Szabó, Sz., Simon, D., & Túry, F. (2024). Higher orthorexia tendency among female fashion models: An empirical international study. *Eating and Weight Disorders, 29*(44). https://doi.org/10.1007/s40519-024-01674-4
3. Bogár, N., Kővágó, P., & Túry, F. (2024). Increased eating disorder frequency and body image disturbance among fashion models due to intense environmental pressure: A content analysis. *Frontiers in Psychiatry, 15*, 1360962. https://doi.org/10.3389/fpsyt.2024.1360962
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5. Bogár, N., Pászthy, B., & Túry, F. (2024). The current sociocultural background of eating disorders. *Trends in Molecular Medicine, 20*(20), 1-3. https://doi.org/10.1016/j.molmed.2024.02.010

Peer reviewed publication in Hungarian language

1. Bogár, N., & Túry, F. (2017). Evészavarok kockázati tényezői a divatszakmában dolgozók narratívumaiban [Risk factors for eating disorders in the narratives of workers in the fashion industry – Hungarian]. *Psychiatria Hungarica, 32*(1), 41-53.
2. Bogár, N., Pászthy, B., & Túry, F. (2021). A divatipar egészségvédelmi szabályozása [Health protective regulation of the fashion industry – Hungarian]. *Orvosi Hetilap, 162*(23), 905–910. https://doi.org/10.1556/650.2021.32135
3. Bogár, N., Pászthy, B., & Túry, F. (2022). A divatipar egészségkárosító hatásai [Risks of health deterioration in the fashion industry – Hungarian]. *Orvosképzés, 2*, 337-408.

Awards

1. Bogár, N. (2016, October 21). Eating disorders and the fashion industry – an exploratory investigation. *24th Internationale Wissenschaftliche Tagung, Kongress Essstörungen*, Alpbach, Austria. Best oral presentation, 2nd place.

10. ACKNOWLEDGEMENTS

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APPENDIX

Non-significant results of the linear regression of the effect of models' age and the years spent with modeling on the subscales of the EHQ, EDI, BAT and SATAQ-3

Below is presented the non-significant effects of the years spent with modeling and models' age on dimensions of the Eating Habits Questionnaire.

Table 19. Results of the linear regression of the effect of models' age and the years spent with modeling on the Eating Habits Questionnaire Feelings subscale

Effect	Estimate	SE	95% CI		*p*
			LL	UL	
Intercept	3.285	0.422	2.450	4.120	< .010
Age	-0.01	0.020	-0.040	0.038	.961
Modeling years	-0.03	0.018	-0.038	-0.032	.868

Note. *n* = 119

Table 20. Results of the linear regression of the effect of models' age and the years spent with modeling on the Eating Habits Questionnaire Problems subscale

Effect	Estimate	SE	95% CI		*p*
			LL	UL	
Intercept	2.771	0.463	1.853	3.689	< .010
Age	-0.030	0.022	-0.073	0.013	.169
Modeling years	-0.09	0.020	-0.048	-0.030	.636

Note. *n* = 118

Table 21. Results of the linear regression of the effect of models' age and the years spent with modeling on the Eating Habits Questionnaire Knowledge subscale

Effect	Estimate	SE	95% CI		*p*
			LL	UL	
Intercept	2.732	0.462	1.816	3.648	< .010
Age	-0.011	0.022	-0.054	0.032	.614
Modeling years	-0.01	0.020	-0.039	-0.038	.968

Note. *n* = 120

The non-significant impacts of years spent with modeling and the age of the models on the dimensions of the Eating Disorder Inventory diagnostic subscales are presented below.

Table 22. Results of the linear regression of the effect of models' age and the years spent with modeling on the Eating Disorder Inventory Drive for thinness subscale

Effect	Estimate	SE	95% CI		*p*
			LL	UL	
Intercept	14.676	4.348	6.067	23.285	< .010
Age	-0.312	0.205	-0.718	0.095	.131
Modeling years	-0.011	0.185	-0.378	0.356	.953

Note. $n = 124$

Table 23. Results of the linear regression of the effect of models' age and the years spent with modeling on the Eating Disorder Inventory Body dissatisfaction subscale

Effect	Estimate	SE	95% CI		*p*
			LL	UL	
Intercept	19.580	5.087	9.507	29.653	< .010
Age	-0.446	0.242	-0.925	0.032	.067
Modeling years	-0.10	0.218	-0.331	0.531	.647

Note. $n = 122$

Presented below are the non-significant effects of the years spent with modeling and models' age on dimensions of the Body Attitude Test subscales.

Table 24. Results of the linear regression of the effect of models' age and the years spent with modeling on the Body Attitude Test Negative appreciation of body size subscale

Effect	Estimate	SE	95% CI		*p*
			LL	UL	
Intercept	15.092	4.631	5.921	24.262	< .010
Age	-0.191	0.218	-0.623	0.240	.382
Modeling years	-0.040	0.197	-0.430	0.350	.841

Note. $n = 121$

Table 25. Results of the linear regression of the effect of models' age and the years spent with modeling on the Body Attitude Test Lack of familiarity with one's own body subscale

Effect	Estimate	SE	95% CI		*p*
			LL	UL	
Intercept	19.295	4.883	9.624	28.965	< .010
Age	-0.232	0.230	-0.688	0.224	.316
Modeling years	-0.098	0.209	-0.511	0.316	.641

Note. *n* = 120

The effects of the years spent with modeling and models' age on dimensions of the SA-TAQ-3 subscales, which were found to be non-significant, are detailed below.

