

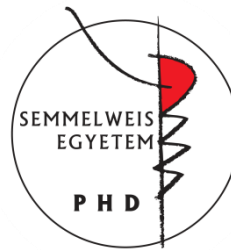
Sociocultural aspects of eating disorders

The potential interaction between media exposure and eating disorders
related symptomatology

Ph.D. thesis

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1. LIST OF ABBREVIATIONS

AN	anorexia nervosa
BAA-R	beliefs about attractiveness scale-revised
BED	binge eating disorder
BMI	body mass index
BN	bulimia nervosa
CFA	confirmative factor analysis
CFI	comparative fit index
ED	eating disorder
EDI	eating disorder inventory
EDNOS	eating disorder not otherwise specified
EFA	explorative factor analysis
MIMIC	multiple indicators and multiple causes analysis
OSFED	other specified feeding or eating disorder
PACS	physical appearance comparison scale
ProED	eating disorder supporting (websites)
RMSEA	root mean square error of approximation
RSE	Rosenberg self-esteem scale
SATAQ-3	sociocultural attitudes towards appearance questionnaire
SCS	social comparison scale
SEED	short evaluation of eating disorders
SEM	structural equation modelling
SRMR	standardized root mean square residual
UFED	unspecified feeding and eating disorder

DECLARATION

This work has not been submitted previously for a degree, diploma, or Ph.D. thesis in any university. To best of my knowledge and belief, this thesis contains no material previously published or written by another person except where due reference is made in the thesis itself. The data for this research were collected and analysed by the principal researcher.



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2. INTRODUCTION

“It’s difficult to be healthy in what I call a ‘toxic cultural environment’ – an environment that surrounds us with unhealthy images and constantly sacrifices our health and our sense of wellbeing for the sake of profit.”

/Jean Kilbourne, 2012

2.1 Preamble

In recent years, more and more studies have emerged to investigate the contributing background factors to the development and maintenance of eating disorders (EDs). Not just thousands of journal articles but also many books and chapters tried to specify the possible causes of EDs. The “biopsychosocial” model is a consensual approach, which integrates various contributing factors. There is no single cause of EDs. The biopsychosocial model suggests that there are complex interactions between social, environmental, psychological, and biological factors (Polivy & Herman, 2002; Sigman & Flanery, 1992). Among background factors, sociocultural factors play a considerable role in the development of body-image dissatisfaction, which is one of the most important risk factors that might lead to EDs. In Western societies, a great emphasis is placed on shape, weight and more generally on physical appearance. The sociocultural factors manifest on different levels and influence body weight regulation indirectly.

The occurrence of EDs is not uniform across cultures and times. It is concentrated in cultures where an abundance of food is available and an obsession with slimness – core characteristic of EDs – can be observed. However, this cause is not specific, because most people in even the wealthiest cultures do not develop EDs (Polivy & Herman, 2002). Despite the fact that EDs have previously been described as culture-bound illnesses, and are most common among white Western women, (Keel & Klump, 2003), previous studies show that disordered eating and EDs do occur in both non-Western countries and also among ethnic minorities in Western countries. (Eddy, Hennessey, & Thompson-Brenner, 2007; Marques et al., 2011). Although cultures may value slimness, there are individual differences as to what extent people internalize the importance and value of slimness. The extent of internalization can predict body dissatisfaction, drive for thinness, and some bulimic characteristics (Stice 2001). We can see that as our

culture becomes more and more homogenized, with widespread media images of an idealized thin body, EDs have become accordingly more common as well (Striegel-Moore, 1997).

It is known that mass media have utmost importance in shaping values and norms (e.g. Becker & Hamburg, 1996; Harrison & Cantor, 1997; Levine & Murnen, 2015; Slater & Tiggemann, 2014; Túry & Pászthy, 2008). Media as a concept is used in this study in the meaning of mass media which refers collectively to all media technologies that are used for most mass information distribution, including magazines, television, and the Internet. The contemporary ‘slim body ideal’, popular diets, and other appearance-related contents and expectations often reach people through the media. It is often said that mass media are one of the many reasons for the increasing incidence of EDs, mainly based on the grounds that media images of slender bodies motivate or even force people to try to achieve this slimness (Polivy & Herman, 2002).

The lack of studies aiming to investigate the effects of mass media on body image disordered eating and EDs related symptomatology in Hungary has influenced this study to explore this specific field. Although there are numerous important Hungarian studies depicting the growing tendency of the slimness culture and the popularization of such unrealistic ideals (Forgács, 2008; Forgács, 2010; Forgács & Németh, 2008), only a few studies investigated the effects of media on EDs in the Hungarian population (Papp, Czeglédi, Túry, 2011; Szabó, Túry, & Czeglédi, 2011; Török & Pászthy, 2008). Although approximately 90% of ED sufferers are women (Kashubeck-West & Mintz, 2001), men are also affected by EDs (van Hoeken, Seidell, & Hoek, 2003). Sociocultural influences affect men to a similar extent as they affect women, although the underlying variables might differ (e.g. Daniel & Bridges, 2010; Duggan & McCreary, 2004). Among men, EDs are different in nature, with men seeking help less often than women do (Braun, Sunday, Huang, & Halmi, 1999).

2.2 Epidemiology of eating disorders

Although EDs are considered relatively rare among the general population, the occurrence of these disorders has been continuously increasing in recent years (Smink, van Hoeken, & Hoek, 2012). These elevated rates could be due to improvements in case detection, a general increase in public awareness, which in turn can result in earlier

detection, and finally the wider availability of treatment services could influence these numbers (Hoek & Van Hoeken, 2003; van Son, van Hoeken, Bartelds, van Furth, & Hoek, 2006). The most often discussed EDs are anorexia nervosa (AN), bulimia nervosa (BN), binge eating disorder (BED) and unspecified feeding and eating disorders (UFED). According to Hoek and Van Hoeken's report (2003), they found an average prevalence rate for anorexia nervosa of 0.3% among young females. Regarding bulimia nervosa, the prevalence rates were 1% and 0.1% among young women and young men, respectively. In the case of binge eating disorder, the estimated prevalence was at least 1%. Furthermore, the incidence of anorexia nervosa was found to be eight cases per 100,000 population per year and the incidence of bulimia nervosa was found to be 12 cases per 100,000 population per year.

Most of the time EDs are described as the disorders of the “3W” (white Western women) and characterized as culture-bound syndromes (Prince, 1985). The first epidemiology studies in the field of EDs were also carried out in Western countries (e.g. Russell, 1979). However, as other studies have shown, the prevalence rates of EDs are similar in other, non-Western countries as well (e.g. Makino, Tsuboi, & Dennerstein, 2004; Preti et al., 2009). In a representative Hungarian study, the following point prevalence rates were found: 0.03% for AN, 0.41% for BN, 1.09% for subclinical AN, 1.48% for subclinical BN (Szumska, Túry, Csoboth, Réthelyi, Purebl, & Hajnal, 2005). At the moment, the biggest category of EDs is those that cannot be clearly classified - previously known as eating disorder not otherwise specified (EDNOS) -, these are now referred to as Other Specified Feeding or Eating Disorder (OSFED) and Unspecified Feeding or Eating Disorder (UFED) in DSM-V (American Psychiatric Association, 2013). The prevalence rate of EDNOS among 12–18-year-old Spanish students was reported to be 4.71% among girls, and 0.77% among boys (Rojo et al., 2003). An Australian study also reported a 5.3% prevalence lifetime rate for purging disorder (Wade, Bergin, Tiggemann, Bulik, & Fairburn, 2006). In addition, Szumska, Túry, and Szabó (2008) emphasize in their report that prevalence rates are similar to the European prevalence rates in Hungary as well.

2.3 Body Image

Body image is described as a multidimensional concept, having cognitive, affective, and behavioural aspects (Wertheim, Paxton, & Blaney, 2009). In previous years, many studies focused on various factors that are associated with eating disorders (EDs) and body image disturbance (Field, Camargo, Taylor, Berkey, Roberts, & Colditz, 2001; Stice, Marti & Durant, 2011; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999; Thompson & Smolak, 2001).

Body shape concerns and weight dissatisfaction among women and girls is widespread and numerous studies reported that being dissatisfied with someone's weight or shape among women is described as "a normative discontent" (Rodin, Silberstein, & Striegel-Moore, 1984; Tantleff-Dunn, Barnes, & Larose, 2011; Thompson & Smolak, 2001). Furthermore, another report described body image and muscle dissatisfaction as 'normative' for men as well (Tiggemann, Martins, & Kirkbride, 2007). It is also well known that body dissatisfaction alone represents a risk factor for clinical eating disorders (Stice 2002). Body image has been claimed to be the strongest predictor for disordered eating and eating disorder symptomatology (Mazzeo, 1999). As we mentioned, body image is a complex construct, shaped by multiple elements during the years from early childhood to late adulthood (Thompson & Smolak, 2001). It is shown that body image problems among adolescent and adult females are associated with the use of weight control techniques, including diets and compulsive exercise. These can have consequences, including a greater risk for the development of eating disorders and obesity later on (Stice, Cameron, Killen, Hayward, & Taylor, 1999; Stice, 2001; Neumark-Sztainer, Wall, Guo, Story, Haines, & Eisenberg, 2006). Body image problems are also associated with low self-esteem, impaired psychological functioning and depression (Stice, Hayward, Cameron, Killen, & Taylor, 2000; Tiggemann, 2005).

Many different factors contribute to body image problems including biological factors; however, these are not directly related. Weight, shape, and BMI have a strong genetic basis. It has been argued that BMI as an indirect biological contributor represents a risk factor for later body dissatisfaction through social-psychological pathways (Thompson & Smolak, 2001). One of these pathways is represented by the sociocultural influences that encompass our everyday lives. Culture and society play a

major role in the construction, definition and therefore in the development of body image through gender, ethnicity, cross-cultural, historical and age differences (Mensing, Bonifazi, & LaRosa, 2007; Smolak & Striegel-Moore, 2001).

Nowadays media, peers, and parents (Shroff & Thompson, 2006) represent the strongest sociocultural influences in our lives. Parental comments and criticism regarding their children's weight and shape can encourage children to seek weight reduction methods regardless of gender, culture, skin colour, or ethnicity (Haworth & Hoeppe, 2000; Striegel-Moore & Kearney-Cooke, 1994). These parental comments play an important role in the development of body image. Previous research found significant associations between parental talk, encouragement, and comments regarding their children's body or weight and their children's weight loss seeking behaviour, body image, and eating disorders (Bauer, Bucchianeri, & Neumark-Sztainer, 2013; Smolak, Levine, & Schermer, 1999).

Problematic peer relationships and social comparison also appear as a risk factor for body-image issues, especially during adolescent years (Helfert & Warschburger, 2011). Teasing about weight and shape can particularly influence body-esteem (Frisén, Berne, & Lunde, 2014); can lead to body dissatisfaction in adolescents (Greenleaf, Petrie, & Martin, 2014) and in adults as well (Quick, Eisenberg, Bucchianeri, & Neumark-Sztainer, 2013). Mass media plays a crucially important role in shaping values and norms especially with regards to body shape, body ideal and appears to act as a risk factor for EDs and related symptomatology (Levine & Murnen, 2015).

2.4 Thin-ideal internalization

Thin-ideal media images negatively affect body satisfaction among women (e.g. Homan, McHugh, Wells, Watson, & King 2012). The effects of mass media exposure can be argued, as some research supports the notion that the effects are small to moderate and often misinterpreted, and may even be influenced by the media source (e.g. print media, television, Internet) (Ferguson, Winegard, & Winegard, 2011; Grabe, Ward, & Hyde, 2008; Holstrom, 2004). The difference in the influence of mass media exposure only points out the fact that not every individual is negatively affected by mass media exposure. The real problem seems to originate from being susceptible to media images and therefore, those who view these images might internalize them

(Engeln-Maddox, 2005; Giles & Close, 2008). Internalization is used in the meaning of embedding societal ideas concerning attractiveness and appearance and experiencing them as the individual's own attitudes and beliefs. It is a process where the individual embraces these ideals of body figures as their own goals to achieve, such as the thin body ideal for women and the athletic body ideal for men (Jones, 2004; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999).

Internalization is one of the most powerful risk factors for body dissatisfaction, disordered eating and eating disorders (e.g. Cafri, Yamamiya, Brannick, & Thompson, 2005; Thompson & Stice, 2001). Many theories proposed that internalization has a causal role in the development of body image problems and their consequences. The three most often cited sociocultural theories in this regard are Stice's dual-pathway model (Stice, 1994), the Tripartite Influence Model (Thompson et al., 1999) and the objectification theory (Fredrickson & Roberts, 1997; Moradi & Huang, 2008).

These theories, as well as empirical research, suggest that internalization plays a direct role in body image establishment among women (e.g. Cafri et al., 2005; Thompson & Stice, 2001), and among men, too (e.g. Tylka, 2011). The current cultural stereotype of beauty that is mostly associated with the idealized thin body shape for women and the muscular, athletic bodies for men are widely represented and communicated in present-day media across Westernized societies (Levine & Chapman 2011). Due to the powerful media messages promulgating these body ideals, especially with regards to women, girls and women learn how to treat their bodies as objects, and they internalize the societal emphasis on appearance rather than focusing on inner qualities (Fredrickson & Roberts 1997). It has been long demonstrated that this thin ideal is unrealistic, and mostly unattainable via healthy methods (Tiggemann, 2011). The process of obsession with looks and the internalization of these "perfect body shapes" were observed in girls as young as 3 years old (Dittmar, Halliwell, & Ive, 2006).

2.5 Social and appearance comparisons

Another factor along with body dissatisfaction and ideal body internalization that plays a considerable role in the development of EDs and body image disturbance is social and appearance based comparisons (e.g. Thompson, Coover, & Stormer, 1999; Tiggemann

& Polivy, 2010). Although these comparisons are not the same constructs, studies tend to use these terms interchangeably at times. As we already mentioned [Festinger \(1954\)](#), proposed that people engage in social and appearance based comparisons to estimate their ranking on various aspects. With regards to body image, our society, especially women, are exposed to a large number of pictures featuring idealized bodies on a regular basis that therefore possibly serve as comparison targets. Most of the time such media exposure (e.g. magazines, TV) is designed to trigger comparisons so they might engage individuals in buying various products in the hope of ameliorating the perceived shortcomings based on these comparisons ([Thompson et al., 1999](#)).

Although [Festinger's](#) theory (1954) seems to explain some of the comparison processes, we have to note that his theory argues that individuals are most likely to make comparisons with similar others. However, women tend to compare themselves to very thin, unrealistic media images just as often as they make comparisons to more relevant comparison targets ([Engeln-Maddox, 2005](#); [Strahan, Wilson, Cressman, & Buote, 2006](#)). The theory also states that people will stop making comparisons (especially upward comparisons) if these comparisons appear to be damaging or unfavourable to their self-image; however we can observe that women often do make these unfavourable appearance-related comparisons ([Leahey, Crowther, & Mickelson, 2007](#)) even if it might have destructive consequences ([Strahan et al., 2006](#)). The role of social and appearance-based comparison is tentative; many studies report that it has a mediating role in the onset of body image and eating-related disturbances (e.g. [Fitzsimmons-Craft, Bardone-Cone, Bulik, Wonderlich, Crosby, & Engel, 2014](#); [Van den Berg, Thompson, Obremski-Brandon, & Covert, 2002](#)).

[Tiggemann and McGill \(2004\)](#) found in their study that media exposure to either body part or full body images increased negative mood and body dissatisfaction in women. More importantly, they also found that the frequency of reported social comparisons mediated the effects of image type on mood and body dissatisfaction. [Myers and Crowther \(2009\)](#) in their meta-analytic study reviewed 156 articles to explore the relationship between social comparison and body dissatisfaction. They found that gender and age play a moderating role in the relationship between social comparison and body dissatisfaction. They also found that for women the relationship between social comparison and body dissatisfaction is stronger than for men. Although

it might seem that men are less affected by social comparison, studies showed that they might have a different comparison target (Karazsia & Crowther, 2008); for instance, they might compare themselves to pictures depicting muscular individuals rather than a slim build as women do (Bergeron & Tylka, 2007). Hargreaves and Tiggemann's study (2009) described that the exposure to muscular-ideal television ads among men with high appearance-orientation led to lower muscle satisfaction and physical attractiveness than non-appearance commercials did. Tiggemann and Polivy (2010) reported that response to thin-ideal media images the dimensions on which social comparison happen are very important for women. They found that intelligence based comparisons led to more positive reactions than appearance based comparisons.

Their results support the theory that appearance comparison could be the mechanism by which idealized media images translate into body dissatisfaction. Unfortunately, when disclaimer labels are placed under such pictures (to inform viewers of the efforts they took to produce these images), these do not decrease the effects of media images on body dissatisfaction among women (Tiggemann, Slater, Bury, Hawkins, & Firth, 2013). Moreover, a recent finding suggests that not only traditional media products such as magazines and TV ads but also social media sites have a huge impact on young women's body image and mood via social comparison processes (Fardouly, Diedrichs, Vartanian, Halliwell, & 2015).

2.6 Media and risk of eating disorders

The sociocultural theory of EDs (e.g. Thompson et al. 1999) provides a widely accepted general framework for understanding body dissatisfaction and accompanying disordered eating. Based on this it seems that the current beauty ideals for women and men are bolstered and delivered by various sociocultural factors such as family, peers and the media (Keery, van den Berg, & Thompson, 2004; van den Berg Thompson, Obremski-Brandon, & Covert, 2002, Hogan & Strasburger, 2008). One of the sociocultural influences is mass media, this is commonly accepted as one of the most extensive and powerful influences (Stice 1994; Tiggemann 2002).

These ideals represented in the (printed and online) media are almost impossible to attain by healthy methods (Owen & Laurel-Seller, 2000; Wiseman, Gray, Mosimann, & Ahrens', 1992). According to the literature, repeated exposure to unrealistic media

images and messages can create both direct and indirect pressures to be thin and this poses as a risk factor for body dissatisfaction, body weight concerns and disordered eating behaviours in adolescent girls and young women (Harrison & Cantor, 1997; López-Guimerà, Levine, Sánchez-Carracedo, & Fauquet, 2010; Stice, Schupak-Neuberg, Shaw, & Stein, 1994). It has been suggested that sociocultural pressures to attain the thin body ideal bolster affective, body image related problems and eating disturbances in young women (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999; Tiggemann, 2011). This sociocultural influence is often described as being multidimensional, consisting of variables such as perceived pressure or information from the media (Levine, Smolak, & Hayden, 1994; Thompson et al., 1999). Levine and colleagues (1994) found that 70% of girls who engaged in reading magazines mentioned them as an important source of information about beauty and fitness.

The reported influence of thinness-promoting ads, and articles about the individual interpretation of ideal body shape, and how to reach these ideals were found to account for a significant variance in drive for thinness, disordered eating, and weight management behaviours among adolescent girls. Another factor that may be accountable for body dissatisfaction is the perceived pressure from the media to attain the slender body ideal (Cafri et al., 2005). Girls, in particular, are reported to experience strong pressure from the mass media to be thin (e.g. Tiggemann, Gardiner, & Slater, 2000) and in some studies, this perceived pressure has been an important predictor of body dissatisfaction for girls (e.g. Stice & Whitenton, 2002).

2.6.1 Magazines and risk of eating disorders

Different theories and research have been conducted on the potential connection between magazine reading and eating disorder symptomatology (e.g. Morry & Staska, 2001), and a set of related variables (e.g. dieting habits, body dissatisfaction, slim body internalization etc.). Studies reported that fashion/beauty and health/fitness/diet magazine reading among females might influence body dissatisfaction (Harrison & Cantor, 1997; Botta, 2003; Groesz, Levine, & Murnen, 2002; Harper & Tiggemann, 2008), self-esteem (Irving, 1990; Wilcox & Laird, 2000), or might be in connection with more frequent unhealthy weight control and diet behaviours (Thomsen, Weber & Brown, 2001; van den Berg, Neumark-Sztainer, Hannan, & Haines, 2007; Utter,

Neumark-Sztainer, Wall, & Story, 2003), with thin body internalization (Field, Camargo, Taylor, Berkey, & Colditz, 1999; Cusumano & Thompson, 1997), with appearance comparison (Tiggemann & Miller, 2010) and with the drive for thinness (Tiggemann & Miller, 2010; Harrison & Cantor, 1997).

According to content analyses, the pictorial and written content in printed media show an emerging trend of harmful and unhealthy messages, advertisements regarding eating habits and dieting behaviour, especially in women's magazines (e.g. Guillen & Barr, 1994; Sypeck, Gray, & Ahrens, 2004; Malkin, Wornian, Chrisler, 1999, Szabó & Túry, 2012). The enormous number of diet and body-centred advertisements in the printed media can be observed in Hungary as well (Forgács & Nemeth, 2008). Thomsen, McCoy, Gustafson, and Williams (2002) claimed that the reading frequency of beauty and fashion magazines is most strongly predicted by a woman's desire for self-improvement. They also reported that anorexic risk could be predicted by the motivation to learn about dieting and weight loss and by the desire to increase one's popularity among family and friends. Vaughan and Fouts (2003) found that increase in time spent with magazine reading was associated with an increase in EDs-related symptomatology over time. Content analysis of magazine covers revealed that 78% of the covers of the women's magazines contained a message regarding bodily appearance; meanwhile, almost none of the covers of the men's magazines did (Malkin, Wornian, & Chrisler, 1999). They also found that a quarter of the women's magazines had conflicting messages about weight loss and dietary habits. The positioning of appearance and weight-related messages often seemed to imply that weight reduction might lead to a better life.

On the other hand, men's magazines provided information and focused mainly on entertainment, knowledge, hobbies, and various activities while women's magazines highlighted changing one's physical appearance to improve one's life (Malkin et al., 1999). Although magazine reading might influence body image and related factors, it is important to note the role of processing. It has been reported that when women were asked to process thin ideal images with a social comparison instruction there were more adverse effects on mood and body satisfaction than the control condition (Tiggemann, Polivy, & Hargreaves, 2009). Recently, men are increasingly targeted by advertisements and pictures in men's magazines and in health and lifestyle magazines concerning how

to improve their shape, tone their muscles, and change their exercise and diets (Law & Labre, 2002; Labre, 2005; Túry & Babusa, 2012). Slater and Tiggemann (2014) reported that the consumption of men's magazines among adolescent boys predicted a drive for thinness and a drive for muscularity.

2.6.2 Television and risk of eating disorders

It has been documented a long time ago that television plays an important role in our lives since it is part of our daily living. It shapes norms and values and influences our attitudes and behaviour on many levels (e.g. Gerbner & Gross, 1976; Becker & Hamburg, 1996). A growing body of literature shows that television exposure has an effect on eating habits (e.g. Becker, Burwell, Herzog, Hamburg, & Gilman, 2002), obesity (e.g. Lumeng, Rahnema, Appugliese, Kaciroti, & Bradley, 2006; Scully, Dixon, & Wakefield, 2009), internalization of the thin ideal (e.g. Dohnt & Tiggemann, 2006), poor body image (e.g. Botta, 1999) and eating disorder symptomatology (e.g. Becker, 2004).

Another study also supports these findings. Slater and Tiggemann (2006) reported that childhood media exposure significantly predicted later body image concerns in adulthood. It was found that in general, the amount of television watching did not correlate with body dissatisfaction or the drive for thinness; however, the type of TV program did (Tiggemann & Pickering, 1996). Tiggemann and Pickering (1996) found that among adolescent girls, time spent watching soap operas and movies predicted body dissatisfaction and watching music videos predicted drive for thinness. Hargreaves and Tiggemann (2004) argued that being exposed to idealised advertisements lead to increased body dissatisfaction among girls. These commercials also led to a more negative mood and appearance comparison for both girls and boys; however, the effect on body comparison was stronger for girls. They found that those participants who reported an increased investment also reported greater appearance comparison after viewing idealized ads.

A recent study (Eisenberg, Carlson-McGuire, Gollust, & Neumark-Sztainer, 2015) analysed popular television shows for weight-stigmatization content. They found that half of the analysed episodes contained at least one weight-stigmatizing incident. Youth-targeted programmes contained more weight-stigmatizing comments, male

characters were more likely to engage in and be the targets of weight stigma compared to women. Moreover, the targets of these comments showed a negative reaction in only about one-third of the cases, and more importantly, audience laughter followed half of the cases when a weight stigma comment appeared. This is especially important since weight-based teasing and EDs are strongly associated (Haines, Neumark-Sztainer, Eisenberg, & Hannan, 2006).

2.6.2.1 *Music videos*

As we have already mentioned body dissatisfaction (shape and weight) among women are widespread and it has been documented in many studies. Another form of media where thin body ideals are presented is music television, a popular form of entertainment program for young individuals (Tiggemann & Slater, 2004). Targeted audiences for music television programmes are mainly young people between the ages of 12 and 34 (Englis, Solomon, & Ashmore, 1994). It has been documented that the content for these shows reflect sex-role stereotyping and is sexist in orientation when depicting women (Kalof, 1993). Women's physical appearance is emphasized very often (Gow, 1996), they are shown as provocative, thin and attractive individuals usually taking part in sexual or submissive behaviour (Sommers, Flanagan, Sommers-Flanagan, & Davis, 1993); moreover thin females are overrepresented in music videos and their bodies are objectified (Zhang, Dixon, & Conrad, 2010).

Correlational studies have shown that being exposed to music videos is associated with increased body dissatisfaction among young adolescents (Bell, Lawton, & Dittmar, 2007) and among young women (Tiggemann & Slater, 2004). Furthermore being exposed to music videos predicted an elevated level of drive for thinness in women (Tiggemann & Pickering, 1996). Self-esteem might play an important role in the overall effect of music videos on women's body satisfaction, as women low in self-esteem seem to be more influenced by the sexually objectifying content of the music videos than women whose self-esteem was not reported to be low (Mischner, Van Schie, Wigboldus, Van Baaren, & Engels, 2013). Music video exposure not only affects women but has an influence on men as well. Mulgrew and Volcevski-Kostas' findings (2012) suggest that men who were exposed to the muscular music video clips showed poorer body and muscle tone satisfaction compared to men who did not watch such

videos. They suggest that even short-term exposure to music videos can be associated with negative effects on men's body image and mood.

Music videos affect not only adult men but also young adolescent boys, as young as the age of 12 (Mulgrew, Volcevski-Kostas, & Rendell, 2014). They described that those boys, who viewed music videos depicting muscular men reported poorer upper body satisfaction, lower appearance satisfaction, lower happiness, and more depressive feelings compared to boys who watched videos with singers of average appearance (Mulgrew et al., 2014).

2.6.2.2 *Cosmetic makeover shows*

In reality, TV shows cosmetic surgery media is becoming more prominent in recent years, more and more programmes feature excessive cosmetic interventions to change someone's appearance. The American and British Associations for Plastic Surgery expressed their concerns regarding these media programmes, especially concerning the impact on adolescents (ASPS, 2004; BAAPS, 2004). In this newer type of media, most often referred to as "reality TV", cosmetic surgery makeover programmes are very popular and appear regularly on U.S. television (Sarwer & Crerand, 2004). Moreover, the overall rise in cosmetic surgeries is in line with the popularity of these shows. It has been reported that between 1992 and 2002 there has been a 1600% increase in performed cosmetic medical treatments in the U.S. (Sarwer & Crerand, 2004).

It is concerning that these programmes promote the idea of a perfect body, and they suggest that it is attainable (Mazzeo, Trace, Mitchell, & Gow, 2007). Typically, in such a television reality show, a woman or man would undergo criticism regarding their bodies; and subsequently, be advised with numerous surgeries to get rid of these imperfections. The viewers would see parts of the surgeries, sometimes intensive diets, exercise programmes, consultation with stylists and hairdressers. At the end of the show, individuals who underwent all these changes would be presented in their new, transformed shape and their new bodily appearance would be idealized as something more acceptable than the initial state of the person (Mazzeo et al., 2007). Mazzeo and colleagues described (2007) that after being exposed to such reality shows, women reported greater perceptions of media pressures to be thin and a greater endorsement of controlling their physical appearance.

Another study reported that watching reality cosmetic surgery shows was significantly associated with more positive cosmetic surgery attitudes, perceived pressure to undergo cosmetic surgery, a decreased fear of surgery, and an overall body dissatisfaction, internalizing media messages, and the risk of disordered eating (Sperry, Thompson, Sarwer, & Cash, 2009). A recent report (Ashikali, Dittmar, & Ayers, 2014) using experimental design showed that exposure to cosmetic makeover shows was associated with young girls reporting elevated weight- and appearance-dissatisfaction.

2.6.3 The Internet and the risk of eating disorders

The vast majority of the above-mentioned research has focused on print and television media. However, media use is rapidly changing, and nowadays the Internet is the dominant media source used by young adults (Jones & Fox, 2009). It is a common trend among adolescents and young adults to spend a remarkable time online on a daily basis (Gross, 2004; Rideout, Foehr, & Roberts, 2010).

In Hungary, based on a recent report, people between the age of 18-39 spend an average of 3,5 hours per day online, mostly browsing from their homes (DMTK, 2014). The Internet gives users a freedom of some sort, choosing what they want to read about, listen to, watch, or search for, without a time limit. Traditional media, such as magazines or television are more restricted in these terms, and leave less choice for their users. The easy accessibility of the Internet makes it an omnipresent component of adolescent lives nowadays (Gross, 2004).

Reports showed that young adults use the Internet mainly for communication, (Lenhart, Madden, & Hitlin, 2005). However, studies also highlighted that the Internet could be a dangerous zone for them as adolescents are part of virtual communities where unhealthy behaviour including self-injury and eating disorders are often supported (Whitlock, Powers, & Eckenrode, 2006). The Internet represents an important sociocultural influence on young people's lives (Tiggemann & Miller, 2010). The relationship observed for Internet usage and body image concerns appeared to be stronger than that found for magazine and television exposure (Tiggemann & Slater 2014). The Internet is different from magazines and television because it potentially has more uncontrolled unsafe and unhealthy elements than that the more traditional ways of media do. For example, there are many advertisements for weight loss and exercise

products which are difficult to avoid (Tiggemann & Miller, 2010). Similarly to magazine and TV exposure, Internet appearance exposure was associated with greater internalization of thin ideals, appearance comparison, weight dissatisfaction, and drive for thinness (Bair, Kelly, Serdar, & Mazzeo, 2012; Tiggemann & Miller, 2010; Tiggemann & Slater, 2013). Slater, Tiggemann, Hawkins, and Werchon (2012) tested a great amount of advertisements on teen websites. They found that adolescents browsing the Internet have a great chance to be exposed to many advertisements that promote current beauty standards and glamorize thinness, which could have a damaging impact on how users feel about their bodies and appearance (Slater, et al., 2012).

Most studies focused on adolescent girls or young women, while there are only a few studies focusing on adolescent boys or adult men (e.g. Agliata & Tantleff-Dunn, 2004; Field et al., 2005; Barlett, Vowels, & Saucier, 2008), and on older adult population, that examine the relationship between the ideal body image and diet exposure in the mass media, especially online media, and the risk of developing or maintaining body dissatisfaction and EDs (Slevec & Tiggemann, 2010; Slevec & Tiggemann, 2011). Internet appearance exposure was reported to be associated with greater internalization of thin ideals, appearance comparison, weight dissatisfaction, and drive for thinness (Tiggemann & Miller, 2010). These effects were mediated mainly by internalization and appearance comparison (Tiggemann & Miller, 2010). Tiggemann and Slater (2013) also found similar results in a sample of adolescent girls, namely that Internet exposure was associated with internalization of the thin ideal, body surveillance, and drive for thinness. As we saw earlier the observed effects on body image and EDs symptomatology is mostly mediated. In a sample of 18–25-year-old French women, authors found that body shame and body image avoidance mediated the effect of weekly Internet use on bulimic symptoms (Melioli, Rodgers, Rodrigues, & Chabrol, 2015).

2.6.3.1 Social Networking sites

Social networking sites (e.g. Facebook, Instagram) have become more and more important in the life of youth (Tiggemann & Miller, 2010, DMTK, 2010). In recent years, social media, such as Facebook have been in the spotlight regarding various studies exploring influences on psychological correlates. Facebook is the most popular social media site with more than 1.3 billion regular users to date (Facebook, 2014). It

has been reported that in the USA 89% of 18–29-year-old young people go on a social media site on a regular base (Brenner & Smith 2013). Social media use is especially prominent among young women (Kimbrough, Guadagno, Muscanell, & Dill, 2013), a demographic group where body dissatisfaction is also problematic (Bearman, Martinez, Stice, & Presnell, 2006). Studies reported that spending a lot of time on social networking sites might increase the risk for low self-esteem (Kalpidou, Costin, & Morris, 2011), thin-ideal internalization, social comparison (Fardouly, Diedrichs, Vartanian, & Halliwell, 2015) and facilitate weight and body dissatisfaction (Fardouly & Vartanian, 2015; Tiggemann & Miller, 2010).

Based on a recent media report in 2014 in Hungary, Facebook reaches 4.8 million users monthly and 3.5 million daily. They report that 72% of adult users use Facebook on a daily basis. The most represented age group online is that of the 18-39-year-old group. Users spend an average of 45 minutes per day on Facebook. Around 80% of those who visit this social networking site on a weekly basis use Facebook for connecting with others, 52% uses Facebook to gather information and 44% use Facebook for recreation and as a free time activity. (DMTK, 2014). A recent cross-sectional survey found that more frequent Facebook browsing was in connection with greater disordered eating. This study described that spending time on Facebook was also correlated with the maintenance of weight/shape concerns and state anxiety in comparison to alternative internet activities (Mabe, Forney, & Keel, 2014). They found that those participants who spent time on Facebook reported a more negative mood after the 10 minutes browsing experiment than those who spent time on a non-appearance related control website. They also found that those women who tend to engage in more appearance comparison reported more facial, hair, and skin-related conflict after browsing Facebook than after being exposed to the control website (Fardouly et al., 2015).

2.6.3.2 *Eating disorders promoting websites*

It is an emerging trend since years that EDs promoting, so called pro-eating disorder websites (ProED) are widespread on the Internet and their number is continuously growing (Chesley, Alberts, Klein, & Kreipe, 2003). This also holds true for Hungary (Török & Pászthy, 2008). On these websites, users can find a wide range of materials

and there are online societies supporting their EDs (Norris, Boydell, Pinhas, & Katzman, 2006; Wilson, Peebles, Hardy, & Litt, 2006). Based on previous studies, there is a potential connection between visiting these websites and EDs symptomatology and body image disturbances (Harper, Sperry, & Thompson, 2008; Corrigan, 2010).

These ProED communities can be found on social networking sites as well (Juarascio, Shoaib, & Timko, 2010). Rouleau and von Ranson (2011) identified three main potential risk factors as typical themes on these websites: these sites appeared as supportive websites for those who suffer from EDs, they contained information that reinforced disordered eating, and their members did not support, but in most cases, they even prevented help-seeking and recovery. Content analysis revealed that other typical elements on such websites included so-called “thinspiration” (images of super skinny models and celebrities, and literature designed to inspire users to maintain their anorexic behaviour); and “tips and tricks” for weight reduction (Norris et al., 2006; Sharpe, Musiat, Knapton, & Schmidt, 2011).

Most of the time the “tips and tricks” contain information about techniques for weight loss, methods to distract one in the case of hunger and hiding physical signs of weight loss (Harshbarger, Ahlers-Schmidt, Mayans, Mayans, & Hawkins, 2009). Sharpe and colleagues (2011) explain that many different forms of such ProED content exist online. There are various forums, blogs, social networking groups, video channels, and microblogging accounts. They argue that these websites can be placed on a continuum ranging from openly ProED sites to genuine recovery-supporting websites (Sharpe et al., 2011). A recent meta-analysis supported previous findings that exposure to ProED websites had a significant impact on body image dissatisfaction, dieting, and negative affect (Rodgers, Lowy, Halperin, & Franko, 2015).

2.6.4 Dieting and weight loss information in the media

With rising obesity rates and with the Internet offering confidentiality and easy access to a remarkable amount of information about various subjects, more and more people go online for health information and weight-management advice and techniques. Despite particular online weight loss programmes being successful (Saperstein, Atkinson, & Gold, 2007), most of the information obtained from the Internet has questionable sources and has its pitfalls (e.g. Boepple & Thompson, 2004). Unhealthy weight control

techniques are significantly problematic for adolescents, and they represent a risk factor for eating disorders and subclinical eating disorders on a long term ([van den Berg, Neumark-Sztainer, Hannan, & Haines, 2007](#)).

A few cross-sectional studies reported previously that a strong association existed between the frequency of reading diet/weight loss-themed magazines, healthy, and unhealthy weight-control practices, and psychological variables (self-esteem, depressive symptoms, and body image) ([Utter et al., 2003](#)). It is known that unhealthy weight control habits (such as taking diet pills, laxatives, and diuretics to lose weight) are associated with detrimental psychological outcomes (e.g. [Stice, Burton, & Shaw, 2004](#)), physical outcomes including weight gain over time, nutritional outcomes and non-sufficient dietary intake (e.g. [Neumark-Sztainer, Wall, Guo, Story, Haines, & Eisenberg, 2006](#)).

The widespread presence of the Internet allows users to seek a large amount of uncontrolled information online with ease. Young adults, who look up weight loss information online, commonly practice unhealthy weight loss behaviours ([Laz & Berenson, 2011](#)). [Laz and Berenson \(2011\)](#) found that women who obtained weight loss information from the Internet were more likely to engage in physical exercise, take diet pills, use laxatives or diuretics to lose weight, vomit after meals or just skip meals, smoke more cigarettes, and stop eating carbohydrates compared to those who did not look up such information online.

2.6.5 Pornographic content

There is only very little literature on pornographic content and its effect on adult male and female body image or self-esteem. However, a few studies did highlight the importance of such research; especially that watching pornographic content might influence sexual attitudes, beliefs, behaviours, sexual aggression, self-concept, and body image ([Owens, Behun, Manning, & Reid, 2012](#)). Another study reported that watching material with pornographic content had different effects among men and women. Men most often expressed insecurities regarding their ability to perform sexually; on the other hand, women expressed insecurities regarding their body image ([Löfgren-Mårtenson & Månsson, 2010](#)).

The extremely sporadic nature of research studies investigating the associations between men, pornography exposure, body image, and affect is rather surprising, mainly because pornography has become an important media product in many men's lives (Tylka, 2015). Carroll and colleagues (2008) documented that as much as 87% of young adult men reported watching pornography, 50% of them reported weekly, and 20% reported daily or every other daily exposure.

Due to the Internet and pornography, use among men has increased in the last two decades. The online platform ensures anonymity, accessibility, and affordability (Cooper, Delmonico, & Burg, 2000). Tylka (2015) reported that men's frequency of pornography use was associated with muscularity, body fat dissatisfaction, lower body appreciation, and negative affect. However, these associations were mainly mediated by contributing factors such as internalization, body monitoring, romantic attachment anxiety, and avoidance.

2.7 Social psychology theories

As Smolak (2009) describes, cultural factors within each society shape beauty ideals and these ideals are spread via various sociocultural elements. Such agents are parental influences, peer interactions, and mass media messages. There are numerous social psychology theories trying to explain why media plays such an important role in our lives. (1) One of the leading theories regarding sociocultural influences on EDs is objectification theory that was proposed by Fredrickson and Roberts (1997). This theory is a complex framework exploring how our culture objectifies women and how it acculturates them to internalize an observer's perspective and evaluate themselves primarily based on their physical appearance. This perspective can lead to constant body monitoring which can increase body shame and anxiety and even diminish the perception of internal bodily states, such as the experience of feeling hungry. According to this theory, women live in a culture where their bodies are treated as objects, to look at, to sell products with and "for the use and pleasure of others" (Fredrickson & Roberts, 1997, p175). It also might provide a framework for understanding why certain psychological conditions appear more often among women, such as EDs, and depression. Sexual objectification experiences can stimulate women to self-objectify themselves and treat their bodies as objects to be gazed at and valued. Therefore, self-

objectification might lead to body shame, lack of awareness of internal body sensations and anxiety (Fredrickson & Roberts, 1997). Self-objectification can also play an important role in the development of mental health issues among young women (Tiggemann & Williams, 2012). (2) The cultivation theory, which was proposed by Gerbner and Gross (1976) explains the effects of media on attitudes. Exposure to television and media in general for a longer time can contribute to attitude changes and beliefs about society. According to their article, heavy television viewers seem to believe that the world created by television is real. (3) The gratifications and uses theory (Rubin, 1994) highlights that people are not passive and submissive when using media in different ways (e.g. relaxation, entertainment, escape, information, as a resource (e.g. Arnett, 1995)). They emphasize that individuals who use media are active in their choice, they are capable of making choices about when, and how to engage in media consumption. They explain that people use media to satisfy needs, to look for particular gratifications, or to fulfil goals (e.g. Rubin, 2009). (4) One of the most popular social psychology theories with regards to body image is the social comparison theory. This theory originates from Festinger (1954) and states that social comparisons are fundamental to human nature. He describes that people compare their characteristics, strengths, and weaknesses with others' to estimate their own rank, their status with regards to others, to know how they are, what they can do or cannot do. People engage in social comparisons continuously. Every time they face information regarding others, other people's abilities and skills and attributes, they relate this information to themselves (Dunning & Hayes, 1996). Social comparison not only influences how people think of themselves but also their motivations and their behaviour (Corcoran, Crusius, & Mussweiler, 2011).

2.8 Anthropometric characteristics of idealized bodies in the media

Sociocultural models of EDs propose that the thin and muscular body ideal bolstered by the mass media put great pressure on women and men to achieve an unrealistic standard. This body standard is usually a particular body type, for women a thin body shape and for men a muscular body type (Murnen, Smolak, Mills, & Good, 2003). During the years of the fashion industry, researchers have noticed that models were becoming more "tubular" (Voracek & Fisher, 2002). Seifert (2005) found that the

centrefold models in Playboy magazines followed a more slender body ideal trend over the years. He also reported that models had a high probability of having a BMI < 17 during the period from the 1960s to 1980s, and this probability was slightly higher in the 1950s. Thinness among models is not new, however, the gradual changes in anthropomorphic characteristics reflect that Playboy centrefolds remained slim, meanwhile, their shape remained curvaceous. He also noted that another decline could be observed in the probability of a centrefold model having a BMI < 17 from the 1980s to the 2000s (Seifert, 2005). Sypeck and colleagues (2006) described a similar tendency when they assessed the body size, normative body weight percentage, and waist to hip ratio of the Playboy centrefolds between 1979 and 1999. They reported that Playboy preferred models with a very low BMI. Although it may seem that after a while, the BMI of these models increased, and women seemed to be healthier looking, the weight of Playmates is still significantly below the normative age appropriate weight. It is important to highlight that the examined magazines (Playboy) are targeting a predominantly male audience, and the represented female body shapes might only reflect a male preference in female beauty and not the actual female's conception of attractiveness (Seifert, 2005).

Spitzer, Henderson and Zivian (1999) also report that Playboy centrefolds remained below normal body weight from the 1950s to the present, they also note that the body sizes of the Miss America Pageant (beauty contest in the USA) winners significantly decreased and at the same time body sizes of Playgirl male models increased. Parallel to these changes the body sizes of young adult North American women and men increased significantly, creating an even bigger discrepancy between the idealised media images and the actual sizes of the general young adult population. They report that while the increase in body size of male models in Playgirl magazines is due to an increase in muscularity, young North American men and women became bigger due to an increase in body fat (Spitzer et al., 1999). Other authors also reported that in the past 80 years not only Playboy centrefolds and Miss Americas, but also models became steadily thinner (Byrd-Bredbenner & Murray, 2003; Byrd-Bredbenner, Murray, & Schlusell, 2005). Research findings indicate that this steady decrease in body weight and shape represented by models and pageant winners is in a greater contrast of the average body sizes of young women in general. Especially that obesity is becoming more prevalent

among the general population; it is even harder to live up to the media body shape and weight standards (Byrd-Bredbenner et al., 2005). Owen and Laurel-Seller (2000) also argues that models in these magazines have such a low body weight that fulfils the criteria for having AN.

Regarding men, Leit, Pope and Gray (2001) examined the body structure of 115 men who were on the front cover of Playgirl and they found that between 1973 and 1997 models became more muscular. Byrd-Bredbenner and Murray (2003) compared idealized bodies in various media products targeted to men, women, and mixed-gender audiences. They also compared these idealized bodies with young women in general. The results showed that the idealized female body ideal in the media is not reflecting an actual or healthy body size. The pictures targeted to men, women or mixed gender audiences had more similarities with each other than with young women in general. They found that the idealized female body image is representing a taller and much slimmer body shape than what a real woman, in general, would have. In many cases, these body shapes look malnourished. Attention is drawn to the fact that the gap is huge and continuously growing between the idealized bodies in the media and real physical endowments of young women (Byrd-Bredbenner & Murray, 2003). The observed societal changes in depicting idealized bodies represent a rather maladaptive tendency. Obviously, it would be beneficial to support people's endeavour in having a healthier body weight, however making them feel bad about their bodies and pushing them to extreme dieting is not a way to do it. Effective diets and weight loss programmes need careful planning, since losing weight and continuous dieting leads to weight gain on a long-term (Neumark-Sztainer et al., 2006).

In 1959, the Metropolitan Life Insurance Company published their new BMI tables. It was observed that the weight and height ratios belonging to each BMI range were slightly changed compared to the previous version. This resulted in that many person who was considered having a normal weight previously were in fact, overweight based on the new BMI ranges. Many people argue that this date is when the diet industry started blooming and when many of those who did not really need it started dieting (Metropolitan Life Insurance Company, 1959). Another phenomenon that is more and more common in media is picture retouching with various technological methods, most commonly with Photoshop. Images in the media, especially in magazines not only

represent an unrealistic body standard for men and women but these pictures are rarely left without photo manipulation. Most images in magazines are in fact heavily altered and modified with Photoshop, which tool is an industry standard nowadays (Shen, 2015). Shen (2015) describes that modified images of women and men end up having changed body proportions (e.g. longer necks, longer legs, smaller hips, bigger breasts), perfect, airbrushed skin with no pores and, as a result, a body that does not exist in real life. This not only creates literally unrealistic standards but also further widens the gap between idealized media images and how average people look like.

2.9 The role of the culture

The so-called ideal body and desirable bodily appearance for females and males can be different in every culture mainly because body image is defined in a cultural context (Becker, 1996; Fallon, 1990). Cross-cultural studies propose that body dissatisfaction and body image disturbances can be observed across different cultures, especially among women (e.g. Davis & Katzman, 1997). The current body size and beauty standards were not always present in Western countries; their uprise can be dated back to the 1920s where the slender body ideal began to spread (Swami, 2015). Later on in the 1940s, this body ideal followed a trend toward an hourglass-like shape and larger breast sizes (Swami, 2015). From the 1960s an even slimmer shape was preferred as an ideal body for women (Fallon, 1990) and although during the 1980s and 1990s the specific body ideals fluctuated, the focus on thinness remained and became even more pronounced during this time (Wiseman et al., 1992).

Just like previously family, religion and formal education were the primary source of culture for children, mass media's influence on culture and body ideals has recently become stronger and more prominent (Becker et al., 2002). Body image disturbance and eating disorders have multiple causes and indicators, from which culture and mass media are one of the possible elements. One of the most often cited studies describe the changes in a rural community in Western Fiji three years after television was first broadcasted to this region (Becker, 2004). Study participants reported that as characters presented in television dramas shaped their attitudes and behaviour in regards to weight and body shape, they started to be more preoccupied with it. They also reported purging behaviour to control weight, and body disparagement, which was not observed prior to

having these TV shows in this part of Fiji (Becker, 2004). Exposure to these programmes made thinness popular in Fiji and resulted in a greater drive for thinness and more disordered eating among young women (Becker, 2004). However, Western media does not only propagate the slim body ideal but also represent a number of other values, which go beyond the obsession with thinness, such as consumerism, idealization of youthfulness, admiration of beauty, and that working on our body is an absolute must (Levine & Smolak, 2010; Swami et al., 2010).