Table 26. Results of the linear regression of the effect of models' age and the years spent with modeling on the Sociocultural Attitudes Towards Appearance Questionnaire-3 Internalization-general subscale

Effect	Estimate	SE	95% CI		*p*
			LL	UL	
Intercept	31.363	5.881	19.714	43.012	< .010
Age	-0.077	0.276	-0.625	0.470	.781
Modeling years	-0.103	0.249	-0.596	0.390	.679

Note. *n* = 118

Table 27. Results of the linear regression of the effect of models' age and the years spent with modeling on the Sociocultural Attitudes Towards Appearance Questionnaire-3 Internalization-athletic subscale

Effect	Estimate	SE	95% CI		*p*
			LL	UL	
Intercept	14.365	3.203	8.021	20.709	< .010
Age	0.080	0.151	-0.291	0.308	.958
Modeling years	-0.013	0.137	-0.285	0.259	.927

Note. *n* = 118

Table 28. Results of the linear regression of the effect of models' age and the years spent with modeling on the Sociocultural Attitudes Towards Appearance Questionnaire-3 Pressure subscale

Effect	Estimate	SE	95% CI		*p*
			LL	UL	
Intercept	26.094	5.289	15.618	36.569	< .010
Age	-0.073	0.249	-0.566	0.420	.770
Modeling years	-0.114	0.225	-0.560	0.331	.612

Note. *n* = 120

Table 29. Results of the linear regression of the effect of models' age and the years spent with modeling on the Sociocultural Attitudes Towards Appearance Questionnaire-3 Information subscale

Effect	Estimate	SE	95% CI		*p*
			LL	UL	
Intercept	30.515	5.387	19.844	41.185	< .010
Age	-0.109	0.253	-0.610	0.392	.667
Modeling years	0.058	0.229	-0.396	0.511	.801

Note. *n* = 118

Direct, mediated and total effects of being a model through sociocultural expectations regarding appearance on body image

Table 30. Direct effect of being a model through sociocultural expectations regarding appearance on body image

Dependent	***Independent***	***Coef.***	***Std. Coef.***	***z***	***p>|z|***
EDI-BD	Model	-1.06	-.07	-1.10	.273
	SATAQ-GenInt	**0.31**	**.39**	**4.61**	**.000**
	SATAQ-SportInt	0.05	.03	0.52	.601
	SATAQ-Press	0.00	.00	0.00	1.000

	SATAQ-Info	**-0.11**	**-.13**	**-2.21**	**.027**
	Height	0.07	.07	1.13	.257
	Age	**-0.19**	**-.12**	**-2.59**	**.010**
BAT-NABS	Model	1.92	.12	1.95	.051
	SATAQ-GenInt	**0.22**	**.27**	**3.20**	**.001**
	SATAQ-SportInt	0.17	.10	1.89	.059
	SATAQ-Press	0.04	.04	0.52	.606
	SATAQ-Info	-0.06	-.07	-1.28	.200
	Height	-0.06	-.07	-1.28	.200
	Age	**-0.26**	**-.17**	**-3.60**	**.000**
BAT-GBD	Model	-0.83	-.09	-1.42	.155
	SATAQ-GenInt	**0.21**	**.41**	**5.14**	**.000**
	SATAQ-SportInt	0.06	.06	1.21	.228
	SATAQ-Press	0.03	.04	0.58	.559
	SATAQ-Info	**-0.06**	**-.12**	**-2.09**	**.037**
	Height	0.02	.03	0.46	.649
	Age	**-0.16**	**-.16**	**-3.59**	**.000**
SATAQ-GenInt	**Model**	**3.41**	**.18**	**2.74**	**.006**
	Height	-0.11	-.09	-1.31	.190
	Age	**-0.19**	**-.10**	**-2.00**	**.046**
SATAQ-SportInt	**Model**	**-1.23**	**-.13**	**-1.99**	**.046**
	Height	0.00	.00	0.06	.956
	Age	-0.04	-.04	-0.90	.370

SATAQ-Press	**Model**	**2.25**	**.14**	**2.10**	**.036**
	Height	-0.08	-.07	-1.04	.298
	Age	-0.12	-.07	-1.39	.163
SATAQ-Info	**Model**	**4.30**	**.24**	**3.70**	**.000**
	Height	-0.15	-.12	-1.93	.054
	Age	-0.10	-.05	-1.08	.279

Table 31. Indirect (mediated) effect of being a model through sociocultural expectations regarding appearance on body image

Dependent	***Independent***	***Coef.***	***Std. Coef.***	***z***	***p>|z|***
EDI-BD	Model	0.53	.03	1.24	.216
	Height	-0.02	-.02	-0.72	.470
	Age	-0.05	-.03	-1.85	.065
BAT-NABS	Model	0.35	.02	0.83	.407
	Height	-0.02	-.02	-0.72	.472
	Age	-0.05	-.03	-1.78	.076
BAT-GBD	Model	0.42	.04	1.37	.172
	Height	-0.02	-.02	-0.83	.409
	Age	-0.04	-.04	-1.87	.061

Table 32. Total effects of being a model through sociocultural expectations regarding appearance on body image (without redundant effects)