While thinness has become one of the most prominent female body ideals in Western cultures, there are known cross-cultural differences toward thinness, body fat, and obesity (Sobal & Stunkard, 1989; McLaren, 2012). In the 20th century, there was a distinct difference between Western and non-Westernised countries in the preference of thinness in Western cultures and in the preference of relatively plump, “traditional” body figures in the latter setting (Swami, 2007). In many traditional cultures, fuller body sizes are associated with higher levels of femininity, sexuality, fertility, self-worth, and higher socioeconomic status (Ghannam, 1997, Pollock, 1995). In fact, Pollock (1995) describes, that in the South Pacific; from where a lot of studies originate concerning the cross-cultural differences in body sizes and ideals, there are bride fattening rituals in place prior to a marriage, most typically among high-ranking families. Similar positive attitudes toward larger body sizes were reported from countries such as Kenya, Uganda, Ghana, and Morocco (Furnham & Alibhai, 1983; Furnham & Baguma, 1994; Frederick, Forbes, & Berezovskaya, 2008; Rguibi & Belahsen, 2006).

Further evidence suggests that the impact of Western media is noticeable in non-Western countries as well. Swami and colleagues (2010) reported in their cross-cultural study that exposure to Western mass media content was in association with the preference of slimmer female body shapes and body dissatisfaction, especially among women. Eapen, Mabrouk, and Bin-Othman reported (2006) that those women in the United Arab Emirates who had high scores on disordered eating measures were mostly likely being exposed to Western television programmes. It is important however to mention that Westernization alone may not fully account for the above-mentioned cross-sectional differences in attractiveness attitudes, body size preferences, body dissatisfaction and disordered eating (Levine & Smolak, 2010). The role of

modernization, urbanization, industrialization and changing gender roles (Gordon, 2001) are also important factors in the process of changing attitudes regarding body size ideals, growing prevalence of disordered eating and observed cross-cultural differences. Gordon (2001) reported that rapid socioeconomic changes in Japan resulted in multiple alterations in the culture and this not only included the influx of Western values but also changes in female roles. These changes probably played a role in forming body size ideals in Japan and in the increase of disordered eating and negative body image especially among women from high-income areas (Gordon, 2001). Swami (2006) also reported similar observations from Malaysia, where during rapid developing years the Western influence and its cultural values led to the internalization of thinness and it was perceived as the key to happiness and success.

The available research evidence suggests that based on cross-sectional differences the ideal body weight is lower in high socioeconomic status (SES) context or in more Westernized regions (Swami & Furnham, 2008; Swami et al., 2010). Some studies highlight the importance of rural and urban setting in terms of attractiveness attitudes and body size preference. These results argue that there are larger differences between rural and urban settings within countries than sometimes between various countries (Swami et al., 2010). Studies concerning body image dissatisfaction and related issues are limited in post-communist, central, and eastern European countries (Szumska et al., 2005, Page et al., 2007). Some authors argue that the population of these countries was protected from thinness promoting media prior to the dissolution of the Soviet Union (Bilukha & Utermohlen, 2002). However, after the end of communism, these restrictions regarding mass media were reduced. It is possible that the easier access to global media may have increased the level of internalization of the Western “media body ideals” and resulted in the rise of body dissatisfaction, body image disturbance and possibly also in the rise of eating disorders (Catina, Boyadjieva, & Bergner, 1996; Dolan, 1993). Page and colleagues (2007) reported that self-perception of body weight of central and eastern European (Hungary, Slovakia, Czech Republic, Romania, Ukraine, and Poland) young people are similar to their Western counterparts. They found that among the central and eastern European participants, the level of perception of being too fat was similar to the level reported by U.S participants; in fact, the European young people had a substantially lower reported BMI, than the U.S ones.

3 OBJECTIVES

3.1 General objectives of the study

Little is known about the influence of mass media on EDs among Hungarian adults. Therefore, the current study's aim was to investigate the possible associations between media exposure and EDs related symptomatology such as body image, disordered eating habits, unhealthy weight control techniques and other risk factors for developing EDs in an adult population in Hungary. One of the study's aims was to explore detailed associations between various psychological features and the frequency of engaging in reading magazines, watching television programmes, and browsing the Internet and possible gender differences. The focus was on appearance, eating and exercise related media content. There has been no validated research so far regarding mass media influence on body image, and EDs related symptomatology in Hungary in the adult male and female population, only one regarding magazine reading on a sample of young adolescents and high-school students (Szabó, Túry, & Czeglédi, 2011).

The current work consisted of five different parts, each with its specific aims. The first part aimed to investigate the psychometric properties of three different questionnaires that measure important constructs regarding the societal influence in body image and EDs. It was also planned to explore the psychological correlates in terms of being exposed to various media content. The study aimed to investigate the associations between weight loss content seeking behaviour in magazines and on the Internet and the use of unhealthy weight-reduction methods as well. Furthermore, a structural equation modelling analysis was implemented to explore the possible multiple predictors of body dissatisfaction and drive for thinness in association with the media. Lastly, the goal was also to determine possible predictors of risk for developing EDs based on reading diet, fitness/health magazines and browsing ProED pages. In the following chapters, each goal and related hypotheses will be presented in detail.

3.2 Questionnaire validation and adaptation

In the frame of the current study, we intended to adapt and validate the following questionnaires into Hungarian: the *Beliefs About Attractiveness Scale-Revised (BAA-R; Petrie, Rogers, Johnson, & Diehl, 1996)*; the *Physical Appearance Comparison Scale*

(PACS; Thompson, Heinberg, & Tantleff-Dunn, 1991); and the *Social Comparison Scale* (SCS; Allan & Gilbert, 1995). The validation and adaptation of these measures are important as the growing number of literature implies the important role of sociocultural influences in the development and maintenance of EDs (Levine & Murnen, 2015). These questionnaires measure important constructs that play a possible role in body image, body dissatisfaction, and EDs.

3.3 Psychological correlates regarding various media exposure

Research has shown that exposure to various media products, such as fashion and fitness magazines, soap operas, movies, music television, diet and ProED websites are in association with body dissatisfaction, thin-ideal internalization, drive for thinness, low self-esteem and social comparison (Harrison & Cantor, 1997; Slater & Tiggemann, 2014; Tiggemann & Slater, 2014; Tiggemann, 2003; Bell, Lawton, & Dittmar, 2007; Rouleau & von Ranson, 2011; Utter et al., 2003). Therefore, we intended to explore associations between being exposed to various types of magazines, television programmes, and Internet content and psychological correlates.

Hypothesis 1. Studies documented that magazine reading was associated with negative body image, body dissatisfaction, drive for thinness, body comparison and the internalization of the thin ideal especially among women (Botta, 2003; Wilcox & Laird, 2000; van den Berg et al; 2007; Cusumano & Thompson, 1997; Tiggemann & Miller, 2010). These findings were planned to be replicated in this sample and it was hypothesised that elevated levels of fashion, beauty and diet magazine reading will be associated with a more negative body image, greater body dissatisfaction, a higher drive for thinness, more frequent appearance based comparisons, and greater internalization of the slim body ideal. We also expect that women will be more affected.

Hypothesis 2. The literature describes that various appearance focused television shows, especially music videos, and cosmetic makeover shows are in correlation with body dissatisfaction, drive for thinness, body comparison, the internalization of the thin ideal especially among women and risk for EDs (Hargreaves & Tiggemann 2004; Sperry et al., 2009). It was expected to find similar associations in the current sample.

Hypothesis 3. It has been argued that Internet exposure, especially content which is appearance, exercise or EDs focused is in association with body dissatisfaction, drive for thinness, body comparison, the internalization of the thin ideal and the risk for developing EDs (Fardouly et al., 2015; Sharpe et al., 2011; Tiggemann & Slater, 2013). It was hypothesised to find similar correlations in this adult sample.

3.4 Seeking weight loss information and the use of weight-reduction methods

Due to the popularization of the Internet and the widespread distribution of uncontrolled weight loss and dieting advice; research shows a growing interest in exploring the effect of such content on eating behaviours and EDs.

Hypothesis 1. It has been argued that weight loss seeking behaviour in magazines and online is associated with the elevated risk of using unhealthy and extremely unhealthy weight reduction techniques (Laz et al., 2011; Utter et al., 2003). It was expected in this study that similar results would surface, namely that more frequent magazine and Internet-based weight loss seeking behaviour would also elevate the risk of using unhealthy weight-control methods.

3.5 Predictors of body dissatisfaction and drive for thinness

Investigating the possible contributors to body dissatisfaction created a need for more comprehensive studies. It has been shown that various factors play roles in the development of body dissatisfaction and EDs.

Hypothesis 1. Research showed that media's influence on the body is very complex and leads via various mediating factors, such as physical appearance comparison, thin-ideal internalization, drive for thinness and perceived pressures from the media to attain the slim body ideal (Fitzsimmons-Craft et al., 2014). It was hypothesised that between the media exposure and body dissatisfaction various factors would mediate the relationship.

3.6 Predictors of risk for developing eating disorders

One of the main purposes of the study was to determine possible predictors for developing specified and unspecified EDs. Unspecified EDs (previously as EDs

otherwise not specified) are estimated to affect a larger number of the population than the classical EDs (Fairburn, Cooper, Bohn, O'Connor, Doll, & Palmer, 2007; Machado, Machado, Gonçalves, & Hoek, 2006). The popularization of the media and widespread nature of modified images featuring extremely thin and artificial looking models and the easy accessibility of harmful media messages creates a growing need to understand the possible predictors in the development of specified and unspecified EDs.

Hypothesis 1. Frequent diet, fitness, and health related media (magazines, TV, Internet) use and frequent exposure to ED promoting websites would be in association with the elevated risk of developing specified and unspecified EDs.

4 METHODS

4.1 Participants

The cross-sectional, questionnaire-based study's protocol was approved by the Hungarian Medical Research Council, Scientific and Research Ethics Committee. The sample consisted of 820 respondents (39.9% male). Mean age was 26.5 years ($SD=4.78$, range: 18 - 35 years). In the sample 40.2% of participants ($N=329$) reported having a university degree, 20.4% (167) said they had a college education, 26.3% ($N=215$) of the participants said their highest education is grammar school, 10.7% ($N=88$) reported having finished a vocational secondary school, 1.3% ($N=11$) finished vocational training. Among all participants 0.9% ($N=7$) had elementary school education and only two people (0.2%) reported not having an, at least, elementary school education level. Regarding marital status almost half of the respondents ($N=359$, 43.8%) said they were single, 269 people (32.8%) reported being in a relationship, 9.8% ($N=80$) said they were living in a cohabiting relationship, 12% ($N=98$) reported being married, 1.1% ($N=9$) were divorced and only 0.6% ($N=5$) said they were widowed. Slightly more than half of the participants, 53.3% ($N=437$), reported to be living in Budapest, 36.8% ($N=302$) of all respondents said they were living in a city, 4.4% ($N=36$) said they were living in a small town, 41 person (5%) said they were living in a village, and only four people (0.5%) reported living in a farm.

4.2 Data collection procedures

4.2.1 Dissemination

The participants were recruited via convenience sampling. The survey used in this study was available online on <http://kerdoiv.magtud.hu> as long as the study was active. The study was circulated on university and college e-mail lists from all around the country. Colleagues and Ph.D. students of the Institute of the Behavioural Institute were also asked to forward the e-mail to their contacts introducing the study and the link to the website. Teachers in the Institute and in other universities were also asked to disseminate the study in their seminars. Furthermore, the study was also shared with the researcher's students and acquaintances and they were also asked to forward this information to their acquaintances. Alexandra Béres, who is a fitness world champion

and has her own website, also disseminated this study on her e-mail lists as part of her newsletter to her subscribers. The “Media and mental health” study was advertised on various health, diet, fashion and, mostly, university-related websites as well. Related Facebook pages (with keywords of university, college, student, diet, fitness, lifestyle, health) were also approached and they were asked to submit information about the study and links to the website in new posts on their own Facebook walls. No pages were approached to share the study that seemed to be sharing unhealthy or harmful messages to their users. In addition, those pages whose Facebook content could not be seen were also not approached.

Finally, an article was presented on one of the Hungarian news pages online, which was the <http://444.hu>. This was the only news page portal that responded to the request to advertise the current study with a neutral article about media and health. The article focused more on the positives when being active online, e.g. interacting with friends on social networking sites, and being able to reach up to date information. This news website is thought to be generally popular among Hungarian young adults. However, no details of the readers are available regarding this websites. The link to the study was present in the article at the beginning and at the end of this article.

Most of the dissemination methods were online methods, except the posters and flyers, which were advertised in local universities, gyms, and workplaces. Results showed that most participants (N=346, 42.2%) heard of the study on some website. The second most often cited source was Facebook (N=300, 36.6%), over hundred people (N=106, 12.9%) heard about the study from emails, and fifty-four people (6.6%) reported that they got information from an acquaintance. Ten people (1.2%) said that they heard from the survey on a health promotion and prevention website (ProYouth), and four people (0.5%) reported getting information regarding this study via flyers. All participants had to provide their informed consent prior to filling out the questionnaire. The subjects were not compensated for their participation; however after they finished the survey they were offered a short feedback in case they wanted to leave their e-mail address. No methods were used to prevent participants from filling out the questionnaire multiple times, however, it took approximately 20-25 minutes to fill out the survey and it is unlikely that many people would have wanted to finish the questionnaire twice or more times. Questions could not be skipped as participants were warned when they

missed a question and they could only move to the next page until they answered everything on the current one. The questionnaire was available online on April 23, 2013, and was offline on June 18, 2015.

4.2.2 Online data collection

Online data collection was implemented in the study and most of the dissemination methods were online methods as well, however, we also had a few offline techniques, but these appeared less successful. Based on the report from the Hungarian Central Statistical Office in 2014, in Hungary, 74% of all households had a broadband Internet connection (KSH, 2014). The online survey did not require any specific knowledge to fill in. Unfortunately, when creating the survey we did not have the sufficient technical resources to track all those who received the information regarding the study but decided not to take part. The Internet can function as an effective medium for collecting and exchanging information in psychology-related research (Birnbaum, 2000). In recent years, the use of internet-mediated questionnaire assessment has expanded and constantly growing on the provision of behavioural telehealth (Buchanan, 2003). Studies on web-based psychological assessment indicate that such measures can be reliable and valid. Studies report that participants are more honest when filling in a test online (Davis, 1999; Joinson & Buchanan, 2001). The Internet as a way to collect data has its advantages because it's cheap, can reach various areas, large populations, it holds no time limitation, it is no harder to fill out than a paper-pencil test, and participation is completely voluntary (Riva, Teruzzi & Anolli, 2003).

Due to the perceived anonymity, Joinson (1999) found lower levels of social desirability in filling in online questionnaires compared to paper-pencil test versions. Furthermore, Buchanan (2003) argued that literature on web-based assessments indicates that these online measures can be reliable and valid in the context of psychological testing (Carlbring et al., 2007; Barak, Buchanan, Kraus, Zack, Stricker, 2004). Many researchers reported that when comparing online and offline platforms for the same set of questionnaires, almost all the time no significant differences were found in the psychometric characteristics of these measures. Studies documented that online data collection can be a valid way to assess people in case of e.g. Internet attitudes (Riva, Teruzzi, & Anolli, 2003), panic/agoraphobia research (Carlbring et al., 2007),

depression (Holländare, Andersson, & Engström, 2010), assessing sexual boredom (Meyerson & Tyron, 2003) and obsessive-compulsive symptoms (Coles, Cook, & Blake, 2007). However, Buchanan and colleagues (2005) found some contradictory results in their analysis. They found that in case of a prospective memory test the original factor structure of the questionnaire could not be recovered when the test was administered online. They highlight the importance of testing the equivalence between the offline and online measures, as the testing medium, namely the Internet may influence the outcome. Filling out questionnaires online comes with an increased feeling of anonymity, disinhibition effects and reduced socially desirable responding (Buchanan, 2005). When filling out questionnaires online, people have a lack of supervision or no social presence at all (Bartram & Brown, 2004); they might present increased self-disclosure (Joinson, 1999) and different types or degrees of motivation (Buchanan & Smith, 1999). During an online test the surrounding environment and time of submission are also unknown and uncontrollable (Reips & Musch, 2000). In an online survey people are usually self-selected, therefore they do not form a representative sample. Those who like to fill out questionnaires online skew toward the high end of the socioeconomic and educational spectrum (Birnbaum, 2000). Davis (1999) found that those who participated in the online version of a test had higher levels of self-focused negative thought compared to the offline group. Based on the found differences, there are some important implications when one considers using the Internet to collect data, especially in case of normative data (Buchanan, 2003). Buchanan (2003) implies that when normative data was gathered in a traditional setting it might not be suitable to use as a base for interpreting the scores from online data collection. However, the mentioned differences between online and offline measures are usually minor. Even when the same questionnaire is administered to different samples one might get slightly different factor loadings, and therefore sometimes the difference may as well be the difference between samples. Especially that most measure is tested originally on student samples (Buchanan, 2005). Buchanan and Smith (1999) argues that since online samples are more heterogeneous they might provide a clearer picture of the factor structure of tests than traditional samples, especially when they were filled out mainly by students. Due to the available sizes and diversity in case of online assessing, the Internet could be an important tool. In fact, its weakness can be its

strength and promise a way to recruit a more diverse, representative sample for studies (Reips, 2000).

4.3 Measures

The questionnaires used in this study can be found in the appendix. Self-reported sociodemographic and anthropometric data was collected. All participants provided data on gender, age, education, place of residence, marital status, height (cm) and weight (kg). Body mass index (BMI) was calculated from participants' self-reported anthropometric data.

4.3.1 Media exposure

In the frame of this study, a complex measure was created to assess appearance-focused media exposure. This included magazines, television, and Internet use. All types of media measure followed a previously used pattern by other researchers and focused on individual characteristics of the given media form. This resulted in having three separate parts for measuring magazine reading, television watching, and Internet browsing. The questions reflected how often in general people would use such media sources. The responses, later on, were dichotomized, and based on the characteristics of each media type, groups were created. This was necessary because one of the statistical packages (MPLUS) we used can handle more than two categories within a variable only if that variable is an output variable. Since ordinal variables can not be among the explanatory variables, we had to dichotomize the responses.

4.3.1.1 Magazines

Based on previous studies, that examined the relationship between magazine reading and diet/weight loss methods among adolescent females and high-school girls (Thomsen, Weber, & Brown, 2002; Thomsen, Weber, & Brown, 2001), participants were asked to indicate on a seven-point scale (*0=never, 1=maybe once a year, 2=two to five times a year, 3=six to eleven times a year, 4=once a month, 5=two to four times a month, 6=five or more times a month*) on average how often do they read different magazines (fashion and beauty, fitness and health, gastronomy-themed, women's, gossip, men's, men's health and fitness). Examples were provided to help participants to

answer the question. The different types of example magazines were based on Hungarian selling statistical data (Matesz, 2011). The responses were dichotomized and we separated participants into two groups: the first group included those who read diet, health and fitness related magazines less often than once a month and the other group included those who read magazines at least once a month.

4.3.1.2 *Television*

Respondents were asked to indicate the average amount of time they spent watching TV in general during weekdays and during weekends. The question was based on Raynor, Phelan, Hill, and Wing's study (2006). Responses to this question were recorded on a seven-point scale with the following options: *0 to 1 h, 2 to 5 hrs, 6 to 10 hrs, 11 to 20 hrs, 21 to 40 hrs, 41 to 60 hrs, and more than 61 hrs*. We also asked participants to indicate on a five-point scale how many times they engaged watching fitness and healthy lifestyle related TV programmes per week. These questions were based on Schooler and Trinh's (2011) study. Questions ranged from 'never' (1), 'less than once a week', '1-2 days per week', '3-4 times per week' to 'at least 5 times per week' (5). The later responses were dichotomized during the analysis and were separated into two groups, those who watched these shows less than once a week and those who engaged watching fitness and healthy lifestyle related TV programmes at least on a weekly basis.

4.3.1.3 *Internet*

Based on Tiggemann and Miller's study (2010), we asked participants to indicate their average time spent on the Internet and also separately on social networking sites each day during the week and on the weekend (*0=none, 1=30 min or less, 2=1 hour, 3=2 hours, 4=3 hours, 5=4 hours or more*). Participants were also asked to indicate their self-rated level of media exposure (*0=never, 1=maybe once a month, 2=2-5 times a month, 3=6-11 times a month, 4=weekly, 2-4 times a week, 5=5 or more times a week, daily, 6=many times a day*) regarding different internet sites (social networking, cooking and gastronomy, women pages, gossip, health and health promotion sites, diet and fitness, websites of women's magazines, websites of men's magazines, websites of men's fitness and health magazines, pornographic content, EDs promoting websites). Based on recent statistical reports of the most popular Hungarian sites (DMTK, 2014),

we gave examples of websites on each topic. The responses were dichotomized and participants were separated into two groups: those who visited these pages less than weekly and those who visited these pages at least once a week.

4.3.1.4 *Online Television programmes*

When measuring the frequency of browsing different Internet topics, we also gathered data regarding average time spent watching TV programmes online. We also asked respondents to indicate on a 5-point scale (*0=never, 1=less than once a week, 2=1-2 times a week, 3=3-4 times a week, 4=at least 5 times a week*) how many times they engaged in watching different TV programmes online such as films and series, reality shows, cooking shows and gastronomy, health and fitness themed programmes, music videos, cosmetic makeover and styling shows, and pornographic content.

4.3.2 Questionnaires

4.3.2.1 *The Eating Disorder Inventory*

The **Eating Disorder Inventory** (EDI; Garner, Olmstead, & Polivy, 1983; Hungarian version, see: Túry, Sáfrán, Wildmann, & László, 1997) is a self-report questionnaire to measure the different aspects of EDs related emotional and cognitive factors. The questionnaire consists of 64 questions, divided into eight subscales rated on a 6-point Likert-type scale from never (1) to always (6). Out of the eight subscales, we used the clinically most relevant three subscales: The Drive for thinness, Body dissatisfaction, and Bulimia. The *Drive for thinness* subscale is designed to measure the concerns regarding dieting, preoccupation with weight, drive to lose weight and fear of weight gain. Items on the *Body dissatisfaction* subscale reflect the belief that the shape of certain body parts (abdomen, hips, buttocks, thighs) should change or that they are too fat. The *Bulimia* subscale indicates the tendency to have episodes of uncontrollable overeating and the possible impulse to engage in self-induced vomiting afterwards. Higher scores indicate higher drive for thinness, greater body dissatisfaction and a greater risk for bulimia. Cut off points are the following: for *Drive for thinness* it is ≥ 14 points, for *Body dissatisfaction subscale* it is ≥ 21 points and for the *Bulimia subscale* it is ≥ 14 points. The Hungarian version of the questionnaire's internal consistency is

satisfactory (Túry et al., 1997). Cronbach's alphas for the subscales ranged from 0.78 to 0.89 and proved to be acceptable in the present study.

4.3.2.2 *The SCOFF questionnaire*

The **SCOFF questionnaire** (Morgan, Reid, & Lacey, 1999, Hungarian version, see: Dukay-Szabó, Simon, Varga, Szabó, Túry, & Rathner, in press) is a short tool designed to detect eating disorders. It consists of 5 items assessing the possibility of having an eating disorder. The name of the questionnaire is an acronym, where the initials of each question add up to the word SCOFF: **S**ick, **C**ontrol, **O**ne stone (14 lbs. /6.5 kg), **F**at, and **F**ood. Participants can answer yes or no to each question, where each 'yes' answer is recorded as 1 point. Two or more points indicate the suspicion of anorexia nervosa or bulimia nervosa. The scale has excellent validity in a clinical population and reliability in a student population. With setting the cut-off at two positive answers, 100% sensitivity is provided for detecting anorexia and bulimia, separately and combined (all cases, 95% confidence interval 96.9% to 100%; bulimic cases, 92.6% to 100%; anorectic cases, 94.7% to 100%), with a specificity of 87.5% (79.2% to 93.4%) for controls (Morgan et al., 1999).

4.3.2.3 *The Short Evaluation of Eating Disorders questionnaire*

The **Short Evaluation of Eating Disorders questionnaire** (SEED; Bauer, Winn, Schmidt, & Kordy, 2005; Hungarian version, see: Szabó et al., 2015) was developed to assess the main symptoms of anorexia (AN): the degree of underweight, fear of weight gain and distortion of body perception and bulimia (BN): amount of binge eating, compensatory behaviour and overconcern with body weight and shape. The SEED is a self-report questionnaire. Based on the answers to the above-mentioned questions, a calculation of two total severity indices (TSI) is made. The AN and BN total severity indices (ANTSI and BNTSI) are both based on complex calculations, where in case of AN, the degree of underweight status (BMI), fear of weight gain, and distortion of body perception are used to calculate the TSI. In case of BN the amount of binge eating, the amount of compensatory behaviour and overconcern with body shape and weight is used to calculate the BNTSI (see: Bauer et al., 2005 for extended details). The

questionnaire was designed for a fast assessment of the main ED symptoms. The SEED has excellent reliability and validity (Bauer et al., 2005).