Dependent	***Independent***	***Coef.***	***Std. Coef.***	***z***	***p>|z|***
EDI-BD	Model	-0.53	-.03	-0.54	.592
BAT-NABS	**Model**	**2.26**	**.14**	**2.25**	**.024**
BAT-GBD	Model	-0.41	-.04	-0.65	.513

Online survey questions

Introduction to models

Dear Participant,

We would like to invite you to participate in our research. This research aims to study the risk factors associated with the development of eating disorders among fashion models. There are no right or wrong answers. Everyone's personal experience is important. This research is part of a collective initiative to improve the fashion industry. A collaborative effort will help us to collect comprehensive data and provide scientific insight to be able to raise awareness around important issues that are pervasive in the modeling community. Please answer each question honestly to the best of your ability. Your answers will remain anonymous and confidential. Our goal is to publish the results of the survey in an international scientific journal and to take further steps as a community to ensure a safer workplace. Thank you for taking the time to participate in this survey.

Kind regards,

dr. Nikolett Bogár

Institute of Behavioral Sciences, Semmelweis University

Introduction to non-models

Dear Participant,

We would like to invite you to participate in our research. This research aims to study the risk factors associated with the development of eating disorders among fashion models. Non-models are asked to participate in our research as a control group. Your answers as a non-model will help us decipher trends between fashion models and people who pursue different careers. There are no right or wrong answers. Everyone's personal experience is important. This research is part of a collective initiative to improve the fashion industry. A collaborative effort will help us to collect comprehensive data and provide scientific insight to be able to raise awareness around important issues that are pervasive in the modeling community. Please answer each question honestly to the best of your ability. Your answers will remain anonymous and confidential. Our goal is to publish the results of the survey in an international scientific journal and to take further steps as a

community to ensure a safer workplace. Thank you for taking the time to participate in this survey.

Kind regards,
Dr. Nikolett Bogár
Institute of Behavioral Sciences, Semmelweis University

Participant information sheet
Assessing the Risk Factors of Eating Disorders Among Fashion Models
Research

Dear Participant,
We would like to invite you to participate in our research. Before deciding whether or not to participate in the study, it is important to gain knowledge of this research. Please read the following information carefully and discuss it with others if you wish. Thank you for taking the time to read this information sheet and decide whether or not you wish to participate in this research. Should you have further questions after reading this information sheet, please ask the researcher whose name appears at the bottom of this page.

What is the purpose and expected duration of the planned investigation/research/intervention?
The purpose of this study is to assess the risk factors of eating disorders among fashion models, which takes approximately 20 minutes.
The research was approved by the Research Ethics Committee of Semmelweis University (Budapest, Hungary), and the research permit number is: SE RKB 3/2020

Why did I get selected? Do I need to take part?
The participation in this research is completely voluntary. If you do not want to participate, you do not need to provide justification. If you choose not to participate in the investigation or you change your mind later, your consent may be revoked without justification or adverse consequences.

For controls only: You have been selected as a non-model of the similar age-group to our main experimental group (aka models) to help us to compare the results of those engaging in the modeling profession to those who don't pursue this career.

What will happen to me if I participate in the investigation?

By participating in the research, you will be asked to fill in a questionnaire, which takes approximately 20 minutes. We ask you to complete questionnaires on eating and body image attitudes. You do not need to undergo any special medical examinations in connection with the research, and no health interventions are performed in connection with the research.

What are the possible disadvantages or risks of participating in this research?

You do not expose yourself to any risk or danger by participating in the research.

What are the potential benefits of participating in the research?

The information collected about you and the participants in the research will help to increase our knowledge and understanding of the health risks of the modeling profession.

Will my participation in the investigation be treated confidentially?

Information that would allow you to be identified will not be collected. All information collected will remain anonymous and confidential and will be treated in accordance with applicable Hungarian laws. The research materials will be stored at the Institute of Behavioral Sciences at Semmelweis University.

What will happen to the results of the research?

At the end of the study, the results are evaluated and published as scientific articles in scientific journals to reach health professionals in the field.

If you have any questions or require more information about this study, please contact the research leader. If you would like to review our results, you may request a copy of the publications from the research professionals.

Name of the contact person: Dr. Nikolett Bogár

e-mail: nikolett.bogar@gmail.com
Tel.: +36 30/2023008
Thank you for taking the time to read the information sheet and for considering taking part in our research.

Statement of Consent

Title of the research:
Risk factors for the development of eating disorders among fashion models

Thank you for choosing to participate in this study. The purpose of this declaration is to make sure you are pleased to participate in the research, and you are aware of its content.

1. I declare that I have read and understood the information in this sheet and have the right to ask questions. YES
NO

2. I understand that my participation is voluntary, and I have the right to withdraw at any time, without giving any explanation. YES
NO

3. I understand that anonymous research data is stored electronically, and that the data is only used for research purposes. YES
NO

4. I understand that I may revoke my consent to the storage of my anonymous electronic data and request the withdrawal of my answers submitted up until date of survey results publication. YES
NO

Anthropometric data

Your measurement unit: Metric (cm, kg) Imperial (in, lbs)

What is your gender?