4.3.2.4 *The Sociocultural Attitudes Towards Appearance Questionnaire*

The **Sociocultural Attitudes Towards Appearance Questionnaire** (SATAQ-3; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004; Hungarian version, see: Czeglédi, Pál, & Bartha, 2015) assesses various sociocultural influences delivered by the media with a possible influence on body image and eating disorders. The 30-item self-report questionnaire consists of four subscales: Internalization-General, Internalization-Athlete, Pressures, and Information. Items are rated on a five-point Likert-type scale from definitely disagree (1) to definitely agree (5). The *Internalization-General* subscale assesses involvement and acceptance of media messages supporting the present unrealistic thin-ideals. The *Internalization-Athlete* subscale assesses the acceptance and internalization of an athletic body ideal.

The *Pressures* subscale assesses the individual's rating of perceived pressures to attain the cultural ideals of physical appearance portrayed by the media and how much a person engages in potentially health-risk behaviours (e.g., dieting, exercise) to change one's physical appearance. The *Information* subscale measures the importance of various forms of media (television, magazines, and movies) in acquiring information about attractiveness. Higher scores on the subscales indicate a higher internalization, greater perceived pressure from the media regarding appearance and higher subjective importance of media messages. The Hungarian version of the questionnaire's internal consistency was satisfactory in a high school and university female sample. However, based on the results of the exploratory factor analysis, some items of the *Internalization-Athlete* subscale showed significant overlapping with the *Internalization-General* factor (Czeglédi et al., 2015). The scale's internal consistency in the current study is also acceptable (Cronbach's alphas are 0.94 in both cases).

4.3.2.5 *The Rosenberg Self-esteem Scale*

The **Rosenberg Self-esteem Scale** (RSE; Rosenberg, 1965; Hungarian version, see: Paksi, Felvinczi, & Schmidt, 2004) is a 10-item, Likert-type scale (1=strongly disagree, 4=strongly agree) for the measurement of global self-esteem understood as a person's

overall evaluation of his or her worthiness as a human being. Higher scores reflect higher self-esteem. Previous studies on the Hungarian version of RSES demonstrated adequate internal consistency (Paksi et al., 2004). In the present sample, the Cronbach's alpha is 0.86.

4.3.2.6 *Beliefs About Attractiveness Scale-Revised*

The **Beliefs About Attractiveness Scale-Revised** (BAA-R; Petrie, Rogers, Johnson, & Diehl, 1996; Hungarian version, see: Czeglédi & Szabó, 2016) is a 19-item self-report questionnaire. It consists of two subscales: the Importance of being Physically Fit and the Importance of Being Attractive and Thin. The *Importance of Being Physically Fit* subscale (9 items) measures attitudes towards Western values about attractiveness regarding the importance of being fit and in a good shape, with questions like “A physically fit and in-shape body reflects the beauty ideal for women”. The *Importance of Being Attractive and Thin* subscale (10 items) measures the importance of being good-looking and thin with questions such as “It is not that important for overweight women to spend money on clothes since they will look unattractive no matter what they wear”. Individuals rated their agreement on a 7-point Likert-type scale from strongly disagree (1) to strongly agree (7). To calculate the subscale scores, specified items on each scale were added together and then divided by the number of items on the scale. Final scores ranged from 1 to 7. Higher scores indicated a greater ratification of societal standards of attractiveness. In a previous study internal consistency scores appeared to be satisfactory for the full scale 0.87, and for the subscales as well, 0.90, 0.90 respectively (Meyer, 2005).

4.3.2.7 *The Physical Appearance Comparison Scale*

The **Physical Appearance Comparison Scale** (PACS; Thompson, Heinberg, & Tantleff-Dunn, 1991) is a five-item scale that explores an individual's tendency to compare their own physical appearance to the appearance of others. Answers range from never (1) to always (5). The questionnaire was validated on 80 female undergraduates with satisfactory internal consistency (Thompson et al., 1991). The scale was found to have adequate reliability in a previous study, with an alpha of 0.76 (Van den Berg, Thompson, Obremski-Brandon, & Coover, 2002). However another study

found that one of the items had a negative relation with the item total and after deleting this item the Cronbach's alpha for the remaining 4 items was 0.80 (Keery, Boutelle, van den Berg, & Thompson, 2005).

4.3.2.8 *The Social Comparison Scale*

The **Social Comparison Scale** (SCS; Allan & Gilbert, 1995) assesses perceived social rank and relative social standing. The scale consists of 11 bipolar items and uses a semantic differential methodology. Participants are required to make a global comparison of themselves in relation to others and to rate themselves on a ten-point scale with questions such as: “*In relationship to others I feel:*

Incompetent 1 2 3 4 5 6 7 8 9 10 More competent”

The 11-items contain self-judgments regarding social ranking, overall attractiveness, and how well the person thinks they ‘fit in’ the society. Lower scores indicate feelings of inferiority and general low-rank self-perceptions. The scale has good reliability on clinical and student populations as well (Allan & Gilbert, 1995, 1997).

The **Physical Appearance Comparison Scale** and the **Social Comparison Scale** has been translated into Hungarian respectively in the frame of the study and, after retranslation and following back into English, professional translators did not find any meaningful differences (back-translation method; see, for instance, Brislin, 1986).

In the current study, the internal consistencies of all the above-mentioned scales were acceptable; results are detailed in Table 8.

4.3.2.9 *Dieting habits*

We asked participants questions regarding weight loss information exposure (online and in magazines) where and how they obtain information regarding weight reduction. The questions were mainly based on Laz and Berenson's study (2011). Participants also had to indicate whether they have ever been on a diet for weight loss, been part of an online weight loss group or whether they are dieting now to lose weight. The complete list of questions is attached in the Appendix.

4.4 Statistical Analyses

Analyses were conducted using SPSS version 21.0, ROPstat (Vargha, Torma, & Bergman, 2015), and MPLUS version 7.11 (Muthén & Muthén, 1998–2010) statistical packages. For testing the factor structure of the BAA-R, PACS, and SCS, we used both confirmatory (CFA) and exploratory (EFA) factor analysis. In both cases, we used the robust maximum likelihood estimation method (MLR) which is less sensitive to breaches of normality (Muthén & Muthén, 1998–2010). We used geomin rotation for EFA. To evaluate the fit of the structural equation modelling (SEM) models the recommended fit indices were used: the Comparative Fit Index (CFI), the Tucker-Lewis Fit Index (TLI), the Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR). For CFI and TLI values between 0.90 and 0.95 indicate an acceptable fit, and values greater than 0.95 suggest good fit. RMSEA assesses approximate fit, with values below 0.08 indicating an acceptable fit, values below 0.05 indicating a good fit. The SRMR can take a range of values between 0.0 and 1.0, with 0.0 indicating a perfect fit (i.e., the smaller the SRMR, the better the model fit). Chi-square values and their p-values were reported to be less suitable indicators of model fit since they are sensitive to sample size and model complexity (Brown, 2006). Cronbach's α coefficients were used to estimate the internal consistency of scales. Comparing women and men, Chi-square test was used in case of categorical variables, and independent samples t-test or Mann-Whitney U-test were used for continuous variables. Effect sizes were estimated using Cohen's d, with thresholds of 0.20 for a 'small' effect, 0.50 for a 'medium' effect and 0.80 for a 'large' effect (Cohen, 1992). Linear relationships were tested using correlational analysis (Pearson's correlation or Spearman's rank correlation). The interpretation of the correlation coefficient value was based on Cohen's (1988) definition: weak below 0.3, moderate from 0.3 to 0.5, 0.5 and above were considered as strong linear relationships.

Multiple binary logistic regression analysis was used to test the predictors for weight reduction methods. The relationship between media exposure and body image dissatisfaction was examined with structural equation modelling (SEM), applying the MLR robust estimator. A multiple indicators and multiple causes (MIMIC) analysis were conducted, where internalization was treated as a latent variable. Risk factors for EDs were tested via multinomial logistic regression analysis.

5 RESULTS

5.1 Psychometric properties of the questionnaires

5.1.1 Psychometric analysis of the Beliefs About Attractiveness – Revised questionnaire

Results of the confirmatory factor analysis did not support the theoretical two-factor structure of the questionnaire ($\chi^2_{(171)}=5124.8$, $p<0.001$; CFI=0.816; TLI=0.792; RMSEA=0.086 [CI90: 0.081; 0.091], SRMR=0.066). Therefore, we used exploratory factor analysis to test the factor structure of the BAA-R questionnaire. The goodness of fit indices of the three-factor solution appeared acceptable ($\chi^2_{(171)}=5124.8$, $p<0.001$, CFI=0.944, TLI=0.918, RMSEA=0.054 [0.048; 0.060], SRMR=0.030). Item classification was carried out based on these rules: an item belonged exclusively to only one factor when its factor loading of 0.25 was reached only on one factor or if its factor loading was twice as big on one factor compared to its loading on any other factors (Székelyi & Barna, 2002). Based on this out of 19 items, 14 was unequivocally classified. The first factor consists of the original ‘importance of being attractive and thin’ items 2, 3, 4, 5, 13 and 15. The second factor consists of the original ‘importance of being physically fit and in-shape’ items 1, 8, 10, 12, and 17. We identified a third factor as well, which contains item 11, 14 and 19. This factor depicts the ‘importance of experiencing life fulfilment’ via attractiveness. These items originally belonged to ‘the importance of being thin’ factor. However, their content depicts more ‘the importance of a life fulfilment’, life enjoyment (e.g. “Attractive women lead more fulfilling lives than unattractive women”) than the importance of being thin. The factors showed positive, moderate, and strong linear relationships with each other. Results of the exploratory factor analysis are detailed in Table 1. Based on the three-factor solution we calculated the scores on the three scales. All further analyses happened with these scales. Internal consistency of the scales appeared acceptable. (Table 3). Construct validity of BAA-R is supported by the positive, significant relationships with the internalization subscales of the SATAQ-3 questionnaire (see in Chapter 5.3, Table 9).

Table 1: Results of the exploratory factor analysis of the Beliefs About Attractiveness – Revised (standardized factor loading estimates).

Items	Standardized factor loadings		
	1 st factor	2 nd factor	3 rd factor
2. It is not that important for overweight women to spend money on clothes since they will look unattractive no matter what they wear.	0.68*	0.01	0.02
3. A woman with an attractive face will not get very far in life without a thin body.	0.57*	0.05	0.01
4. Overweight women lack self-control and discipline.	0.62*	0.07	0.03
5. The heavier a woman is, the less attractive she is.	0.70*	0.28*	-0.06
13. Overweight women should be embarrassed by how they look.	0.60*	-0.11	0.21*
15. The thinner a woman is the more attractive she is.	0.38*	0.11*	0.23*
1. People would prefer to date thin rather than overweight women.	0.24*	0.53*	0.01
8. Thinness represents the current beauty ideal for women.	0.02	0.52*	0.00
10. The more physically fit an in-shape a woman is; the more likely it is she will have a romantic partner.	0.18*	0.38*	0.24*
12. It is important for women to be physically fit and in-shape.	0.01	0.52*	0.15
17. A physically fit and in-shape body reflects the beauty ideal for women.	0.02	0.66*	0.12
11. Attractive women are more interesting and outgoing than unattractive women.	0.17*	-0.04	0.54*
14. Attractive women lead more fulfilling lives than unattractive women.	0.09	0.02	0.70*
19. Women who are physically fit and in-shape have more fun than those who are not.	0.01	0.03	0.84*
6. Being physically fit and in-shape is directly related to attractiveness.	0.40*	0.41*	0.09
7. Physically fit and in-shape women have a greater sense of well-being.	0.04	0.26*	0.47*
9. Attractive women are smarter than unattractive women.	0.30*	0.25*	0.30*
16. Attractiveness increases the likelihood of professional success.	0.05	0.30*	0.29*
18. Physically fit and in-shape women have more self-confidence.	0.16*	0.39*	0.56*
Correlation coefficients between the factors			
1 st factor: Importance of being attractive and thin	-		
2 nd factor: Importance of being physically fit and in-shape	0.29*	-	
3 rd factor: Importance of experiencing life fulfilment	0.54*	0.50*	-

Note: *p<0.05. Exploratory factor analysis was carried out using MLR method and geomin rotation. We classified items based on the following rule: One item belongs and exclusively belongs to one factor only if its factor loading was above 0.25 only on one factor or if its factor loading was twice as big on one factor as its loadings on any other factors (Székelyi & Barna, 2002). Clearly definable item factor loadings are highlighted in bold.

5.1.2 Psychometric analysis of the Physical Appearance Comparison Scale

First of all, we tested the single factor structure of the PACS with confirmatory factor analysis (CFA), however among the goodness of fit indicators the RMSEA did not show an acceptable model fit ($\chi^2_{(10)}=1220.7$, $p<0.001$; CFI=0.963; TLI=0.927; RMSEA=0.104 [CI90: 0.079–0.131]; SRMR=0.042). Factor loading of the 4th item (*Comparing your "looks" to the "looks" of others is a bad way to determine if you are attractive or unattractive.*) appeared to be very low (0.24, $p<0.001$). This could be because of the wording of the item since this item is the only reverse item. After deleting the 4th item and repeating the CFA, goodness of fit indices became especially good ($\chi^2_{(6)}=1047.1$, $p<0.001$; CFI=0.996; TLI=0.988; RMSEA=0.051; RMSEA CI90: 0.008–0.099; SRMR=0.009). Factor loadings ranged from 0.56 to 0.90. During the analyses, the four-item long version of PACS was used; this has adequate internal reliability (Table 3). Pearson's correlation was calculated between the original five item long and the new four-item long PACS questionnaires. A strong correlation was found between the original and the shorter version ($r=0.97$, $p<0.001$), suggesting a high correspondence between the two questionnaires.

5.1.3 Psychometric analysis of the Social Comparison Scale

The confirmatory factor analysis did not support the single factor structure of the questionnaire ($\chi^2_{(55)}=3883.6$, $p<0.001$; CFI=0.735; TLI=0.669; RMSEA=0.168; RMSEA CI90: 0.159–0.176; SRMR=0.074). During the exploratory factor analysis the goodness of fit of the three-factor solution appeared acceptable ($\chi^2_{(55)}=3883.6$, $p<0.001$; CFI=0.966; TLI=0.924; RMSEA=0.080; RMSEA CI90: 0.068 –0.092; SRMR=0.025).

The first factor ("Competence") depicts the skill and ability related social attributes on which base people can make comparisons to each other, the second factor ("Social acceptance") describes the social acceptance, social-belonging related attributes and the third factor ("Physical features") is related to the physical attributes people make comparisons based on. Although the third factor is treated here as "Physical features" it is important to note that one item (*Undesirable/More desirable*) could be explained as a social attribute not just as a physical, it is up to the readers interpretations. Factors showed positive, strong linear relationship with each other. The results of the

exploratory factor analysis are detailed in Table 2. Because the “Physical features” factor only consists of two items it was not used during the analyses especially that this aspect is already measured by the Physical Appearance Comparison Scale. The scores of the other two scales (Competence and Social acceptance) were calculated using cumulative scaling algorithm. Higher scores on the Competence subscale means that the individual rates themselves more superior, competent, talented, and stronger in comparison to others. Higher scores on the Social acceptance subscale indicates that the individual rated their social ranking higher compared to others, as of meaning to be more likely someone who is more acceptable, more accepted and more likely as an insider. Internal consistency of the scales appeared acceptable (Table 3). All further analyses were carried out with these scales.

Table 2: Results of the Social Comparison Scale’s exploratory factor analysis (standardized estimations of the three-factor-solution factor loadings)

Items	Factor loadings		
	1 st factor	2 nd factor	3 rd factor
1. Inferior/Superior	0.67*	0.10	0.02
2. Incompetent/More competent	0.95*	-0.01	-0.11
6 Unlikeable/More likeable	0.12	0.49*	0.17*
7 Left out/Accepted	-0.01	0.96*	-0.12
8 Different/Same	-0.30*	0.58*	0.02
9 Untalented/More talented	0.70*	-0.01	0.08
10 Weaker/Stronger	0.43*	0.10	0.23*
11 Unconfident/More confident	0.36*	0.19*	0.29*
12 Undesirable/More desirable	-0.04	0.02	0.98*
13 Unattractive/More attractive	0.02	0.07	0.99*
14 An outsider/An insider	0.10	0.78*	-0.01
Correlation coefficients between the factors			
1 st factor: Competence	-		
2 nd factor: Social acceptance	0.65*	-	
3 rd factor: Physical features	0.62*	0.73*	-

Note: * $p < 0.05$. Exploratory factor analysis was carried out using MLR method and geomin rotation. We classified items based on the following rule: One item belongs and exclusively belongs to one factor only if its factor loading was above 0.25 only on one factor or if its factor loading was twice as big on one factor as its loadings on any other factors (Székelyi & Barna, 2002). Clearly classifiable item factor loadings are highlighted in bold.

In Table 3 we detail the descriptive statistics and internal consistency of BAA-R, PACS, and SCS questionnaires regarding the entire sample and along genders.

Table 3: Descriptive statistics of the questionnaires and gender comparison

Sample		BAA-R Importance of being attractive and thin (6 items)	BAA-R Importance of being physically fit and in-shape (5 items)	BAA-R Importance of experiencing life fulfilment (3 items)	PACS (4 items)	SCS Competence (4 items)	SCS Social acceptance (3 items)
Total sample (N=820)	Mean (SD)	5.2 (1.13)	2.8 (1.29)	3.6 (1.65)	11.2 (4.09)	25.5 (6.28)	18.4 (5.91)
	Range	1-7	1-7	1-7	4-20	4-40	3-30
	Cronbach's Alpha [CI95]	0.82 [0.80-0.84]	0.75 [0.72-0.77]	0.78 [0.75-0.80]	0.85 [0.84-0.87]	0.82 [0.80-0.84]	0.84 [0.82-0.86]
Women (N=493)	Mean (SD)	5.2 (1.19)	2.7 (1.33)	3.7 (1.72)	12.1 (4.07)	24.8 (6.38)	18.1 (5.97)
	Range	1-7	1-7	1-7	4-20	4-40	3-30
	Cronbach's Alpha [CI95]	0.83 [0.80-0.85]	0.77 [0.74-0.80]	0.79 [0.75-0.82]	0.86 [0.84-0.88]	0.83 [0.81-0.86]	0.86 [0.83-0.88]
Men (N=327)	Mean (SD)	5.3 (1.03)	2.9 (1.23)	3.5 (1.54)	9.8 (3.72)	26.6 (5.98)	18.8 (5.80)
	Range	1-7	1-7	1-7	4-20	4-40	3-30
	Cronbach's Alpha [CI95]	0.81 [0.78-0.84]	0.71 [0.66-0.76]	0.76 [0.71-0.80]	0.82 [0.79-0.85]	0.81 [0.79-0.85]	0.81 [0.77-0.81]

Note: BAA-R: Beliefs About Attractiveness Scale-Revised, PACS: Physical Appearance Comparison Scale, SCS: Social Comparison Scale. CI95: 95% confidence interval

5.2 Descriptive statistics

5.2.1 Media exposure

Due to the low sample numbers in each category, and to support easier result analysis and interpretation, we combined answer options when detailing the frequencies of using various media types. These combined categories we also used when comparing men and women along media use.

5.2.2 Magazine reading

The combined categories included the following frequencies: *Never*, *At least once a year*, *At least once a month*. According to the results, 40.9% of all participants never read fashion or beauty related magazines. Among all respondents, 52.9% reported reading fashion or beauty magazines at least once a year and 6.2% reads them at least once a month. Of all participants 56.2% reported that they never read health, fitness magazines, 38.3% read them only once a year and 5.5% said they read these magazines at least once a month. Almost half of the participants (49.8%) reported that they never read gastronomy related magazines, 41.2% said they read them at least once a year and 9%, at least, monthly. Regarding women's magazines, of all participants 44.9% reported never reading them, 45.1% said they read them at least once a year and 10% once a month. Gossip magazines were less popular, 57.2% of respondents said they never read them, 37.1% reported reading them at least once a year and 5.7% indicated they read these magazines at least once a month. Among all participants, 80.6% said they never read men's magazines, 18.9% reads them at least once a year, and only 0.5% can be considered as monthly readers. Reading frequency of men's health and fitness magazines are similar, 84.6% of participants never read these magazines, 13.7% reads them at least once a year and 1.7% at least once a month.

Results of the Chi-square tests (Table 4) indicate that men read men's magazines, men's fitness, and health magazines more often than women did. In case of the other magazines, women were representing a higher proportion.

Table 4: Details of various magazine-type reading frequencies along gender and gender comparison.

Magazine type	Sample	Never	At least once a year	At least once a month	$\chi^2_{(2)}$
		N (%)			
Fashion, beauty	Total	335 (40.9%)	434 (52.9%)	51 (6.2%)	183.762***
	Male	226 (69.1%)	97 (29.7%)	4 (1.2%)	
	Female	109 (22.1%)	337 (68.4%)	47 (9.5%)	
Health, fitness	Total	461 (56.2%)	314 (38.3%)	45 (5.5%)	110.681***
	Male	257 (78.6%)	62 (19%)	8 (2.4%)	
	Female	204 (41.4%)	252 (51.1%)	37 (7.5%)	
Gastronomy	Total	408 (49.8%)	338 (41.2%)	74 (9%)	109.342***
	Male	236 (72.2%)	74 (22.6%)	17 (5.2%)	
	Female	172 (34.9%)	264 (53.5%)	57 (11.6%)	
Women's magazines	Total	368 (44.9%)	370 (45.1%)	82 (10%)	163.807***
	Male	235 (71.9%)	83 (25.4%)	9 (2.8%)	
	Female	133 (27%)	287 (58.2%)	73 (14.8%)	
Gossip	Total	469 (57.2%)	304 (37.1%)	47 (5.7%)	17.812***
	Male	214 (65.4%)	103 (31.5%)	10 (3.1%)	
	Female	255 (51.7%)	201 (40.8%)	37 (7.5%)	
Men's magazines	Total	661 (80.6%)	155 (18.9%)	4 (0.5%)	30.602***
	Male	233 (71.3%)	92 (28.1%)	2 (0.6%)	
	Female	428 (86.8%)	63 (12.8%)	2 (0.4%)	
Men's health and fitness	Total	694 (84.6%)	112 (13.7%)	14 (1.7%)	30.276***
	Male	249 (76.1%)	70 (21.4%)	8 (2.4%)	
	Female	445 (90.3%)	42 (8.5%)	6 (1.2%)	

Note: *** p<0.001

5.2.3 Television watching

We measured the time spent watching television programmes. Regarding weekdays, on an average week 65.2% of respondents watch maximum an hour of television, 24.6% reported to watch TV on average 2-5 hours, 5.7% watches 6-10 hours of television and 4.4% watches even more than this. Regarding weekends 50.4% of all participants said they watched TV maximum for an hour, 37.7% reported watching TV about 2-5 hours on weekends, 8.9% watches television for about 6-10 hours and 3.0% watches more than 11 hours of television on weekends. Chi-square test showed that women spend more time watching TV than men on weekdays and on weekends ($\chi^2_{(3)}=12.780$, $p=0.005$, and $\chi^2_{(3)}=7.973$, $p=0.047$). Results are detailed in Figure 1.