☐ Female
☐ Male
☐ Non-binary/ third gender
☐ Prefer not to say
☐ Prefer to self-describe _____

Age: …. years old scroll down menu: 13-99 years

Marital status: scroll down menu: divorced
engaged
married/ spouse
separated
single
widowed

Current body weight: ..... (kg/lbs)

Height: ..... (cm/in)

My highest weight, excluding during pregnancy: ..... (kg/lbs)

Lowest weight as an adult (18 years or older)? ..... (kg/lbs)

At what adult age (18 years or older) were you the lowest weight? ..... years of age

What is your ideal personal weight in kilograms or in pounds? ..... (kg/lbs)

*What is your weight when you secure the most work as a model in the fashion industry? ..... (kg/lbs)

*What are your measurements when you secure the most work as a model in the fashion industry? (bust/waist/hips) …… (cm/in)

Please select all the cities in which you have modeling representation:

Amsterdam, Athens, Barcelona, Beijing, Belgrade, Berlin, Bratislava, Budapest, Copenhagen, Frankfurt, Hamburg, Hong-Kong, London, Los Angeles, Madrid, Miami, Milan, Moscow, Munich, New York City, Oslo, Paris, Sao-Paulo, Seoul, Shanghai, Stockholm, Sydney, Tokyo, Warsaw,

For how many years have you been modeling? …… years

In what country were you born? ……

What is your race? scroll down menu: American Indian or Alaska Native
Asian
Black or African American
Hispanic or Latino
Native Hawaiian or Other Pacific Islander
White

Please select the types of modeling that you have engaged in (you can select more than one) Runway/Editorial/Beauty/Catalogue/Fit/Showroom

How would you describe your **current** menstrual cycle:

scroll down menu: monthly, regular
slightly irregular
missed my period for more than 3 months
missed my period for more than 6 months

Do you currently use any contraceptive pills? yes/no

How would you describe your period before taking contraceptive pills?

scroll down menu: monthly, regular
slightly irregular
missed my period for more than 3 months
missed my period for more than 6 months

If you answered no for question 18, have you ever taken birth controls before? yes/no

Do you smoke (currently)? yes/no

Which of the following do you use? cigar
cigarette
pipe
vaping

Approximately how many cigarettes do you smoke a day? ..... cigarette(s)

Have you ever quit smoking (or vaping) before? yes/no
If yes, how old were you when you quit smoking? ..... years of age

Have you ever attempted suicide? yes/no

If yes, how many times? ..... number of attempts

Do you have a history of suicide among family members? yes/no
If yes, how many family members? .....number of family members

*Before you began working as a model, had you ever experienced any instances of sexual abuse or mistreatment? (i.e., sexually suggestive comments, language or behaviour that made you feel uncomfortable) yes/no

If yes, how old were you when you experienced such abuse? …..years old
(if more than once, please list all ages when you experienced this type of abuse)

*Have you ever experienced any instances of sexual abuse or mistreatment since you started working as a model in the fashion industry? (i.e., sexually suggestive comments, language or behaviour that made you feel uncomfortable) yes/ no
If yes, how old were you when you experienced this abuse? …..years old

(if more than once, please list all ages when you experienced this type of abuse)

If yes, please select in what setting you experienced this abuse?

Multiple choice:
- Backstage at a fashion show
- Casting
- Editorial shoots
- Events/social work gatherings
- On set/while shooting
- Other Workplace environment
- Private meetings

If you experienced sexual abuse or mistreatment, how would you classify the abuse (please select one of the following):

Multiple choice:
- Sexual harassment*
- Sexual assault*
- Rape
- Unwanted or uncomfortable touching
- Sexually suggestive comments
- Unwanted invitations to go out on dates
- Other

* Sexual harassment is an unwelcome sexual advance, unwelcome request for sexual favors or other unwelcome conduct of a sexual nature that makes a person feel offended, humiliated and/or intimidated, where a reasonable person would anticipate that reaction in the circumstances (e.g., unwelcoming touching, staring, or leering, suggestive comments or jokes, sexually explicit pictures, unwanted invitations to go out on dates, requests for sex, intrusive questions about a person's private life or body, unnecessary familiarity, such as deliberately brushing up against a person, insults or taunts based on sex, sexually explicit physical contact, sexually explicit emails or SMS text messages).

*The term sexual assault refers to sexual contact or behaviour that occurs without explicit consent of the victim. Some forms of sexual assault include attempted rape, fondling or unwanted sexual touching, forcing a victim to perform sexual acts, such as oral sex or penetrating the perpetrator's body, penetration of the victim's body, also known as rape.

Eating Behavior Severity Scale

How often have you experienced any of the following behaviours in the last 3 months?
(Write a X in the appropriate box)

	Never	Once a month	Several times a month	Once a week	Several times a week	Daily	Several times daily
Dieting							
Exercising for weight control							
Using appetite suppressants							
Binge eating*							
Vomiting							
Using laxatives							
Using diuretics							

* Binge eating is characterized by recurrent episodes of eating large quantities of food (often very quickly and to the point of discomfort) that usually feels out of control.