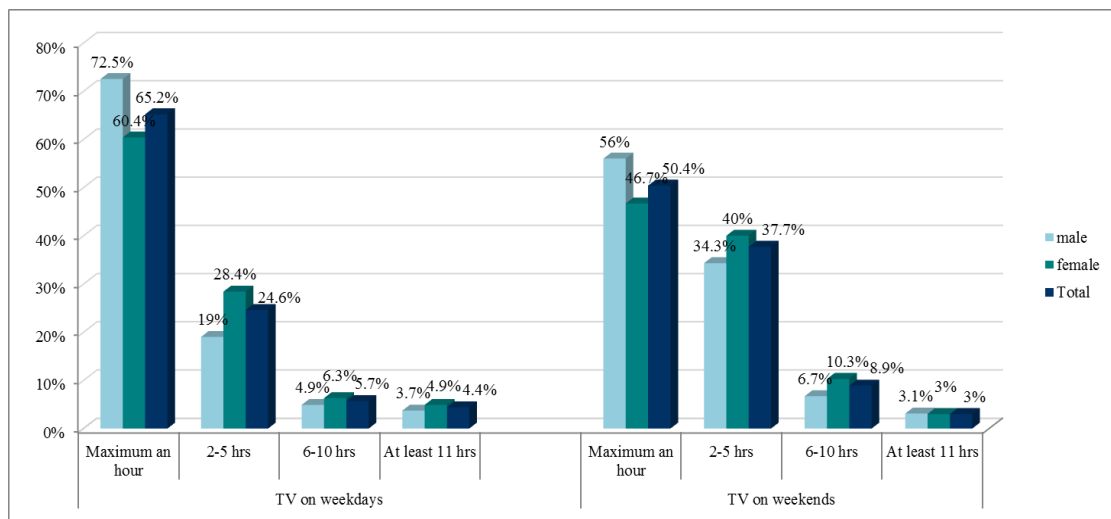


Figure 1: Television watching on weekdays and weekends

In terms of viewing certain types of TV programmes, results are summarized as follows. The combined categories included the following frequencies: *Never*, *Less than once a week*, *At least once a week*. Among all participants 31.2% never watches TV films, series, 29% watches them but less often than weekly, 39.8% of participants watches these films, series at least on a weekly base. Of all respondents 83.4% never watches Reality shows on TV, 9.3% watches them less than once a week and 7.3% said that they watch such shows at least once a week. Regarding Gastronomy, cooking shows, 61.1% of the participants said they never watch these shows, 24.1% watches them less than weekly and 14.8% of them at least once a week. Fitness and health programmes are less popular, 75.6% of participants said they never watch such programmes on TV, 17% said they watch them but less than once a week and 7.4% reported watching them, at

least, weekly. In regards to music videos on TV, 68.8% of respondents said they never watch them, 20.2% watches them less than weekly, and 11% watches them on a weekly basis. In terms of cosmetic makeover shows 71.8% of participants reported that they never watch them, 19.8% of them watches these shows less than weekly and 8.4% on a weekly basis. Answers regarding watching pornographic programmes on TV showed the following: 87.2% of all participants never watch them, 8.8% watches them less than once a week, and only 4% reported to be watching them at least once a week.

Results of Chi-square tests show that women reported spending more time watching TV in all measured aspect but one (adult movies). In case of pornographic content, men reported engaging in this activity significantly more often. Results are detailed in Table 5.

Table 5: Genders differences and gender comparison regarding watching various TV programmes

TV program	Sample	Never	Less than once a week	At least once a week	$\chi^2_{(2)}$
		N (%)			
Movies, series	Total	256 (31.2%)	238 (29.0%)	326 (39.8%)	26.394***
	Male	133 (40.7%)	93 (28.4%)	101 (30.9%)	
	Female	123 (24.9%)	145 (29.4%)	225 (45.6%)	
Reality shows	Total	684 (83.4%)	76 (9.3%)	60 (7.3%)	12.226**
	Male	291 (89%)	20 (6.1%)	16 (4.9%)	
	Female	393 (79.7%)	56 (11.4%)	44 (8.9%)	
Gastronomy, cooking shows	Total	501 (61.1%)	198 (24.1%)	121 (14.8%)	36.491***
	Male	241 (73.7%)	55 (16.8%)	31 (9.5%)	
	Female	260 (52.7%)	143 (29%)	90 (18.3%)	
Fitness, health programmes	Total	620 (75.6%)	139 (17%)	61 (7.4%)	64.296***
	Male	295 (90.2%)	26 (8%)	6 (1.8%)	
	Female	325 (65.9%)	113 (22.9%)	55 (11.2%)	
Music videos	Total	564 (68.8%)	166 (20.2%)	90 (11%)	35.659***
	Male	261 (79.8%)	51 (15.6%)	15 (4.6%)	
	Female	303 (61.5%)	115 (23.3%)	75 (15.2%)	
Cosmetic makeover shows	Total	589 (71.8%)	162 (19.8%)	69 (8.4%)	88.558***
	Male	294 (89.9%)	26 (8%)	7 (2.1%)	
	Female	295 (59.8%)	136 (27.6%)	62 (12.6%)	
Adult movies (porn)	Total	715 (87.2%)	72 (8.8%)	33 (4%)	14.228**
	Male	281 (85.9%)	23 (7%)	23 (7%)	
	Female	434 (88%)	49 (9.9%)	10 (2%)	

Note: ** $p < 0.01$. *** $p < 0.001$

5.2.4 Internet use

In case of Internet use, it was found that on weekdays 10.7% of all participants spends maximum an hour browsing online, 44.3% reported using the Internet for 2-3 hours and 45% spends at least 4 hours online. Among all respondents, 13.0% spends maximum an hour online, 37.9% is on the Internet for 2-3 hours, and almost half of the participants (49%) reported spending more than 4 hours online on weekends. The Chi-square test results showed that both on weekdays and on weekends men spend significantly more time online than women ($\chi^2_{(2)}=32.417$, $p<0.001$, and $\chi^2_{(2)}=21.603$, $p<0.001$). Results are detailed in Figure 2.

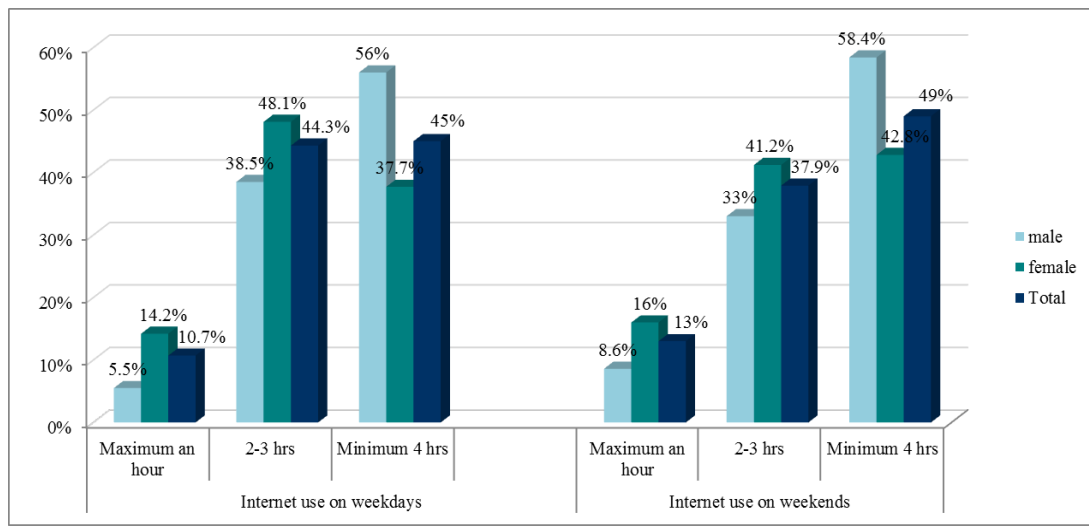


Figure 2: Internet use on weekdays and weekends

5.2.5 Online television watching

Many TV programmes can be accessed via the Internet; therefore, we also examined the online television watching frequency and the frequencies of various programmes. Results of the Chi-square tests showed that men spend more time watching online programmes on weekdays and on weekends too ($\chi^2_{(3)}=50.270$, $p<0.001$, and $\chi^2_{(3)}=36.754$, $p<0.001$, respectively). Results are detailed in Figure 3.

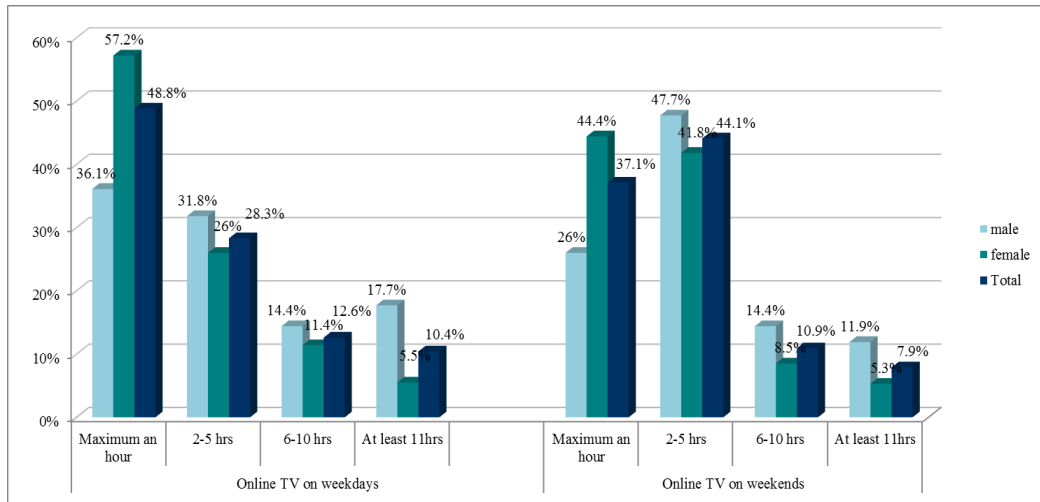


Figure 3: Online TV exposure on weekdays and weekends

The various online program watching frequencies can be summarized as follows. Among all respondents 25.4% never watches films or series online, 20.7% only does this less than once a week and 53.9% watches films and series at least once a week. Regarding online reality shows 92.2% of participants reported that they never watch such shows online, 3.4% said they watch these less than once a week and 4.4% engages in watching shows like this at least once a week. Among all participants, 84.1% reported never watching online gastronomy, cooking shows, 12.1% said they watch them less than once a week and 3.8% watches them at least once a week. In case of online fitness, healthy lifestyle shows 89.8% of all participants said they never watch these program, 7.2% watches them online less than once a week and 3% at least once a week. Among all respondents 20.9% said they never watch music videos online, 20% watches them once a week and more than half of the participants (59.1%) they watch them at least once a week. Among all participants 87.1% never engages in watching cosmetic makeover shows online, 10% watches them less than once a week and 2.9% at least once a week. Answers regarding adult movies (porn) indicate that of all respondents almost half, 48.7% never watches them online, 22.8% watches these programmes less than once a week online and more than a quarter of them (28.5%) watches these programmes at least once a week. According to the Chi-square analysis, men engaged significantly more often in watching movies, music videos and porn online than women did. Meanwhile, women engaged significantly more often in

watching reality shows, fitness and healthy lifestyle programmes, cosmetic makeover shows online than men do. We detail the results in Table 6.

Table 6: Gender comparison of various online TV program watching frequencies.

Online program type	Sample	Never	Less than once a week	At least once a week	$\chi^2_{(2)}$
		N (%)			
Online movies, series	Total	208 (25.4%)	170 (20.7%)	442 (53.9%)	14.662**
	Male	69 (21.1%)	55 (16.8%)	203 (62.1%)	
	Female	139 (28.2%)	115 (23.3%)	239 (48.5%)	
Online reality shows	Total	756 (92.2%)	28 (3.4%)	36 (4.4%)	6.707*
	Male	310 (94.8%)	5 (1.5%)	12 (3.7%)	
	Female	446 (90.5%)	23 (4.7%)	24 (4.9%)	
Online gastronomy, cooking shows	Total	690 (84.1%)	99 (12.1%)	31 (3.8%)	3.519
	Male	284 (86.9%)	31 (9.5%)	12 (3.7%)	
	Female	406 (82.4%)	68 (13.8%)	19 (3.9%)	
Online fitness, healthy lifestyle shows	Total	736 (89.8%)	59 (7.2%)	25 (3.0%)	11.729*
	Male	308 (94.2%)	14 (4.3%)	5 (1.5%)	
	Female	428 (86.8%)	45 (9.1%)	20 (4.1%)	
Online music videos	Total	171 (20.9%)	164 (20.0%)	485 (59.1%)	16.874***
	Male	63 (19.3%)	45 (13.8%)	219 (67.0%)	
	Female	108 (21.9%)	119 (24.1%)	266 (54.0%)	
Online cosmetic makeover shows	Total	714 (87.1%)	82 (10%)	24 (2.9%)	33.689***
	Male	312 (95.4%)	11 (3.4%)	4 (1.2%)	
	Female	402 (81.5%)	71 (14.4%)	20 (4.1%)	
Online adult movies (porn)	Total	399 (48.7%)	187 (22.8%)	234 (28.5%)	303.577***
	Male	54 (16.5%)	77 (23.5%)	196 (59.9%)	
	Female	345 (70%)	110 (22.3%)	38 (7.7%)	

Note: * p<0.05. ** p<0.01. *** p<0.001

5.2.6 Online topics

We also asked the frequency of which they engaged in browsing different online topics. Results showed that among all participants only 4.1% reported never visiting social networking sites, 4.9% said they visited them monthly and 8.8% weekly; however, the majority of the participants (82.2%) reported visiting these sites on a daily basis. Regarding cooking, gastronomy topics online, 12.2% of the participants never visit such sites, 52.9% does it on a monthly basis, 28.9% on a weekly basis and only 6.0% looks up such pages daily. In terms of feminine themed websites, 32.8% of the respondents said that they never look up pages like this, almost half of them (44.3%) visits these topics monthly, 16.2% weekly and only 6.7% reported browsing in this topic daily.

Answers regarding gossip pages indicate that 39.1% of the participants never visit these pages, 38.5% visits them online monthly, 15.5% weekly and 6.8% looks up gossip pages daily. Almost quarter of the participants (23.7%) reported never visiting healthy lifestyle themed websites, meanwhile, more than half of them (56.6%) visits them on a monthly basis, a further 17% looks up such pages at least once a week and 2.8% daily. Regarding diet webpages, close to half of the respondents (44.6%) said they never visit them, but 38.7% said they look up diet themed pages online at least once a month, 13.2% does this weekly and 3.5% on a daily basis.

Most of the participants (72%) said they never visit the online websites of women's magazines, but 21.2% does browse them monthly, 4.9% looks them up weekly and only 2% looks up such pages daily. Regarding online pages of men's magazines, 89.1% of the participants said they never visit such topics online, 10.2% does in on a monthly basis, and only 0.4% does it weekly and 0.2% daily. Similarly with men's fitness webpages; 86.1% of the respondents said they never visit such pages, 11.8% visits them monthly, only 2% weekly and almost nobody (0.1%) on a daily basis. Regarding adult content browsing online, 42.3% of the participants said they never visit such topics, 28.3% visits them monthly. Almost a quarter of them (24.4%) on a weekly basis and 5% of the participants said they look up porn-themed pages daily. The least popular sites were the ProED sites, where 90.4% of the participants never visit such pages, 7.9% visits them monthly, 1.3% weekly and 0.4% daily. Results of the Chi-square tests showed that women spend significantly more time on social networking sites than men. Women also spend more time browsing cooking and gastronomy related topics online

and women's websites than men, women spend significantly more time on health and lifestyle themed pages, browsing diet topics, looking up online pages of female magazines, and on ProED sites, than men. Meanwhile, men spend significantly more time browsing online pages of men's magazines, men's fitness pages, and pornographic content online, than women. Results are detailed in Table 7.

Table 7: Gender differences in regards to various online topics browsing frequencies

Internet topics	Sample	Never	At least once a month	At least once a week	Daily	$\chi^2_{(2)}$
		N (%)				
Social networking sites	Total	34 (4.1%)	40 (4.9%)	72 (8.8%)	674 (82.2%)	36.782***
	Male	26 (8%)	27 (8.3%)	32 (9.8%)	242 (74%)	
	Female	8 (1.6%)	13 (2.6%)	40 (8.1%)	432 (87.6%)	
Cooking, gastronomy	Total	100 (12.2%)	434 (52.9%)	237 (28.9%)	49 (6%)	103.325***
	Male	80 (24.5%)	181 (55.4%)	59 (18%)	7 (2.1%)	
	Female	20 (4.1%)	253 (51.3%)	178 (36.1%)	42 (8.5%)	
Women topic websites	Total	269 (32.8%)	363 (44.3%)	133 (16.2%)	55 (6.7%)	322.419***
	Male	218 (66.7%)	106 (32.4%)	1 (0.3%)	2 (0.6%)	
	Female	51 (10.3%)	257 (52.1%)	132 (26.8%)	53 (10.8%)	
Gossip pages	Total	321 (39.1%)	316 (38.5%)	127 (15.5%)	56 (6.8%)	1.909
	Male	124 (37.9%)	135 (41.3%)	48 (14.7%)	20 (6.1%)	
	Female	197 (40%)	181 (36.7%)	79 (16%)	36 (7.3%)	
Health and lifestyle	Total	194 (23.7%)	464 (56.6%)	139 (17%)	23 (2.8%)	73.190***
	Male	124 (37.9%)	169 (51.7%)	29 (8.9%)	5 (1.5%)	
	Female	70 (14.2%)	295 (59.8%)	110 (22.3%)	18 (3.7%)	
Diet	Total	366 (44.6%)	317 (38.7%)	108 (13.2%)	29 (3.5%)	72.346***
	Male	201 (61.5%)	103 (31.5%)	19 (5.8%)	4 (1.2%)	
	Female	165 (33.5%)	214 (43.4%)	89 (18.1%)	25 (5.1%)	

Internet topics	Sample	Never	At least once a month	At least once a week	Daily	$\chi^2_{(2)}$
		N (%)				
Online pages of women’s magazines	Total	590 (72%)	174 (21.2%)	40 (4.9%)	16 (2%)	113.906^{***}
	Male	302 (92.4%)	23 (7%)	1 (0.3%)	1 (0.3%)	
	Female	288 (58.4%)	151 (30.6%)	39 (7.9%)	15 (3%)	
Online pages of men’s magazines	Total	731 (89.1%)	84 (10.2%)	3 (0.4%)	2 (0.2%)	40.177^{***}
	Male	264 (80.7%)	60 (18.3%)	2 (0.6%)	1 (0.3%)	
	Female	467 (94.7%)	24 (4.9%)	1 (0.2%)	1 (0.2%)	
Men’s fitness pages	Total	706 (86.1%)	97 (11.8%)	16 (2.0%)	1 (0.1%)	58.121^{***}
	Male	246 (75.2%)	65 (19.9%)	15 (4.6%)	1 (0.3%)	
	Female	460 (93.3%)	32 (6.5%)	1 (0.2%)	0 (0%)	
Porn	Total	347 (42.3%)	232 (28.3%)	200 (24.4%)	41 (5%)	291.864^{***}
	Male	41 (12.5%)	89 (27.2%)	160 (48.9%)	37 (11.3%)	
	Female	306 (62.1%)	143 (29.0%)	40 (8.1%)	4 (0.8%)	
ProED sites	Total	741 (90.4%)	65 (7.9%)	11 (1.3%)	3 (0.4%)	21.082^{***}
	Male	314 (96%)	9 (2.8%)	3 (0.9%)	1 (0.3%)	
	Female	427 (86.6%)	56 (11.4%)	8 (1.6%)	2 (0.4%)	

Note: *** $p < 0.001$

5.2.7 Social media exposure

We also asked participants to report exposure frequency regarding social media (e.g. Facebook). Results showed that on weekdays among all participants 28.7% (N=235) spends half an hour or less on social networking sites, 26.3% (N=216) spends an hour, 17.6% (n=144) browses social sites an average for 2 hours, 10.2% (N=84) reported to be on social networking sites for 3 hours, 10.4% (N=85) for 4 hours or more and only 6.8% (N=56) of all respondents said they never spend time on social networking sites on weekdays. On the weekend among all respondents, 26.8% (N=220) said they spend 30 minutes or less on these sites. A little less, 23.7% (N=194) reported browsing social

networking sites on the weekend for an hour, 18.0% (N=148) of the participants spends 2 hours on these sites, 11.2% (N=92) spends 3 hours, 12.2 (N=100) spends 4 or more hours on such web pages and only 8% (N=66) of the participants reported not visiting social media sites on the weekend. According to the results of Chi-square test, women spend significantly more time on social media sites than men both on weekdays ($\chi^2_{(3)}=39.017, p<0.001$) and on weekends ($\chi^2_{(3)}=35.516, p<0.001$). Details can be found in Figure 4.

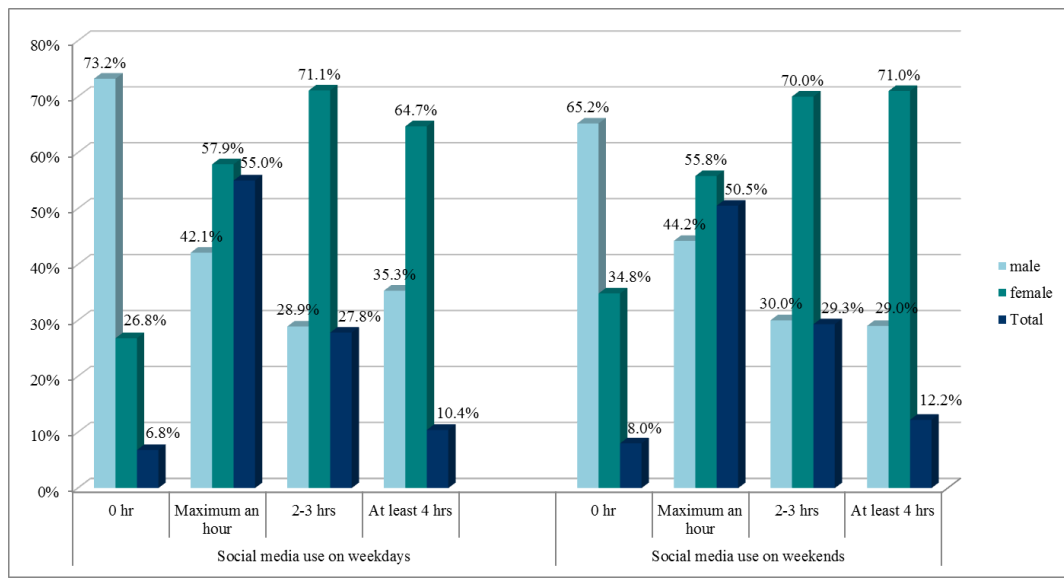


Figure 4: Social media use on weekdays and on weekends

5.3 Psychological variables

We detail the descriptive statistics of BMI, age, measured psychological variables, their internal reliability, and the comparison of these variables along gender in Table 8. The results show that men significantly find fitness more important, they are older, have a higher competence feeling, higher self-esteem, and higher BMI than women do, however, these differences are relatively small. On the other side, women find media more as an important source of information regarding attractiveness, they experience a higher pressure from media to achieve the ideal body, they internalize the thin and athletic body ideal more, they tend to compare their physical appearance more and they have a higher body dissatisfaction, a greater drive for thinness and a higher tendency toward bulimic symptoms than men. The effect sizes of these gender differences are

medium, except in case of athletic body ideal internalization and bulimic tendencies, where the effect sizes were small.