Eating Disorders Inventory

This questionnaire measures different opinions, feelings and behaviours. Some of the questions are related to food and eating. Others refer to feelings about yourself. There is no right or wrong answer, so please try to be completely honest with your answers. The results will be kept strictly confidential. Read each item and tick the box in the column that applies the most to you. Please answer all questions very carefully. Thank you!

always = 5, usually = 4, often = 3, sometimes = 2, rarely = 1, never = 0

1. I eat sweets and carbohydrates without feeling nervous.

2. I think that my stomach is too big.

3. I wish that I could return to the security of childhood.

4. I eat when I am upset.

5. I stuff myself with food.

6. I wish that I could be younger.

7. I think about dieting.

8. I get frightened when my feelings are too strong.

9. I think that my thighs are too large.

10. I feel ineffective as a person.

11. I feel extremely guilty after overeating.

12. I think that my stomach is just the right size.

13. Only outstanding performance is good enough in my family.

14. The happiest time in life is when you are a child.

15. I am open about my feelings.

16. I am terrified of gaining weight.

17. I trust others.

18. I feel alone in the world.

19. I feel satisfied with the shape of my body.

20. I feel generally in control of things in my life.

21. I get confused about what emotion I am feeling.

22. I would rather be an adult than a child.

23. I can communicate with others easily.

24. I wish I were someone else.

25. I exaggerate or magnify the importance of weight.

26. I can clearly identify what emotion I am feeling.

27. I feel inadequate.

28. I have gone on eating binges where I have felt that I could not stop.

29. As a child, I tried very hard to avoid disappointing my parents and teachers.

30. I have close relationships.

31. I like the shape of my buttocks.

32. I am preoccupied with the desire to be thinner.

33. I don’t know what’s going on inside me.

34. I have trouble expressing my emotions to others.

35. The demands of adulthood are too great.

36. I hate being less than best at things.

37. I feel secure about myself.

38. I think about bingeing (overeating).

39. I feel happy that I am not a child anymore.

40. I get confused as to whether or not I am hungry.

41. I have a low opinion of myself.

42. I feel that I can achieve my standards.

43. My parents have expected excellence of me.

44. I worry that my feelings will get out of control.

45. I think my hips are too big.

46. I eat moderately in front of others and stuff myself when they're gone.

47. I feel bloated after eating a small meal.

48. I feel that people are happiest when they are children.

49. If I gain a pound, I worry that I will keep gaining.

50. I feel that I am a worthwhile person.

51. When I am upset, I don't know if I am sad, frightened or angry.

52. I feel that I must do things perfectly or not do them at all.

53. I have the thought of trying to vomit in order to lose weight.

54. I need to keep people at a certain distance (feel uncomfortable if someone tries to get too close).

55. I think that my thighs are just the right size.

56. I feel empty inside (emotionally).

57. I can talk about personal thoughts or feelings.

58. The best years of your life are when you become an adult.

59. I think my buttocks are too large.

60. I have feelings I can’t quite identify.

61. I eat or drink in secrecy.

62. I think that my hips are just the right size.

63. I have extremely high goals.

64. When I am upset, I worry that I will start eating.

Body Attitude Test

Please read each of the following items carefully and indicate the number that best reflects your agreement with the statement.

always = 5, usually = 4, often = 3, sometimes = 2, rarely = 1, never = 0

1. When I compare myself with my peers' bodies, I'm dissatisfied with my own.
2. My body appears to be a numb thing.
3. My hips seem too broad to me.
4. I feel comfortable within my own body.
5. I have a strong desire to be thinner.
6. I think my breasts are too large.
7. I'm inclined to hide my body (for example by loose clothing).
8. When I look at myself in the mirror, I'm dissatisfied with my own body.
9. It's easy for me to relax physically.
10. I think I'm too thick.
11. I feel my body as a burden.
12. My body appears as if it's not mine.
13. Some parts of my body look swollen.
14. My body is a threat for me.
15. My bodily appearance is very important to me.
16. My belly looks as if I'm pregnant.
17. I feel tense in my body.

18. I envy others for their physical appearance.

19. There are things going on in my body that frighten me.

20. I observe my appearance in the mirror.

Sociocultural Attitudes Towards Appearance Questionnaire – 3

Please read each of the following items carefully and indicate the number that best reflects your agreement with the statement. When answering the survey questions, please consider all media usage (entertainment and news related media included but not limited to TV, film, radio, social media platforms, news outlets, websites...).

definitely disagree = 1, mostly disagree = 2; neither agree nor disagree = 3, mostly agree = 4, definitely agree = 5

1. TV programs are an important source of information about fashion and "being attractive".
2. I've felt pressure from TV or magazines to lose weight.
3. I do not care if my body looks like the body of people who are on TV.
4. I compare my body to the bodies of people who are on TV.
5. TV commercials are an important source of information about fashion and "being attractive".
6. I do not feel pressure from TV or magazines to look pretty.
7. I would like my body to look like the models who appear in magazines.
8. I compare my appearance to the appearance of TV and movie stars.
9. Music videos on TV are not an important source of information about fashion and "being attractive".
10. I've felt pressure from TV and magazines to be thin.
11. I would like my body to look like the people who are in movies.
12. I do not compare my body to the bodies of people who appear in magazines.
13. Magazine articles are not an important source of information about fashion and "being attractive".
14. I've felt pressure from TV or magazines to have a perfect body.
15. I wish I looked like the models in music videos.
16. I compare my appearance to the appearance of people in magazines.
17. Magazine advertisements are an important source of information about fashion and "being attractive".
18. I've felt pressure from TV or magazines to diet.
19. I do not wish to look as athletic as the people in magazines.

20. I compare my body to that of people in “good shape”.
21. Pictures in magazines are an important source of information about fashion and “being attractive”.
22. I’ve felt pressure from TV or magazines to exercise.
23. I wish I looked as athletic as sports stars.
24. I compare my body to that of people who are athletic.
25. Movies are an important source of information about fashion and “being attractive”.
26. I’ve felt pressure from TV or magazines to change my appearance.
27. I do not try to look like the people on TV.
28. Movie starts are not an important source of information about fashion and “being attractive”.
29. Famous people are an important source of information about fashion and “being attractive”.
30. I try to look like sports athletes.

SCOFF

1. Do you make yourself sick because you feel uncomfortably full? yes – no

2. Do you worry you have lost control over how much you eat? yes – no

3. Have you recently lost more than one stone in a 3 month period? yes – no

4. Do you believe yourself to be fat when others say you are too thin? yes – no

5. Would you say that food dominates your life? yes – no

Eating Habits Questionnaire

Please read each of the following items carefully and indicate the number that best reflects your agreement with the statement.

false = 1, not at all true = 2, true = 3, very true = 4

1. My diet is more healthy than most diets.

2. I place more and more restrictions on the of foods I can eat.

3. I turn down social offers that involve eating unhealthy food.

4. I feel peaceful when I eat healthily.

5. My healthy eating is a significant source of stress in my relationships.

6. Eating healthily brings me fulfilment.

7. I have made efforts to eat more healthily over time.

8. My diet affects the type of employment I would take.

9. I have difficulty finding restaurants that serve the foods I eat.

10. I follow a health-food diet rigidly.

11. My diet is better than other people’s diets.

12. I feel in control when I eat healthily.

13. I am more informed than others about healthy eating.

14. I spend more than three hours a day thinking about healthy food.

15. Few foods are healthy for me to eat.

16. I follow a diet with many rules.

17. I think about healthy food when engaged in other activities.

18. My eating habits are superior to others.

19. Eating the way I do gives me a sense of satisfaction.

20. I only eat what my diet allows.

21. I daydream about healthy eating.

22. I feel great when I eat healthily.

23. I take my own food with me wherever I go.

24. I avoid going out to eat with others because of my diet.

25. The rules of my diet have increased in number.

26. I love eating healthily.

27. I eat only healthy foods.

28. Most of my free time revolves around eating healthily.

29. In the past year, friends or family members have told me that I'm overly concerned with eating healthily.

30. I know more about healthy eating than other people.

31. I am distracted by thoughts of eating healthily.

32. I prepare food in the most healthful way.

33. It's important to me to eat healthily.

34. I go out less since I began eating healthily.

35. I follow the perfect diet.

Qualitative research: list of open-ended questions and the coding booklet

Dear Participant,

Thank you for your help, it is greatly appreciated. Please input your responses into the provided Word document. If you have any questions regarding this research, please do not hesitate to contact me. Take your time to answer the questions thoroughly. Your detailed insight is highly valued, but only disclose what you feel comfortable with. Your experiences are crucial to our investigation, so please provide all relevant information that comes to mind. All responses will remain strictly confidential and anonymous.

Age:

Experience in the fashion industry (years of work and list of clients):

Height and weight:

Nationality:

1. **What did you think about modeling as a child? How did you get started?**
2. **Did you feel that you had to meet certain measurement requirements? If so, did you have to follow a diet or an exercise routine to meet those requirements?**
3. **Can you briefly sketch your modeling history?**
4. **Did you feel more pressure about your weight after you signed with an agency?**
5. **What kind of relationship did you have with your agents? How did you feel about them?**
6. **Did they encourage you to lose weight/get in shape?**
7. **What do you think about the size requirements of the fashion industry, in general? Did you find difficult to reach and maintain these requirements?**
8. **Would you like to see changes in the image represented by the industry?**

9. **How do you maintain your physique? What are your eating habits and how much exercise do you do? How have these habits changed over the years? (please think about the diet changes prior to Fashion Week or an important shooting as well)**
10. **How did Fashion Week affect you both mentally and physically?**
11. **Have you experienced any fluctuations in your weight over the years?**
12. **Have you ever felt that the requirements of the fashion industry have a positive or negative impact on your mental or physical health?**
13. **How have you felt about yourself and your body, both your physical appearance and inner values in general, have you experienced insecurities or judgement?**
14. **Have you ever worried about your physical appearance?**
15. **How did your agents or other industry members make you feel about yourself?**
16. **Why do you think designers represent their collection with size 0 models?**
17. **Have you found any difference in the size requirements of different countries?**
18. **Do you consider other girls your competition?**
19. **Who is your beauty ideal?**
20. **What changes would you like to see in the fashion industry?**
21. **What do you think about curve size and plus size modeling?**
22. **How do you feel about the industry recently? Do you see any changes?**
23. **What are the positive aspects of modeling? Can you share some experience that brought you joy during your career?**

I would truly appreciate it if you could provide some examples in your answers. Additionally, if anything else comes to mind that might be helpful for this research, please feel free to share it below. Your time and help are greatly valued. As soon as the study is published, I will get in touch with you.

Best regards,
Nikolett

Model interviews – coding instructions

v0.5.2021.05.05.

General guidelines for coding:

During text reading, strive to mark only and exclusively the content found in the text. In many cases, there may be an impression that there is latent (unspoken) content in the text, but in the present study, we confine ourselves to the truly spoken content. Generalized parts of the text (e.g., people in general, the profession...) can only be marked as content if the person feels it applies to themselves with high probability. In this case, it does not receive the SELF_REF code (see below), but it can receive any other content code if relevant. For example: 'In this profession, you either lose weight or end your career' – this section can receive the CON code.