Table 8: Descriptive statistics of measures, internal reliability, and gender differences

Variables	Cronbach's α [95% CI] (item number)	Male (N=327)	Female (N=493)	$t_{(df)}/Z$	Cohen's d
Information (SATAQ-3)	0.92 [0.91; 0.92] (9)	19.7 (8.57)	22.9 (9.17)	$Z=4.729^{***}$	0.35
Pressures (SATAQ-3)	0.94 [0.93; 0.95] (7)	14.4 (7.68)	19.7 (8.77)	$Z=8.499^{***}$	0.63
Internalization – General (SATAQ-3)	0.94 [0.93; 0.95] (9)	20.6 (9.28)	25.5 (10.73)	$Z=6.450^{***}$	0.48
Internalization – Athlete (SATAQ-3)	0.85 [0.83; 0.87] (5)	14.0 (5.40)	14.9 (5.37)	$t_{(818)}=-2.362^*$	0.17
Importance of being physically fit and in- shape (BAA-R)	0.75 [0.72; 0.77] (5)	5.2 (1.03)	5.2 (1.19)	$t_{(761)}=0.371$	0.03
Importance of being attractive and thin (BAA-R)	0.82 [0.80; 0.84] (6)	2.9 (1.23)	2.7 (1.33)	$Z=-2.196^*$	0.12
Life fulfilment (BAA-R)	0.78 [0.75; 0.80] (3)	3.5 (1.54)	3.7 (1.72)	$t_{(748)}=-1.701^+$	0.12
Physical appearance comparison (PACS)	0.85 [0.84; 0.87] (4)	9.8 (3.72)	12.1 (4.07)	$t_{(740)}=8.471^{***}$	0.59
Competence (SCS)	0.82 [0.80; 0.84] (4)	26.6 (5.98)	24.8 (6.38)	$t_{(818)}=3.859^{***}$	0.28
Social acceptance (SCS)	0.84 [0.82; 0.86] (3)	18.8 (5.80)	18.1 (5.97)	$t_{(818)}=1.606$	0.11
Body dissatisfaction (EDI)	0.89 [0.87; 0.90] (9)	4.9 (5.14)	9.6 (7.76)	$Z=8.580^{***}$	0.68
Drive for thinness (EDI)	0.89 [0.88; 0.90] (7)	1.8 (3.15)	5.6 (6.15)	$Z=9.573^{***}$	0.74
Bulimia (EDI)	0.78 [0.75-0.80] (7)	1.0 (1.89)	1.8 (3.14)	$Z=3.037^{**}$	0.29
Self-esteem (RSE)	0.86 [0.86; 0.87] (10)	20.6 (5.46)	18.7 (5.94)	$t_{(818)}=4.787^{***}$	0.34
Age	- (1)	27.0 (4.70)	26.2 (4.81)	$t_{(818)}=2.174^*$	0.17
BMI	- (1)	24.5 (4.56)	22.8 (4.40)	$t_{(818)}=5.318^{***}$	0.38

Note: $^+p<0.10$, $^*p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$. The at least medium effect size indicators are in bold (Cohen's $d\geq 0.40$). SATAQ-3: Sociocultural Attitudes Towards Appearance Questionnaire, BAA-R: Beliefs About Attractiveness Scale-Revised, PACS: Physical Appearance Comparison Scale, SCS: Social Comparison Scale, EDI: Eating Disorder Inventory, RSE: Rosenberg Self-esteem Scale, BMI: body mass index.

In Table 9, we detail the results of the correlational analyses of psychological variables disaggregated by gender. Based on the results all aspects of sociocultural attitudes towards appearance (information, pressures, internalization – general, and internalization – athlete) showed significant, positive, weak, and moderate linear associations with all aspects of the beliefs about attractiveness among both gender. Regarding the strength of associations between variables, in case of men they were mostly weak, meanwhile, in case of women, these relationships appeared to be mostly moderate. All aspects of sociocultural attitudes towards appearance showed significant, positive, and mostly moderate linear associations with body dissatisfaction, drive for thinness and bulimia among women. In case of men, apart from information, all aspects of the sociocultural attitudes showed a significant, positive, weak relationship with body dissatisfaction, drive for thinness and bulimic tendencies.

Sociocultural attitudes showed a significant, negative, and mostly moderate relationship with self-esteem among women. These associations were mostly weak among men. All aspects of sociocultural attitudes towards appearance showed significant, positive, moderate and strong, linear relationship with physical appearance comparison in both genders. Regarding relationships between social comparison and sociocultural attitudes towards appearance, the only significant (negative and weak) correlations were found among women. In case of women beliefs about attractiveness showed significant, positive, mostly moderate, linear relationship with body dissatisfaction, drive for thinness and bulimic tendencies. Regarding men, there were only two significant, weak, positive, linear relationships between body dissatisfaction and the life fulfilment aspect of attractiveness and between the drive for thinness and the life fulfilment aspect of attractiveness.

All aspects regarding the beliefs about attractiveness showed significant, positive, relationships with physical appearance comparison among both women and men. Among women, these associations were mostly moderate meanwhile among men they were observed to be mostly weak associations. Regarding social comparison, beliefs about attractiveness showed a significant, negative, and weak association with all aspects of social comparison in women. Among men, these significant relationships were fewer and weak. Self-esteem among women showed a significant, negative,

moderate, linear relationship with all aspects of beliefs about attractiveness. In this regard, we did not find any significant correlations among men.

Physical appearance comparison among women showed a significant, negative, moderate linear association with both aspects of social comparison and self-esteem. Among men, these correlations were also significant, but mostly weak. Among both gender physical appearance comparison showed positive, significant, linear relationship with body dissatisfaction, drive for thinness and bulimia, among women these associations were moderate and among men mostly weak. Both aspects of social comparison (competence, social acceptance) showed significant, negative, mostly weak associations with body dissatisfaction, drive for thinness and bulimia among women. Among men, fewer significant and weak associations were found. According to the results of correlational analyses, both aspects of social comparison showed significant, positive and strong association with self-esteem in both genders. In relation to self-esteem, among both genders significant, negative, mostly moderate linear associations were found between self-esteem and body dissatisfaction, drive for thinness and bulimia. Among women, BMI showed a significant, positive, weak association with the pressures from media, the competence aspect of social comparison, drive for thinness, bulimia, and age, and a positive, moderate linear relationship with body dissatisfaction. Regarding body dissatisfaction, age showed a moderate, positive, significant, linear relationship with BMI. Among men, BMI showed a significant, positive, weak relationship with pressures from media, drive for thinness and age, and significant, positive, moderate, relationship with body dissatisfaction and bulimia. Lastly, age showed a significant, negative, weak association with the importance of being physically fit and in-shape and the importance of information from media among men.

Table 9: Detailed results of the correlational analyses regarding the tested psychological variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Information (SATAQ-3)	-	0.50**	0.60**	0.43**	0.36**	0.22**	0.26**	0.45**	-0.16**	-0.08	0.25**	0.27**	0.19**	-0.20**	-0.01	0.01
2. Pressures (SATAQ-3)	0.51**	-	0.68**	0.51**	0.35**	0.23**	0.20**	0.45**	-0.11*	-0.15**	0.34**	0.41**	0.25**	-0.29**	0.06	0.11*
3. Internalization – General (SATAQ-3)	0.57**	0.56**	-	0.70**	0.44**	0.36**	0.32**	0.69**	-0.21**	-0.17**	0.45**	0.56**	0.31**	-0.44**	-0.02	0.00
4. Internalization – Athlete (SATAQ-3)	0.47**	0.47**	0.76**	-	0.40**	0.35**	0.38**	0.56**	-0.16**	-0.20**	0.33**	0.44**	0.26**	-0.34**	0.08	-0.01
5. Importance of being physically fit and in-shape (BAA-R)	0.20**	0.13*	0.24**	0.26**	-	0.53**	0.57**	0.50**	-0.19**	-0.19**	0.36**	0.41**	0.22**	-0.29**	-0.03	0.04
6. Importance of being attractive and thin (BAA-R)	0.14*	0.13*	0.22**	0.18**	0.34**	-	0.58**	0.45**	-0.19**	-0.24**	0.40**	0.50**	0.29**	-0.36**	-0.01	0.08
7. Life fulfilment (BAA-R)	0.22**	0.20**	0.33**	0.32**	0.47**	0.53**	-	0.44**	-0.24**	-0.24**	0.37**	0.41**	0.30**	-0.36**	0.00	0.07
8. Physical appearance comparison (PACS)	0.34**	0.39**	0.53**	0.51**	0.24**	0.20**	0.37**	-	-0.33**	-0.33**	0.43**	0.48**	0.35**	-0.49**	0.01	-0.07
9. Competence (SCS)	-0.00	-0.10	-0.03	-0.00	0.20**	0.19**	0.12*	-0.14*	-	0.64**	-0.32**	-0.26**	-0.25**	0.62**	0.02	0.11*
10. Social Acceptance (SCS)	0.06	-0.05	-0.06	-0.06	0.16**	0.07	0.05	-0.16**	0.62**	-	-0.30**	-0.25**	-0.17**	0.56**	-0.05	0.06
11. Body dissatisfaction (EDI)	0.11	0.20**	0.28**	0.19**	0.06	0.03	0.13*	0.16**	-0.15**	-0.23**	-	0.68**	0.45**	-0.56**	0.04	0.38**
12. Drive for thinness (EDI)	0.09	0.16**	0.28**	0.23**	0.03	0.10	0.19**	0.26**	0.01	-0.12*	0.48**	-	0.44**	-0.48**	-0.01	0.24**
13. Bulimia (EDI)	0.06	0.11*	0.20**	0.17**	0.05	-0.03	0.05	0.21**	-0.13*	-0.11*	0.37**	0.28**	-	-0.34**	-0.03	0.15**
14. Self-esteem (RSE)	-0.07	-0.15**	-0.25**	-0.21**	0.05	-0.04	-0.05	-0.31**	0.59**	0.58**	-0.39**	-0.32**	-0.29**	-	0.08	-0.03
15. Age	-0.13*	0.02	-0.04	-0.10	-0.14*	-0.04	-0.01	-0.03	0.04	-0.06	-0.02	-0.01	-0.01	-0.02	-	0.19**
16. BMI	-0.05	0.14**	0.04	0.03	0.01	-0.09	0.05	-0.01	0.01	-0.01	0.35**	0.29**	0.35**	-0.04	0.20**	-

Note: + p<0.10. * p<0.05. ** p<0.01. Pearson's correlation coefficients and Spearman's rank correlation coefficients (the latter are in italic). Correlations among men in blue colour are detailed under the diagonal (N=327). Details regarding women in red colour are above the diagonal (N=493).

5.4 Media consumption correlates

To measure the media consumption frequency regarding different media types and their psychological correlates Spearman's rank correlation analysis was used. Both women and men had a number of significant associations, but many of these are of negligible strength. Due to the large number of analyses the risk for type I error significantly increased; therefore, when presenting and detailing the results, only the, at least, 0.2-value variables were taken into account.

5.4.1 Magazine reading

In case of men, a significant, positive, weak correlation was revealed mainly between reading general health fitness, men's magazines, men's magazines, men's health, fitness magazines, and internalizing the athletic body ideal.

Among women, significant, positive, weak associations were found between reading fashion, beauty magazines, and considering media as an important source of information, internalizing the slender body ideal, internalizing the athletic body ideal, and drive for thinness. A significant, negative, weak correlation was found between reading fashion and beauty magazines and age. A significant, positive, weak correlation emerged between reading health and fitness magazines and internalizing the thin and also the athletic body ideal and drive for thinness. Results are detailed in Table 10 and 11.

Table 10: Detailed results of gender differences regarding reading various magazine types and their psychological correlates 2/1

Variables	Fashion, beauty magazines		Health, fitness magazines		Gastronomy magazines		Women's magazines		Gossip magazines		Men's magazines		Men's health and fitness magazines	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Information (SATAQ-3)	0.14	<u>0.24**</u>	0.15**	0.14**	0.06	0.07	0.14*	0.12**	0.14*	0.15**	0.12*	0.07	0.10	0.14**
Pressures (SATAQ-3)	0.06	0.17**	0.12*	0.17**	0.04	0.08	0.14*	0.10*	0.06	0.05	0.06	0.07	0.10	0.16**
Internalization – General (SATAQ-3)	0.10	<u>0.27**</u>	0.17**	<u>0.22**</u>	0.05	0.04	0.17**	0.14**	0.13*	0.08	0.15**	0.13**	0.15**	0.17**
Internalization – Athlete (SATAQ-3)	0.07	<u>0.21**</u>	<u>0.23**</u>	<u>0.26**</u>	0.07	0.05	0.11*	0.08	0.09	0.05	<u>0.20**</u>	0.18**	<u>0.21**</u>	0.19**
Importance of being attractive and thin (BAA-R)	0.01	0.14**	0.03	0.10*	-0.07	-0.01	-0.03	0.06	0.12*	-0.04	0.01	0.04	-0.02	0.08
Importance of being physically fit and in-shape (BAA-R)	-0.01	0.12**	0.10	0.15**	-0.02	0.01	-0.04	0.07	0.03	0.06	0.07	0.04	0.05	0.08
Life fulfilment (BAA-R)	0.06	0.14**	0.16**	0.14**	-0.05	0.08	0.02	0.10*	0.06	0.05	0.09	0.08	0.08	0.08

Note: **Spearman's** rank correlation coefficient. The correlation coefficient values those are equal or higher than 0.20 are underlined and highlighted in italics.

N_{male}=327. N_{female}=493. ⁺ p<0.10 * p<0.05 ** p<0.01.

Table 11: Detailed results of gender differences regarding reading various magazine types and their psychological correlates 2/2

Variables	Fashion, beauty magazines		Health, fitness magazines		Gastronomy magazines		Women's magazines		Gossip magazines		Men's magazines		Men's health and fitness magazines	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Physical appearance comparison (PACS)	0.12 [*]	0.17 ^{**}	0.19 ^{**}	0.12 ^{**}	0.10	0.02	0.12 [*]	0.12 ^{**}	0.14 [*]	0.12 ^{**}	0.10	0.09	0.14 [*]	0.07
Competence (SCS)	0.10	0.03	0.06	-0.01	0.00	-0.06	-0.06	-0.02	0.00	-0.07	0.09	0.03	0.04	0.02
Social acceptance (SCS)	0.19 ^{**}	0.09 [*]	0.09	0.02	0.09	-0.02	-0.04	0.03	0.10	-0.03	0.10	-0.01	0.03	-0.05
Body dissatisfaction (EDI)	-0.08	0.10 [*]	0.01	0.13 ^{**}	0.01	0.05	0.05	0.08	0.08	0.13 ^{**}	-0.02	0.03	-0.02	0.08
Drive for thinness (EDI)	-0.02	<u>0.20^{**}</u>	0.08	<u>0.28^{**}</u>	0.01	0.08	0.03	0.12 ^{**}	0.11	0.10 [*]	0.05	0.07	0.09	0.17 ^{**}
Bulimia (EDI)	0.03	0.06	0.06	0.01	0.04	-0.01	0.00	0.04	0.03	0.08	0.02	0.07	0.05	0.02
Self-esteem (RSE)	0.05	-0.06	-0.01	-0.06	-0.04	-0.06	-0.07	-0.03	-0.02	-0.13 ^{**}	0.06	-0.05	0.04	-0.12 ^{**}
Age	0.02	<u>-0.27^{**}</u>	-0.03	0.02	-0.06	0.06	0.03	-0.01	0.00	-0.01	-0.01	0.08	-0.07	0.02
BMI	-0.05	-0.10 [*]	0.08	0.06	0.01	0.06	0.02	0.06	0.09	0.11 [*]	0.12 [*]	0.02	0.05	0.02

Note: **Spearman's** rank correlation coefficient. The correlation coefficient values those are equal or higher than 0.20 are underlined and highlighted in italics.

N_{male}=327. N_{female}=493. ⁺ p<0.10 * p<0.05 ** p<0.01.

5.4.2 Television programmes

In case of men, significant, positive, weak associations were found between music videos, cosmetic makeover shows, and the importance of information from media. The analysis also revealed a significant, positive, weak correlation between watching reality TV shows and physical appearance comparison.

In case of women, associations that are more significant were found. Significant, positive, weak correlations were found between engaging in watching fitness and health themed programmes on TV and the media as an important information source regarding societal standards concerning appearance, the pressure from media, internalizing the thin and athletic body ideal, body dissatisfaction, and drive for thinness. A significant, positive, weak correlation was found between watching reality TV shows and the media as an important information source. Moreover, a significant, positive, weak linear association was revealed between watching music videos on TV and the importance of information from the media and internalizing the thin body ideal. Significant, positive weak correlations was found between watching cosmetic makeover shows on TV and the media as an important information source, internalizing the thin body ideal, body dissatisfaction, and drive for thinness. Results are detailed in Table 12.

Table 12: Detailed results of gender differences regarding watching various TV programmes and their psychological correlates.

Variables	TV Movies, series		TV Reality shows		TV Gastronomy, cooking shows		TV Fitness, health programmes		TV Music videos		TV Cosmetic makeover shows		TV Adult movies (porn)	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Information (SATAQ-3)	0.14 [*]	0.17 ^{**}	0.18 ^{**}	<u>0.20^{**}</u>	0.03	0.16 ^{**}	0.17 ^{**}	<u>0.24^{**}</u>	<u>0.20^{**}</u>	<u>0.23^{**}</u>	<u>0.21^{**}</u>	<u>0.27^{**}</u>	0.12 [*]	0.14 ^{**}
Pressures (SATAQ-3)	0.11	0.15 ^{**}	0.19 ^{**}	0.06	0.09	0.16 ^{**}	0.08	<u>0.22^{**}</u>	0.09	0.17 ^{**}	0.10	0.19 ^{**}	0.11 [*]	0.03
Internalization – General (SATAQ-3)	0.09	0.15 ^{**}	0.17 ^{**}	0.13 ^{**}	0.07	0.10 [*]	0.13 [*]	<u>0.23^{**}</u>	0.11 [*]	<u>0.22^{**}</u>	0.18 ^{**}	<u>0.24^{**}</u>	0.11 [*]	0.05
Internalization – Athlete (SATAQ-3)	0.09	0.09 [*]	0.09	0.10 [*]	0.08	0.06	0.09	<u>0.21^{**}</u>	0.13 [*]	0.12 ^{**}	0.14 [*]	0.18 ^{**}	0.06	0.03
Importance of being attractive and thin (BAA-R)	0.12 [*]	0.03	0.07	0.03	0.06	0.00	0.04	0.12 ^{**}	0.03	0.11 [*]	0.07	0.11 [*]	0.04	0.03
Importance of being physically fit and in-shape (BAA-R)	0.01	0.05	0.01	-0.01	-0.01	0.03	0.03	0.11 [*]	0.11 [*]	0.08	0.05	0.13 ^{**}	0.10	0.05
Life fulfilment (BAA-R)	-0.03	0.06	0.10	0.13 ^{**}	-0.04	0.09 [*]	0.07	0.16 ^{**}	0.05	0.09 [*]	0.10	0.14 ^{**}	-0.04	0.08
Physical appearance comparison (PACS)	0.08	0.11 [*]	<u>0.20^{**}</u>	0.09 [*]	0.05	0.04	0.08	0.11 [*]	0.07	0.13 ^{**}	0.11 [*]	0.12 ^{**}	0.12 [*]	0.02
Competence (SCS)	0.06	-0.04	0.00	-0.04	0.02	-0.04	0.10	0.01	0.14 [*]	-0.02	0.15 ^{**}	-0.03	0.02	0.01
Social acceptance (SCS)	0.11 [*]	0.03	0.00	0.04	0.07	0.04	0.08	0.08	0.13 [*]	0.04	0.19 ^{**}	0.08	0.02	0.06
Body dissatisfaction (EDI)	0.04	0.18 ^{**}	0.15 ^{**}	0.11 [*]	0.05	0.13 ^{**}	0.05	<u>0.22^{**}</u>	-0.03	0.18 ^{**}	0.05	<u>0.24^{**}</u>	0.06	0.12 ^{**}
Drive for thinness (EDI)	-0.03	0.12 ^{**}	0.08	0.12 ^{**}	0.01	0.07	0.08	<u>0.26^{**}</u>	0.00	0.15 ^{**}	-0.01	<u>0.25^{**}</u>	0.04	0.09 [*]
Bulimia (EDI)	0.06	0.16 ^{**}	0.08	0.14 ^{**}	-0.01	0.10 [*]	0.05	0.12 ^{**}	0.02	0.13 ^{**}	0.00	0.19 ^{**}	0.10	0.06
Self-esteem (RSE)	0.06	-0.07	-0.11 [*]	-0.10 [*]	0.04	-0.06	0.00	-0.09	0.03	-0.10 [*]	0.04	-0.13 ^{**}	-0.06	-0.02
Age	-0.09	-0.06	0.05	0.07	0.01	0.04	0.00	0.08	-0.03	-0.11 [*]	-0.04	-0.05	0.06	-0.01
BMI	0.16 ^{**}	0.12 ^{**}	0.07	0.13 ^{**}	0.11 [*]	0.12 [*]	0.09	0.14 ^{**}	0.00	0.05	0.02	0.10 [*]	0.02	0.12 [*]

Note: **Spearman's** rank correlation coefficient. The correlation coefficient values those are equal or higher than 0.20 are underlined and highlighted in italics.

N_{male}=327. N_{female}=493. ⁺ p<0.10 * p<0.05 ** p<0.01.

5.4.3 Internet topics

Regarding browsing various topics online, stronger associations emerged among both men and women than in case of magazine reading or television watching. In case of men, a significant, negative, moderate correlation was discovered between spending time on social networking sites and age. Significant, positive, weak correlations were found between browsing health and lifestyle themed websites, internalizing the thin ideal and physical appearance comparison. A significant, positive, weak association was found between browsing diet topics online and internalizing the thin body ideal and a significant, positive, moderate correlation between browsing diet pages and internalizing the athletic body ideal.

In case of women, significant, positive, weak associations were revealed between browsing health and lifestyle themed websites and internalizing the thin ideal and with body dissatisfaction. A significant, positive, weak association emerged between browsing women's websites and the importance of information from media. Significant, positive, weak correlations were found between looking up diet themed web pages online and the pressure from media, the importance of being fit and in shape, the life fulfilment aspect of attractiveness and body dissatisfaction. Moreover, significant, positive, moderate, associations were found between browsing diet topics online and internalizing the slim and athletic body ideal and the drive for thinness. Among women, significant correlations were found between browsing online pages of women's magazines and the importance of the media as information and internalizing the slim body ideal. Lastly, a significant, positive, weak association showed between browsing ProED websites and drive for thinness. Results are detailed in Table 13 and Table 14.

Table 13: Detailed results of gender differences regarding browsing various topics online, and their psychological correlates. 2/1

Variables	Social networking sites		Cooking, gastronomy		Women topic websites		Gossip pages		Healthy lifestyle		Diet	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Information (SATAQ-3)	0.15**	0.07	-0.03	-0.04	0.04	<u>0.24**</u>	0.07	0.13**	0.12*	0.09	0.13*	0.18**
Pressures (SATAQ-3)	0.12*	-0.02	0.01	0.09	0.01	0.09	0.11*	-0.04	0.17**	0.11*	0.16**	<u>0.21**</u>
Internalization – General (SATAQ-3)	0.07	0.07	-0.08	0.03	0.03	0.18**	0.18**	0.09*	0.09	0.15**	<u>0.21**</u>	<u>0.30**</u>
Internalization – Athlete (SATAQ-3)	0.09	0.02	-0.05	0.06	0.04	0.16**	0.15**	0.10*	<u>0.20**</u>	<u>0.23**</u>	<u>0.30**</u>	<u>0.34**</u>
Importance of being attractive and thin (BAA-R)	0.08	0.09	-0.09	-0.01	-0.04	0.08	0.07	0.08	0.01	0.08	0.07	0.17**
Importance of being physically fit and in-shape (BAA-R)	0.00	0.03	-0.12*	-0.01	0.01	0.02	0.12*	0.04	0.11*	0.12**	0.15**	<u>0.22**</u>
Life fulfilment (BAA-R)	0.08	-0.01	-0.12*	0.01	0.03	0.03	0.10	0.07	0.08	0.16**	0.16**	<u>0.22**</u>
Physical appearance comparison (PACS)	0.12*	0.10*	-0.01	-0.04	0.06	0.12**	0.19**	0.09*	<u>0.20**</u>	0.06	0.19**	0.18**
Competence (SCS)	0.05	0.03	0.00	-0.03	0.09	-0.07	0.08	-0.06	-0.06	-0.09	0.08	-0.05
Social acceptance (SCS)	0.17**	0.09*	0.11*	0.07	0.06	0.03	0.06	0.01	-0.01	-0.03	0.02	-0.06
Body dissatisfaction (EDI)	0.01	0.04	0.07	0.07	-0.02	0.10*	0.05	0.07	-0.01	0.09*	0.03	<u>0.24**</u>
Drive for thinness (EDI)	0.01	0.08	0.11	0.12**	-0.04	0.17**	0.02	0.10*	0.08	<u>0.22**</u>	0.17**	<u>0.40**</u>
Bulimia (EDI)	0.08	0.06	0.13*	0.12**	0.02	0.10*	0.08	0.08	0.02	0.09*	0.04	0.16**
Self-esteem (RSE)	0.06	-0.03	-0.01	-0.06	0.00	-0.09	-0.06	-0.10*	-0.04	-0.14**	-0.05	-0.17**
Age	<u>-0.34**</u>	-0.15**	-0.04	-0.02	0.06	-0.07	0.16**	0.04	0.01	0.08	0.04	0.05
BMI	-0.03	-0.01	0.06	0.06	-0.01	0.04	-0.01	0.05	-0.04	-0.03	0.01	0.13**

Note: **Spearman's** rank correlation coefficient. The correlation coefficient values those are equal or higher than 0.20 are underlined and highlighted in italics.

N_{male}=327. N_{female}=493. Note: +: p<0.10 *: p<0.05 **: p<0.01

Table 14: Detailed results of gender differences regarding browsing various topics online, and their psychological correlates. 2/2

Variables	Online pages of women's magazines		Online pages of men's magazines		Men's fitness pages		Porn		ProED sites	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Information (SATAQ-3)	0.13*	<u>0.22**</u>	0.06	0.03	0.06	0.05	0.08	0.07	0.00	0.11*
Pressures (SATAQ-3)	0.11*	0.09	0.00	0.04	0.05	0.08	0.06	0.04	-0.02	0.09*
Internalization – General (SATAQ-3)	0.16**	<u>0.21**</u>	0.09	0.06	0.06	0.08	0.14*	0.10*	-0.01	0.14**
Internalization – Athlete (SATAQ-3)	0.11*	0.13**	0.12*	0.10*	0.15**	0.15**	0.19**	0.10*	-0.04	0.16**
Importance of being attractive and thin (BAA-R)	-0.02	0.11*	0.01	0.02	0.01	0.01	-0.01	0.10*	0.02	0.11*
Importance of being physically fit and in-shape (BAA-R)	-0.02	0.09*	0.08	0.00	0.14*	0.01	0.13*	0.07	-0.01	0.15**
Life fulfilment (BAA-R)	-0.05	0.13**	0.02	0.06	0.09	0.01	0.03	0.05	-0.02	0.16**
Physical appearance comparison (PACS)	0.09	0.12**	0.01	0.06	0.04	0.07	0.17**	0.06	-0.04	0.12**
Competence (SCS)	0.00	-0.04	0.04	0.03	0.07	-0.04	0.00	-0.03	0.02	-0.14**
Social acceptance (SCS)	0.05	0.02	0.05	-0.02	0.03	-0.05	-0.06	-0.02	-0.08	-0.03
Body dissatisfaction (EDI)	-0.03	0.09*	-0.05	0.05	-0.09	0.01	0.00	0.03	0.03	0.17**
Drive for thinness (EDI)	0.02	0.15**	0.00	0.08	0.01	0.08	0.01	0.06	0.11*	<u>0.22**</u>
Bulimia (EDI)	0.11*	0.05	0.11	0.01	0.06	0.00	0.09	0.11*	0.11	0.14**
Self-esteem (RSE)	-0.05	-0.13**	-0.01	-0.06	0.01	-0.04	-0.06	-0.08	-0.06	-0.15**
Age	0.03	-0.19**	-0.11	0.02	-0.14**	-0.01	-0.08	-0.14**	0.02	0.04
BMI	0.00	-0.09*	0.02	0.03	-0.06	-0.08	0.02	0.04	0.05	-0.04

Note: **Spearman's** rank correlation coefficient. The correlation coefficient values those are equal or higher than 0.20 are underlined and highlighted in italics.

N_{male}=327. N_{female}=493. Note: +: p<0.10 *: p<0.05 **: p<0.01

5.4.4 Online television programmes

Regarding watching TV programmes online among men a significant, positive, weak association was found between watching reality TV shows online and physical appearance comparison. A significant, positive, weak association between watching online cosmetic makeover shows online and internalizing the thin body ideal. Significant, positive weak associations were revealed between watching porn online and internalizing the athletic body ideal and physical appearance comparison. Regarding age, a significant, negative weak association was found among men with watching online music videos. In case of women, a significant, negative, weak association was found between watching movies, series and watching music videos online and age. Results are in Table 15.

Table 15: Detailed results regarding watching various TV programmes online and their psychological correlates among both genders.

Variables	Online movies, series		Online reality shows		Online gastronomy, cooking shows		Online fitness, healthy lifestyle programmes		Online music videos		Online cosmetic makeover shows		Online porn	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Information (SATAQ-3)	0.04	-0.01	0.18**	0.05	0.01	0.02	0.16**	0.03	0.09	0.06	0.15**	0.17**	0.13*	0.08
Pressures (SATAQ-3)	-0.01	-0.03	0.17**	-0.05	0.01	-0.03	0.12*	0.03	0.08	-0.04	0.17**	0.11*	0.09	0.01
Internalization – General (SATAQ-3)	0.07	0.02	0.18**	0.03	-0.03	-0.06	0.10	0.03	0.08	0.00	<u>0.20**</u>	0.15**	0.19**	0.08
Internalization – Athlete (SATAQ-3)	-0.01	-0.03	0.14*	0.04	-0.02	0.02	0.16**	0.12**	0.11*	0.02	0.13*	0.18**	<u>0.21**</u>	0.10*
Importance of being attractive and thin (BAA-R)	-0.07	0.05	0.10	-0.01	-0.02	-0.02	0.02	0.05	0.11	0.09*	-0.02	0.14**	0.04	0.10*
Importance of being physically fit and in-shape (BAA-R)	-0.01	-0.03	0.11*	-0.06	-0.05	0.02	0.14*	0.02	0.09	0.05	0.14**	0.12**	0.11	0.12*
Life fulfilment (BAA-R)	-0.03	-0.05	0.10	0.00	-0.02	0.06	0.09	0.09*	0.09	0.07	0.13*	0.12**	0.07	0.07
Physical appearance comparison (PACS)	0.02	0.03	<u>0.21**</u>	0.03	-0.03	-0.03	0.07	0.01	0.18**	0.01	0.12*	0.12**	<u>0.23**</u>	0.05
Competence (SCS)	-0.04	-0.03	0.01	-0.02	0.05	-0.06	0.10	0.04	-0.08	-0.06	0.07	-0.04	0.01	-0.09*
Social acceptance (SCS)	-0.11	-0.05	-0.01	-0.01	0.13*	-0.01	0.08	0.00	-0.08	-0.02	0.08	-0.06	-0.02	-0.10*
Body dissatisfaction (EDI)	0.03	-0.02	0.15**	0.03	-0.01	0.03	0.00	0.06	0.02	0.02	0.05	0.17**	0.04	0.08
Drive for thinness (EDI)	0.09	-0.06	0.12*	0.03	0.03	0.01	0.06	0.10*	0.05	0.02	0.12*	0.19**	0.02	0.06
Bulimia (EDI)	0.03	-0.04	0.08	-0.01	-0.02	0.04	0.03	0.02	0.09	0.06	0.01	0.09*	0.10	0.08
Self-esteem (RSE)	-0.08	-0.03	-0.13*	-0.06	0.04	-0.08	-0.01	-0.06	-0.15**	-0.11*	-0.03	-0.16**	-0.08	-0.13**
Age	-0.12*	<u>-0.27**</u>	0.01	0.01	-0.03	-0.05	0.01	0.06	<u>-0.27**</u>	<u>-0.29**</u>	0.06	0.00	-0.10	-0.11*
BMI	0.01	-0.09	-0.03	0.08	0.02	-0.01	0.04	0.07	-0.03	-0.03	0.05	0.03	-0.01	0.01

Note: **Spearman's** rank correlation coefficient. The correlation coefficient values those are equal or higher than 0.20 are underlined and highlighted in italics.

N_{male}=327. N_{female}=493. Note: +: p<0.10 *: p<0.05 **: p<0.01

5.5 Weight loss related information in the media

To examine the associations between being exposed to weight loss information online and in magazines and weight loss behaviours participants were asked various questions regarding their dieting habits and where and how they obtain information regarding weight loss (See chapter Methods, subchapter: 4.3.2.9).

Results showed that 23.3% of all respondents reported reading weight loss articles in magazines. Chi-square test showed that women read significantly more often weight loss articles in magazines than men do ($\chi^2_{(1)}=106.512$, $p<0.001$). However, 43.8% of all participants reported reading weight loss articles online. Chi-square test showed that women read significantly more often weight loss articles on the Internet than men do ($\chi^2_{(1)}=107.615$, $p<0.001$). It was also found that most of the participants (91.6%) are not seeking weight loss contents actively in magazines, only 8.4% reported to do so. However women seem to look for weight loss contents actively in magazines actively more often than men ($\chi^2_{(1)}=39.669$, $p<0.001$). Results also showed that more participants (18.8%) are seeking actively weight loss information online. Chi-square test showed that women in this case as well were seeking weight loss information online significantly more often than men were ($\chi^2_{(1)}=46.674$, $p<0.001$).

Among all participants, 41.1% reported reading a weight loss content if they just ran into it by chance in a magazine. It was found that women significantly more often did this than men did ($\chi^2_{(1)}=142.629$, $p<0.001$). Similarly, almost half of the respondents reported reading a weight loss content if they just ran into it by chance on the Internet. In this case as well women significantly more often did this than men did ($\chi^2_{(1)}=93.260$, $p<0.001$). Moreover, 13.3% of the participants reported that they started a diet once that they first read about in a magazine. Women significantly more often did this ($\chi^2_{(1)}=68.742$, $p<0.001$). Among all participants (29.0%) reported having started a diet once that they first read about online. Similarly to previous trends, Chi-square test showed that women presented this behaviour significantly more often than men did ($\chi^2_{(1)}=66.534$, $p<0.001$). Results are detailed in Figure 5.

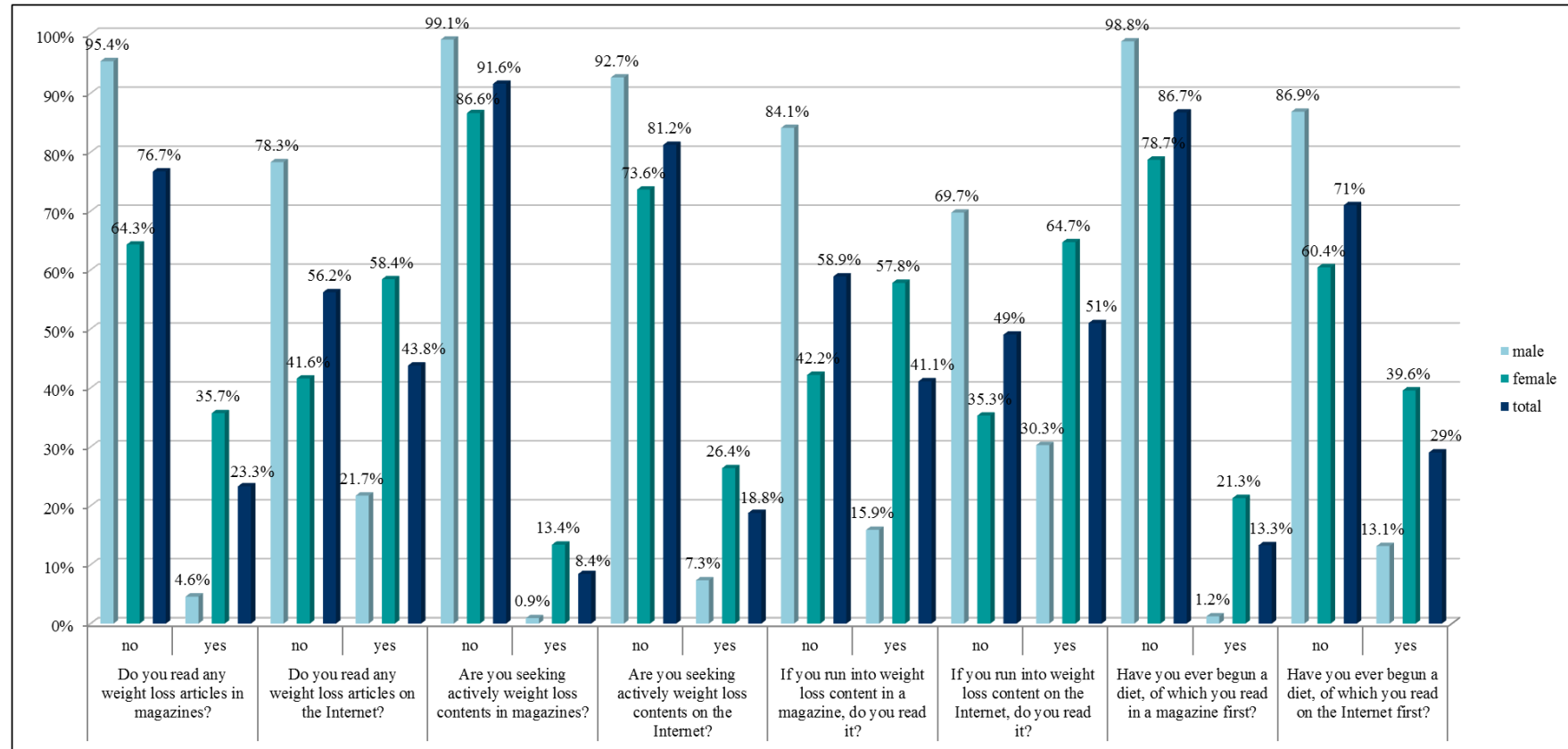


Figure 5: Gender differences in seeking diet related topics

Some items of the SEED questionnaire measured weight loss behaviour and unhealthy weight reduction techniques, such as vomiting, use of laxatives, eating diet or low-calorie food and excessive exercise in the last 4 weeks. It was found that in total 97% of the participants (N=795) did not vomit as a weight reduction method in the last 4 weeks. However, 3% (N=25) did report to engage in such unhealthy weight-control behaviours at least once a week. Chi-square test showed no significant gender differences in this regard ($\chi^2_{(1)}=0.000$, $p=0.990$). In the sample, 95.7% of the participants (N=785) did not use laxatives in the last four weeks prior their participation. However, 4.3% (N=35) reported using laxatives at least once a week. Chi-square test regarding using laxatives at least once a week showed that women engaged in this activity significantly more often than men ($\chi^2_{(1)}=12.342$, $p<0.001$). The frequency of self-induced vomiting and the use of laxative incidences are detailed in Figure 6.

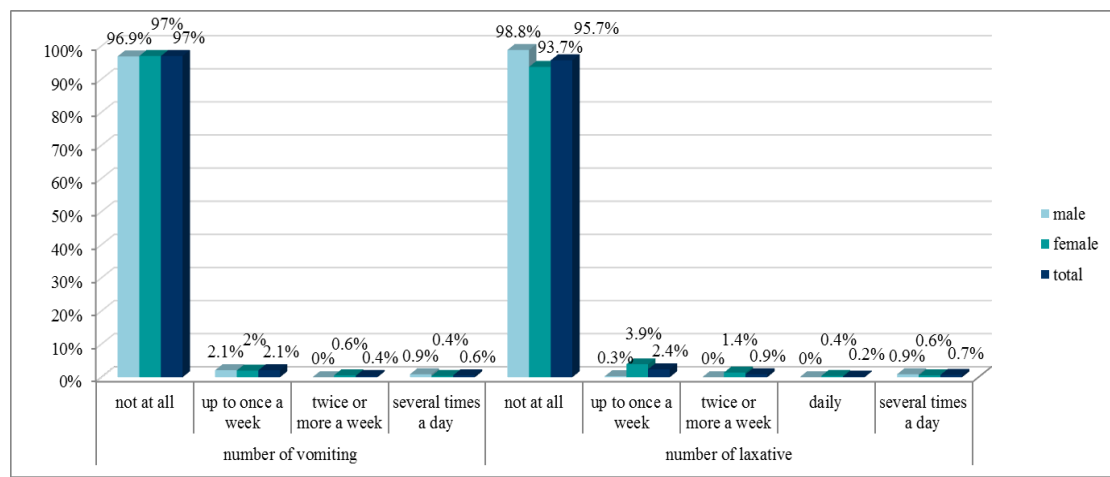


Figure 6: Gender differences of extremely unhealthy weight loss techniques

Results also showed that a little more than half of the participants (54.1%) (N=444) did not eat diet or low-calorie food as a weight control method four weeks prior filling out the survey. Nevertheless, 45.9% (n=376) did engage in consuming such products at least once a week. Chi-square test regarding eating diet or low-calorie food at least once a week showed that women did this significantly more often than men ($\chi^2_{(1)}=61.841$, $p<0.001$). According to the results, only 34.9% of all participants did not engage at all in excessive exercise in the last four weeks prior completing the survey. Among all respondents 65.1% (N=534) said they engaged in this activity at least once a week. Chi-square test showed that women significantly more likely engaged at least once a week in

excessive exercise than men did ($\chi^2_{(1)}=3.197$, $p=0.074$). The frequency of consuming low calorie or diet food and engaging in excessive exercise incidences are detailed in Figure 7.

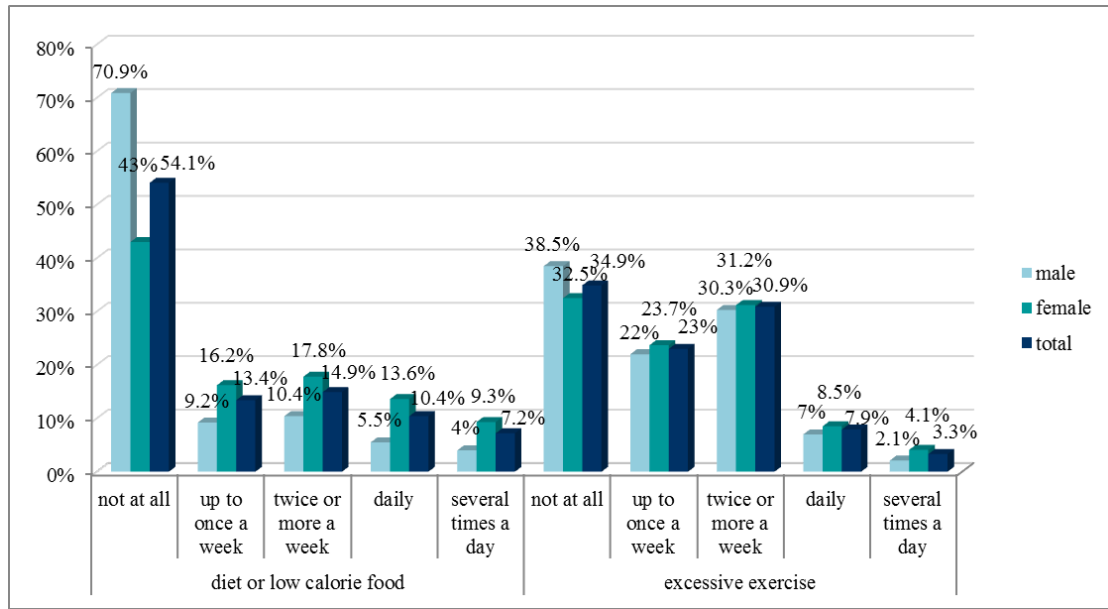


Figure 7: Gender differences regarding unhealthy weight loss techniques

A dichotomous variable was formed combining purging behaviours (self-induced vomiting and laxatives), this variable shows whether individuals engage in purging behaviours at least once a week. Results of Chi-square test showed that regarding purging behaviour women significantly more likely engaged in purging at least once a week than men ($\chi^2_{(1)}=7.604$, $p=0.006$). Furthermore, the four weight control behaviours were combined into a dichotomous variable distinguishing those participants who do engage in one of these behaviours at least once a week from those (74.4%) who do not do these compensatory behaviours at this frequency. Chi-square test also showed that women significantly more likely engaged in compensating behaviours at least once a week than men ($\chi^2_{(1)}=7.056$, $p=0.008$). Results are detailed in Figure 8.

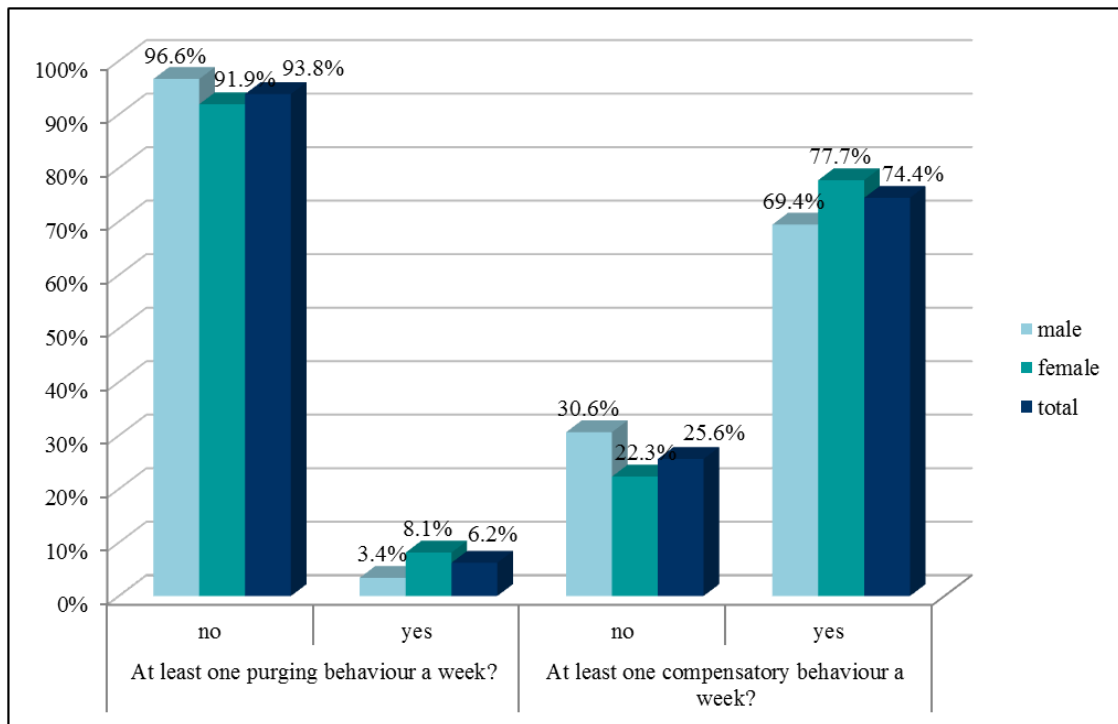


Figure 8: Gender differences in purging and compensatory behaviours

5.5.1 Associations between media exposure to weight loss content and weight reduction methods

Binary logistic regression analysis was used to test the predictors for weight reduction methods in regards to being exposed to weight loss information in magazines and on the Internet. During the analysis, it was adjusted for BMI, age and education. [Laz and Berenson's study \(2011\)](#) explored similar associations, we took their article as an example to detail results below.

Men

According to the results, among men, those who reported reading weight loss articles in magazines compared to those who did not read such articles had greater odds of using laxatives at least once a week (OR=12.56, $p=0.054$) at a tendency level, than not using them at all, significantly greater odds for consuming diet or low calorie food at least once a week (OR=5.62, $p=0.003$), than not consuming such products at this frequency, greater odds of engaging in excessive exercise at least on a weekly basis (OR=4.48, $p=0.052$) at a tendency level, than doing this less often, and had greater odds at a tendency level for at least weekly compensatory behaviour (OR=6.35, $p=0.077$), than not doing this on a weekly basis. It was also revealed that among men those who reported reading weight loss articles online compared to those who did not have significantly greater odds for consuming diet or low-calorie food at least on a weekly basis (OR=4.12, $p<0.001$) than consuming these less often. Those men who reported seeking weight loss content actively in magazines compared to those who did not look for such information had significantly greater odds for weekly self-induced vomiting (OR=22.97, $p=0.023$), for weekly use of laxatives (OR=131.23, $p=0.003$) and for weekly purging behaviours (OR=22.70, $p=0.021$) than having no such reported behaviours at this frequency. Finally those men who reported seeking weight loss content actively on the Internet compared to those who did not look for such information had significantly greater odds for consuming diet or low calorie food at least once a week (OR=8.03, $p<0.001$) than eating these less often, and had greater odds of engaging in compensatory behaviours at least weekly at a tendency level (OR=3.44, $p=0.052$) than not doing these behaviours this often. Results are detailed in Table 16.

Women

According to the results it was found that among women those who reported reading weight loss articles in magazines compared to those who did not read such articles had significantly greater odds for consuming diet or low calorie food at least once a week (OR=3.27, $p<0.001$), than not eating them at all, had significantly greater odds of engaging in excessive exercise at least once a week (OR=2.39, $p<0.001$), than not, significantly greater odds for doing any compensatory behaviour at least once a week (OR=2.94, $p<0.001$), than not doing these at this frequency. Results also indicated that those women who read weight loss articles on the Internet had significantly greater odds of engaging in most of the weight-control methods (apart from self-induced vomiting) such as using laxatives, eating diet or low, calorie food, engaging in excessive exercise, engaging in purging and compensatory behaviours at least once a week than not implementing these methods on a weekly basis. Women, who said they were actively seeking weight loss content in magazines had significantly greater odds of engaging in self-induced vomiting, using laxatives, eating diet or low-calorie food, doing excessive exercise, engaging in purging and compensatory behaviours at least once a week than less often.