You will receive the texts in an Excel spreadsheet. Each cell in the first column will be a part of a sentence (the texts are segmented at punctuation marks). Codes are starting from the second column (see below). A number must be written for each code. If the content is not in the given text part, 0 must be marked. If it is, mark 1. If a content appears multiple times in the given text part, write as many as it appears (for two occurrences, mark 2; for three occurrences, mark 3, etc.). If it is assumed that more than one can be given from a given code, but it is not clear how many, it should receive at least 1.

Content categories

Agency

The agency covers the interviewee's agency, will, active behavior. This category has four codes: activity, passivity, intention, and coercion.

Activity

All content indicating that the interviewee acted actively in a situation is included here. These may be concrete, realized physical actions (packing, going, etc.), but they can also be communicative acts. This also marks when resistance is exerted, for example, against

agents or the profession. Opinions (e.g., I think, I believe) and signs indicating cognition (e.g., I realized) are not marked as either activity or passivity.

Marking: AKT

Examples: helps, promises, intensifies, slows down, engages, stops

Sample sentences: I made the decision to quit modeling. I started eating healthy. I did not do what my agent asked of me.

Passivity

All content indicating the absence of agency, meaning that events outside of the interviewee's will or agency occurred, is included here. This may involve emotional or physical changes, existence, possession, or some kind of relational state.

Marking: PAS

Examples: arises, occurs, increases, takes place, exists, possesses

Sample sentences: They took me to Paris. I did what my agent told me to do.

Intention

All content related to the intention or will of the interviewee, i.e., what they would like to do or intend to do, is included here.

Marking: INT

Examples: wants, desires, longs for

Sample sentences: I wanted to live in Paris. I've always wanted to be a model.

Coercion

All content indicating that the interviewee was forced into an action, either by themselves or by others, is included here.

Marking: CON

Examples: had to, was forced to

Sample sentences: My agent ordered me to lose weight. They said I had to lose weight within a week.

Social reference

In the content category of social reference, we indicate which actors the interviewee refers to during the interview. They can talk about themselves, talk about someone, or talk about multiple people. They can also formulate in first-person plural.

Marking: self-reference = SZELF_REF, third-person reference = Ő_REF

Examples of self-reference: I, me, myself, us

Examples of third-person reference: him, she, with him/her, to them, with them

Content related to weight, exercise, body, eating and its emotional valence

Marking is applied to any content where the interviewee talks about their weight, exercise, satisfaction with their body, or eating habits.

Weight

Any reference pertaining to the participant's own weight. This can be specific data (e.g., how many kilograms/pounds someone weighs) or subjective evaluation (e.g., I have no problem with my weight). These contents are categorized into three categories: positive, negative, and neutral attitudes. A positive attitude is when someone expresses satisfaction with their weight, likes it, accepts it. Negative attitude is when someone expresses dissatisfaction, is bothered by their weight, talks about wanting to lose weight, etc. Neutral attitude is when someone factually states their weight but does not add content indicating either positive or negative attitude.

Marking: Positive attitude: SÚLY_POZ; negative attitude: SÚLY_NEG; neutral attitude: SÚLY_NEU

Examples of positive attitude towards weight: I am satisfied with my weight. My weight is appropriate.

Examples of negative attitude towards weight: I should lose weight; my weight is too high.

Examples of neutral attitude towards weight: I weighed 50 kilograms; I didn't care about my weight.

Exercise

Any mention related to exercise. Similar to weight, this can be specific data or subjective evaluation. In this category, we also distinguish between positive, negative, and neutral mentions.

Marking: Positive attitude: EDZ_POZ; negative attitude: EDZ_NEG; neutral attitude: EDZ_NEU

Examples of positive attitude towards exercise: I enjoy exercising, I consider regular exercise important.

Examples of negative attitude towards exercise: The workout was very exhausting, I hated running.

Examples of neutral attitude towards exercise: I used to run a lot. I often went to the gym.

Satisfaction with body

Any mention related to the evaluation or statement regarding body image, the body as a whole, or body parts. Similar to the previous categories, there are three subcategories here: positive attitude, negative attitude, and neutral statement.

Marking: Positive attitude: TEST_POZ; negative attitude: TEST_NEG; neutral attitude: TEST_NEU

Examples of positive attitude towards body satisfaction: When I looked in the mirror, I saw myself as beautiful. I think I'm cute, I'm attractive.

Examples of negative attitude towards body satisfaction: I consider myself fat. My body shape is disproportionate.

Examples of neutral statement regarding body: I am 175 centimeters tall, nothing bothers me about my body.

Eating habits

Any mention where the interviewee talks about their eating habits or food consumption. Similar to the previous categories, these mentions are encoded into three categories: positive attitude, negative attitude, and neutral statement.

> *Marking: Positive attitude: EVÉS_POZ; negative attitude: EVÉS_NEG; neutral attitude: EVÉS_NEU*
>
> *Examples of positive evaluation regarding eating habits*: I enjoy eating. It felt good when I ate healthily.
>
> *Examples of negative evaluation regarding eating habits*: Eating was torture for me. I felt guilty when I ate fast food.
>
> *Examples of neutral statement regarding eating habits*: I ate raw vegetables for dinner. I paid attention to my eating habits.

Negation

In this category, we mark all formulations of negation. This includes instances where the person uses the word "not" to deny something and employs negating suffixes such as "-less" or "-free".

> *Marking: TAGADÁS*
>
> *Examples*: I didn't know what to do. I felt hopeless about my situation. I was completely speechless.

External world, others' opinions, criticism

In this category, we mark all content where the interviewee reports that others (such as agents, environment) evaluate the interviewee's physique, weight, exercise, and/or dietary habits in some way (either with criticism or praise).

> *Marking: Positive evaluation: TEST_DICSÉRET; negative evaluation: TEST_KRITIKA*
>
> *Examples*: My agent was dissatisfied with my weight. In this industry, they comment on every inch.

Abuse

In this category, we mark all content where the interviewee expresses that they have experienced physical or emotional abuse.

Marking: ABÚZUS

Examples: I was always bullied at school because I was too thin. I was sexually exploited.

Signs of disordered eating

In this category, we mark content that raises suspicion of an eating disorder. It is important to note that our objective in this category is not to diagnose. If any indications of this are present in the text, they can be marked. The categories are based on the diagnostic criteria for eating disorders: Restrictive eating; extreme calorie restriction; eating control; loss of control over eating; fasting; binge eating episodes, binge eating; behavior suggestive of self-induced vomiting; extreme exercise habits; compulsive exercise habits; use of laxatives/diuretics; fear of weight gain; indication of menstrual absence; body image distortion.

Monotrophic eating

In this category, we mark all content where the interviewee reports monotrophic eating. For example, only eating protein rich food, or consuming only raw vegetables.

Marking: EGYS_ETK

Examples: For a month, I ate three apples a day. I ate lean meats and lots of vegetables, not much else.

Extreme calorie restriction

This encompasses any reference to the interviewee reporting significant calorie restriction. An example of this is when someone tries to consume fewer than 1000 calories in a day.

Marking: CAL

Examples: I ate 500 calories a day. I didn’t eat more than 800 calories.

Controlling food intake

In this category, we mark content that indicates the interviewee exercised increased control over their eating and made efforts to regulate it.

Marking: ÉTK_KONT

Examples: I eliminated all sugars from my diet. I didn't consume any carbohydrates.

Loss of control overeating

This category encompasses content where the interviewee indicates a loss of control over their eating habits.

Marking: KONT_VESZT

Examples: I couldn't stop myself from eating the entire cake. I felt like I couldn't control my cravings for unhealthy food.

Juice fasting

In this category, we mark all content where the respondent describes fasting, meaning they consume only liquids and no solid food.

Marking: LEBOJT

Examples: For days, I only drank water. After lunch, I only drank juices.

Binge eating episodes

In this category, we mark any indications suggesting that the subject had binge eating episodes, where they overate.

Marking: TULEVES

Examples: In the evening, I ate a whole pizza and then three cookies. I hid the many chocolate wrappers in my drawer.

Self-induced vomiting

In this category, we mark content from which we can infer that the individual engages in or has considered self-induced vomiting.

Marking: ONHANYTAT

Examples: I vomited daily. At such times, I would put my fingers down my throat. I made myself sick.

Extreme exercise habits

In this category, we encode any content that suggests the individual is prone to extreme exercise behavior.

Marking: EXTR_SPORT

Examples: I went to the gym in the morning and in the evening. I ran for hours every day.

Compulsive exercise habits

With this code, we mark instances where the person exercises compulsively. For example, when they don't rest until they've completed X exercises.

Marking: KÉNY_SPORT

Examples: If I ate, I had to cycle for fifteen minutes afterward. I went for a run every morning after waking up.

Consumption of laxatives, diuretics

In this category, we mark any indications suggesting that the subject consumes laxatives or diuretics.

Marking: HASHAJTO

Examples: I took laxatives. I used enemas.

Fear of weight gain

In this category, we mark any content indicating that the person specifically fears weight gain. *Marking: SÚLYGYARAP*

Examples: I preferred not to eat, fearing I might become fat the next day. Weightlifting would only make me bulk up.

Absence of menstruation

Here we mark if the person reports that their period is late or has stopped completely.

Marking: MENZES_HIANY

Examples: I did not have my period for six months.

Body image disturbance

In this category, we mark any content indicating that the subject does not objectively perceive their own body proportions. For example: everyone says I'm skinny, but I see myself fat. *Marking: TESTKEPZAVAR*

Examples: Even at 45 kg (I am 180 cm tall), I felt fat. I always hated my thighs because they were too thick.

Eating disorder

We mark any signs of eating disorders that explicitly indicate difficulties or disturbances related to eating.

Marking: EVESZAVAR

Examples: I know I have body image distortion. I had anorexia.

Mental health-related content

This category includes any content that indicates a deterioration in mental health or dealing with mental difficulties, possibly addressing their management or treatment.

Psychological disturbance

Here we mark any content indicating significant psychological difficulties, stress, anxiety, or poor well-being experienced by the interviewee. It's important to note that this is a subjective evaluation, so there is no need for specific signs indicating a diagnosis.

Marking: PSZICH_ZAV

Examples: During that time, I was experiencing a lot of anxiety. I even felt depressed.

Therapy

In this category, we mark any content where the interviewee expresses participation in therapy, counseling, or any other professional assistance received to cope with their psychological difficulties.

Marking: TERAPIA

Examples: I still go to therapy to this day. I've talked a lot about this with my psychologist.