Lastly, those women who reported seeking weight loss content online actively had significantly greater odds for self-induced vomiting at least once a week (OR=3.05, $p=0.037$), use of laxatives, at least, weekly (OR=3.68, $p=0.001$), consuming diet or low calorie food at least weekly (OR=6.13, $p<0.001$), doing excessive exercise at least once a week (OR=3.07, $p<0.001$), engaging in purging behaviours weekly (OR=3.95, $p<0.001$) and carrying out some compensatory behaviour at least once a week (OR=4.95, $p<0.001$) than doing these activities less often. Results are detailed in Table 15.

Table 16: Prediction of weight reduction behaviours among men and women

Weight reduction behaviour (at least once a week)	Reading weight loss articles in magazines?		Reading weight loss articles on the Internet?		Actively seeking weight loss content in magazines?		Actively seeking weight loss content on the Internet?	
	Male	Female	Male	Female	Male	Female	Male	Female
	OR (95% CI)		OR (95% CI)		OR (95% CI)		OR (95% CI)	
Self-induced vomiting	2.23 [0.25–19.91]	1.97 [0.70–5.56]	1.37 [0.33–5.64]	1.29 [0.43–3.91]	22.97* [1.53–344.67]	5.96** [2.05–17.34]	4.12 [0.76–22.36]	3.05* [1.07–8.69]
Use of laxatives	12.56 ⁺ [0.96–164.53]	1.67 [0.80–3.51]	4.67 [0.58–37.38]	3.04* [1.21–7.64]	131.23* [5.06–3403.18]	3.75** [1.68–8.35]	5.95 [0.49–72.19]	3.68** [1.73–7.81]
Diet or low calorie food	5.62** [1.80–17.54]	3.27*** [2.16–4.95]	4.12*** [2.33–7.30]	5.00*** [3.36–7.44]	1.75 [0.15–20.18]	6.24*** [2.89–13.47]	8.03*** [3.0–21.50]	6.13*** [3.59–10.47]
Excessive exercise	4.48 ⁺ [0.99–20.37]	2.39*** [1.55–3.68]	1.19 [0.68–2.08]	3.47*** [2.31–5.20]	1.18 [0.11–13.31]	4.09*** [1.89–8.83]	1.68 [0.67–4.23]	3.07*** [1.84–5.13]
Purging behaviour	2.08 [0.24–18.25]	1.67 [0.86–3.22]	1.84 [0.51–6.7]	2.60* [1.19–5.67]	22.70* [1.62–318.95]	4.57*** [2.24–9.32]	3.37 [0.64–17.68]	3.95*** [2.01–7.74]
Compensatory behaviour	6.35 ⁺ [0.82–49.29]	2.94*** [1.73–5.00]	1.52 [0.82–2.81]	4.23*** [2.65–6.75]	NA	6.66** [2.04–21.73]	3.44 ⁺ [0.99–11.99]	4.95*** [2.41–10.18]

Note: ⁺p<0.10. * p<0.05. ** p<0.01. *** p<0.001. Adjusted for BMI, age, and education. NA: SPSS 21.0 issued non-interpretable results where the cause is unknown.

5.6 Multivariate predictors of drive for thinness

The relationship between media exposure and body image dissatisfaction was examined with structural equation modelling (SEM), applying the MLR robust estimator. In the multiple indicators and multiple causes (MIMIC) analysis, internalization was treated as a latent variable. This variable consists of the *Internalization-General* and *Internalization-Athlete* subscale of the Sociocultural Attitudes Towards Appearance Questionnaire-3. During the analysis, separate models were created for men and women. The factor loadings of the internalization subscales on the latent internalization variable were satisfactory (>0.70 , $p < 0.001$). Based on the literature (e.g. [Fitzsimmons-Craft et al., 2014](#)) we expected associations between all variables. The first step of the analysis included to run the tested model and only show those associations that were significant regarding each gender. The implemented statistical package (MPLUS) contains mediation analysis as a built-in feature. The tested model can be observed in Figure 9.

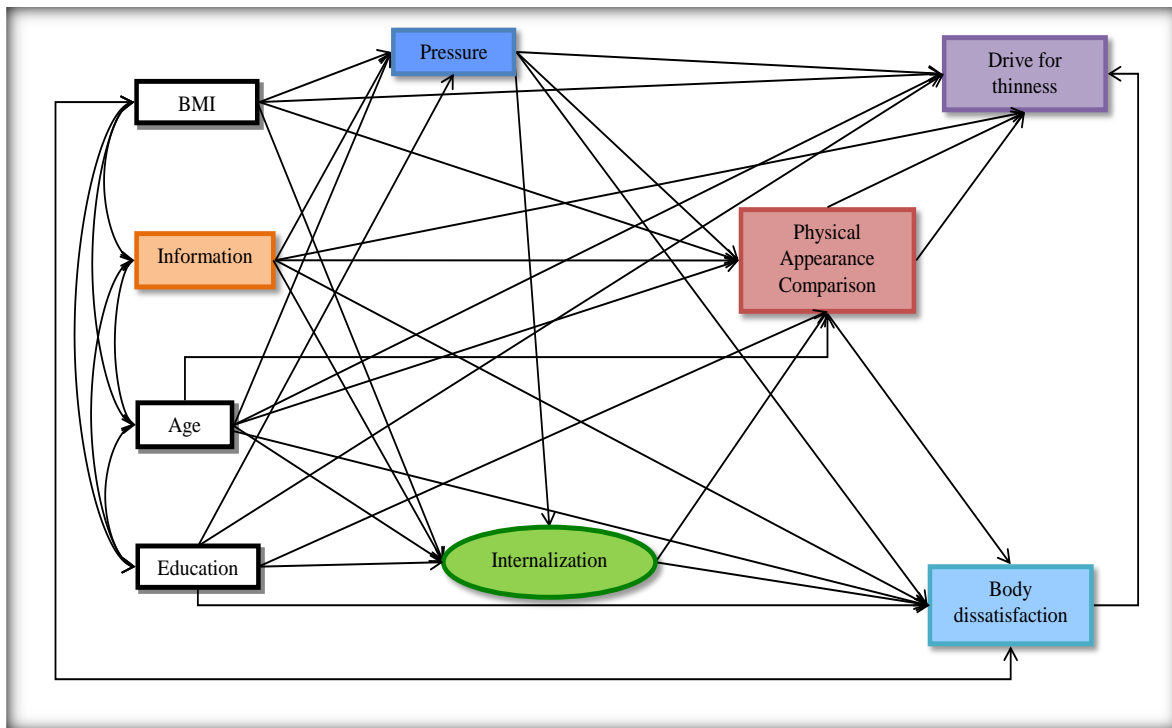


Figure 9: Tested model in the multiple indicators and multiple causes analysis

Women

As expected, the subjective importance of various forms of media in getting information about appearance and attractiveness significantly predicted greater pressure from the media to attain the thin ideal, as well as athletic and thin-ideal internalization. The pressure from the media to attain the thin body ideal was also positively associated with internalization of the thin and athletic ideals. As expected, internalization predicted greater physical appearance comparison, body dissatisfaction, and drive for thinness. The higher tendency toward physical appearance comparison predicted greater body dissatisfaction. This, in turn, predicted higher drive for thinness. Higher BMI predicted significantly greater body dissatisfaction, lower internalization at a tendency level and showed a positive association with pressure at a tendency level. Furthermore, BMI was positively associated with age. Finally, education had a positive association with age and in a negative association with BMI at a tendency level.

The mediation analysis revealed that the relationship between information and drive for thinness was partially mediated by the internalization (standardized $\beta=0.15$, $p<0.001$). A significant indirect path was found from information through internalization and body dissatisfaction to drive for thinness (standardized $\beta=0.06$, $p=0.001$). The analysis also revealed a significant indirect path from information through pressures and internalization to drive for thinness (standardized $\beta=0.11$, $p<0.001$). A significant indirect path was found from information through internalization, physical appearance comparison, and body dissatisfaction to drive for thinness (standardized $\beta=0.04$, $p=0.001$). Another significant indirect path was revealed from information through pressure, internalization and body dissatisfaction to drive for thinness (standardized $\beta=0.04$, $p=0.001$). Finally, a significant indirect path was found from information through pressure, internalization, physical appearance comparison and body dissatisfaction to drive for thinness (standardized $\beta=0.03$, $p=0.001$).

Regarding the relationship between the pressure from media and the drive for thinness, three significant indirect paths were revealed. The first path is from pressure through internalization to drive for thinness (standardized $\beta=0.22$, $p<0.001$). The second path is

from pressure through internalization and body dissatisfaction to drive for thinness (standardized $\beta=0.09$, $p<0.001$). The third indirect path is from pressure through internalization, physical appearance comparison and body dissatisfaction to drive for thinness (standardized $\beta=0.06$, $p=0.001$). Significant indirect paths were found between internalization and the drive for thinness. Mediation analyses revealed an indirect path from internalization through body dissatisfaction to drive for thinness (standardized $\beta=0.16$, $p<0.001$). We also found an indirect path from internalization through physical appearance comparison and body dissatisfaction to drive for thinness (standardized $\beta=0.10$, $p<0.001$). Finally, it seems, that the relationship between physical appearance comparison and drive for thinness is fully mediated by body dissatisfaction (standardized $\beta=0.13$, $p<0.001$).

It is important to note, that because of the strong linear relationships between variables a possible suppressor effect occurred. This could be the reason for the unexpected direct associations, such as the negative relationship between information and drive for thinness, or the negative relationship between pressure and physical appearance comparison. The artefact nature of these associations is further supported by previous bivariate analyses, where positive, weak and moderate linear relationships were observed between these variables.

The model explains 26.2% of the variance in perceived pressure from the media to attain the thin-ideal, 60.1% of the variance in internalization, 53.4% of the variance in physical appearance comparisons, 40.9% of the variance in body dissatisfaction and 53.2% of the variance in drive for thinness.

Based on the fit indices, the structural equation model provided an acceptable fit for the data ($\chi^2=16.63$, $df=7$, $p=0.02$, CFI=0.994, TLI=0.965; RMSEA=0.053 [90% CI: 0.020–0.086], SRMR=0.013).

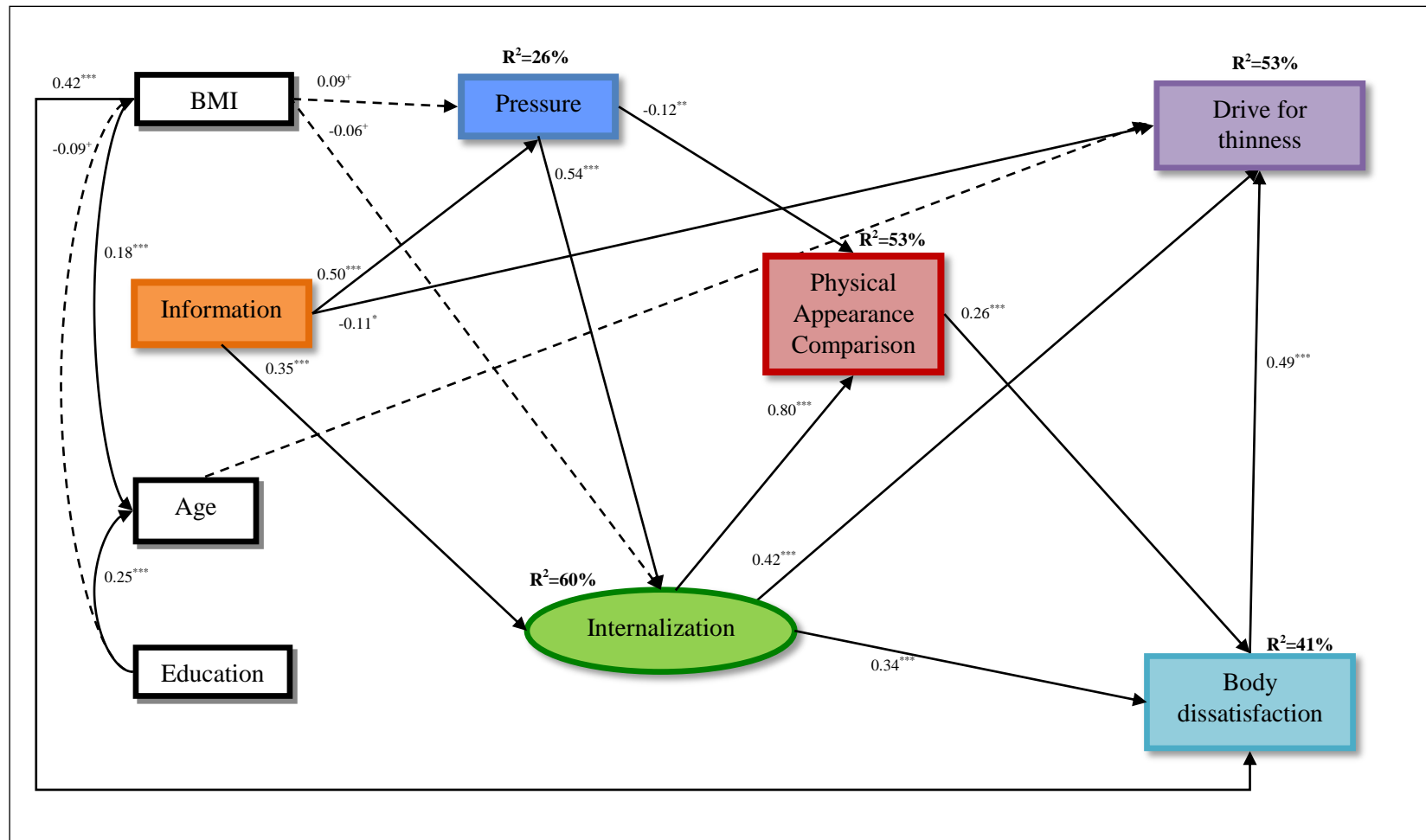
Female model

Figure 10: The final SEM model (female) with tendency level ($p<0.10$, dashed line) and significant ($p<0.05$, continuous line) *standardized coefficients*.

Note. $N=493$. Education is coded: 0: up to secondary school, 1: higher education. R^2 : explained variance

Men

In our model, slightly different associations were found regarding men. It was found that the subjective importance of various forms of media in getting information about appearance and attractiveness significantly predicted a greater pressure from the media to attain the depicted body shape ideals and predicted the internalization of athletic and thin body ideals significantly. The media pressure to attain the thin body ideal was also positively associated with internalization of body ideals and physical appearance comparison. Greater internalization of the body ideals predicted greater body appearance comparison, a greater body dissatisfaction and a higher drive for thinness. Body dissatisfaction associated positively with drive for thinness. Higher BMI predicted significantly greater perceived pressure from the media, greater body dissatisfaction, and higher drive for thinness. Older age associated with the lower importance of information from the media, higher BMI, and higher education levels. Finally, those who finished a higher education internalized the athletic and thin ideals more and were less satisfied with their bodies at a tendency level.

The mediation analysis revealed many significant indirect paths from the information from media to the drive for thinness. This relationship between information and drive for thinness was partially mediated by the internalization (standardized $\beta=0.10$, $p=0.025$). It was also found an indirect path from information through internalization and body dissatisfaction to drive for thinness (standardized $\beta=0.05$, $p=0.016$). Another indirect path was found from information through pressure and internalization to drive for thinness (standardized $\beta=0.03$, $p=0.027$). It seems also to be a weak indirect path from information through pressure and internalization and body dissatisfaction to drive for thinness (standardized $\beta=0.01$, $p=0.039$). The mediation analysis also revealed an indirect path from pressure through internalization to drive for thinness (standardized $\beta=0.06$, $p=0.023$). We also found an indirect path from pressure through internalization and body dissatisfaction to drive for thinness (standardized $\beta=0.03$, $p=0.033$). Lastly, it was found that the relationship between the internalization of sociocultural body ideals and the drive for thinness that was partially mediated by body dissatisfaction (standardized $\beta=0.01$, $p=0.014$).

The model explains 26.5% of the variance in perceived pressure from the media to attain the thin-ideal, 45.7% of the variance in athletic and thin ideal internalization, 35.8% of the variance in physical appearance comparisons, 21.9% of the variance in body dissatisfaction and 33.1% of the variance in drive for thinness.

Based on the fit indices, the model's fit is satisfactory ($\chi^2=12.03$, $df=7$, $p=0.100$, CFI=0.993, TLI=0.962; RMSEA=0.047 [90% CI: 0.000–0.091], SRMR=0.011).

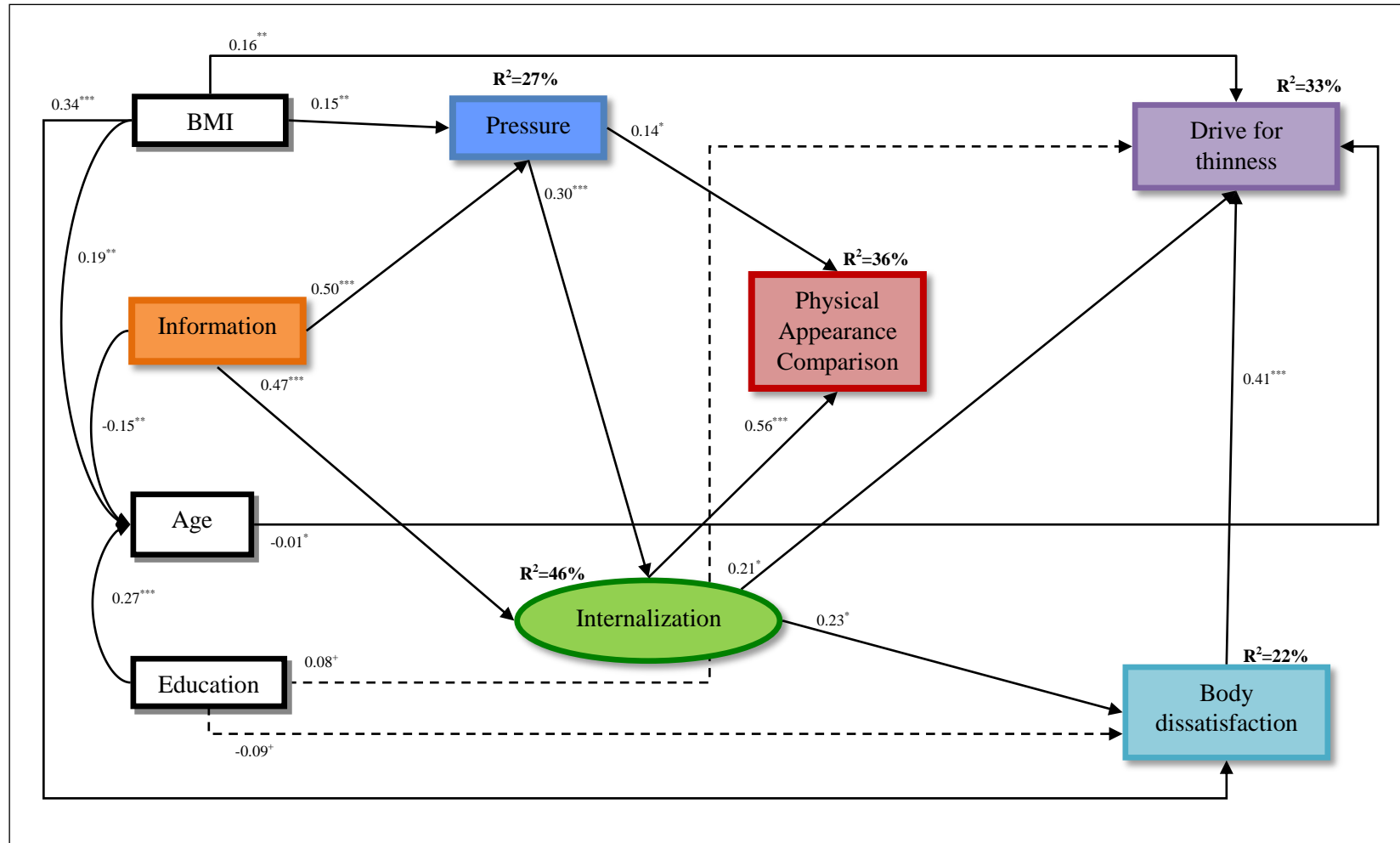
Male model

Figure 11: The final SEM model (male) with tendency level ($p < 0.10$, dashed line) and significant ($p < 0.05$, continuous line) *standardized coefficients*.

Note. $N=493$. Education is coded: 0: up to secondary school, 1: higher education. R^2 : explained variance.

5.7 Predictors of risk for developing an eating disorder

To define the risk for EDs, the following procedure was implemented. Responses were measured on three questionnaires, such as the Eating Disorder Inventory (EDI, Body dissatisfaction subscale, Drive for thinness subscale, Bulimia subscale), the SEED questionnaire and the SCOFF questionnaire. Trichotomous and dichotomous variables were created based on the cut-off points of these questionnaires. Binges were defined based on SEED questions requiring, at least, one reported bingeing episode per week. Compensatory behaviour was defined also based on SEED requiring that at least one reported compensatory behaviour per week occurred, such as self-induced vomiting and or use of laxatives and or diet and or excessive sport. The second question of SCOFF was used to identify the feeling of loss of control over eating in case of BED. Six subcategories were developed to reflect ED risk. All the categories are based on DSM-V ([American Psychiatric Association, 2013](#)). These categories could help later in creating potential prevention and media literacy programmes since they should not only focus on the usual EDs but should have a wider perspective. The above-mentioned mass media content might be a risk for subthreshold and unspecified EDs as well.

The six subcategories and their compulsory criteria were the following:

1. High risk of developing AN (Anorexia Nervosa)

- a. $BMI \leq 17.0$
- b. EDI *Drive for thinness* subscale ≥ 14 points OR EDI *Body dissatisfaction subscale* ≥ 21 points OR yes answer(s) to the “Have you recently lost more than one stone in a 3 month period?” (*SCOFF item 3*) OR “Do you believe yourself to be fat when others say you are too thin?” (*SCOFF item 4*) questions.

2. Low risk of developing AN

- a. BMI 17.1 – 18.4
- b. EDI *Drive for thinness* subscale between 10 and 13 points OR EDI *Body dissatisfaction subscale* ≥ 21 points OR yes answer(s) to the “Have you recently lost

more than one stone in a 3 month period?” (*SCOFF item 3*) OR “Do you believe yourself to be fat when others say you are too thin?” (*SCOFF item 4*) questions.

3. High risk of developing BN (Bulimia Nervosa)

- a. BMI >17.0
- b. Binges at least once a week (*SEED*)
- c. Compensatory behaviour (self-induced vomiting and/or use of laxatives and/or diet and/or excessive sport) at least once a week (*SEED*)
- d. EDI *Body dissatisfaction subscale* ≥ 21 points OR EDI *Bulimia subscale* ≥ 14 points
- e. Feeling of loss of control (*SCOFF item 2*)

4. Low risk of developing BN

- a. BMI >17.0
- b. Bingeing episode at least once a week (*SEED*)
- c. Compensatory behaviour (self-induced vomiting and/or use of laxatives and/or diet and/or excessive sport) at least once a week (*SEED*)
- d. Feeling of loss of control over eating (*SCOFF item 2*)

5. Risk for BED (Binge Eating Disorder)

- a. Bingeing episode at least once a week (*SEED*)
- b. Feeling of loss of control over eating (*SCOFF item 2*)

6. Risk for UFED (Unspecified Feeding or Eating Disorder)

- a. At least 2 points on SCOFF questionnaire

All of these categories represent a risk only and make no attempt at a clinical diagnosis based on self-report questionnaires. Those who did not reach the criteria of any of the above-mentioned categories belonged to the no risk group. Based on the results, the vast majority of the present sample belonged to the no risk group (N=612, 74.6%). Furthermore: High risk for AN (N=3, 0.4%), Low risk for AN (N=15, 1.8%), High risk for BN (N=24,

2.9%), Low risk for BN (N=82, 10.0%), risk for BED (N=11, 1.3%) and UFED (N=73, 8.9%). The incidence of each category along both men and women is shown in Figure 12.

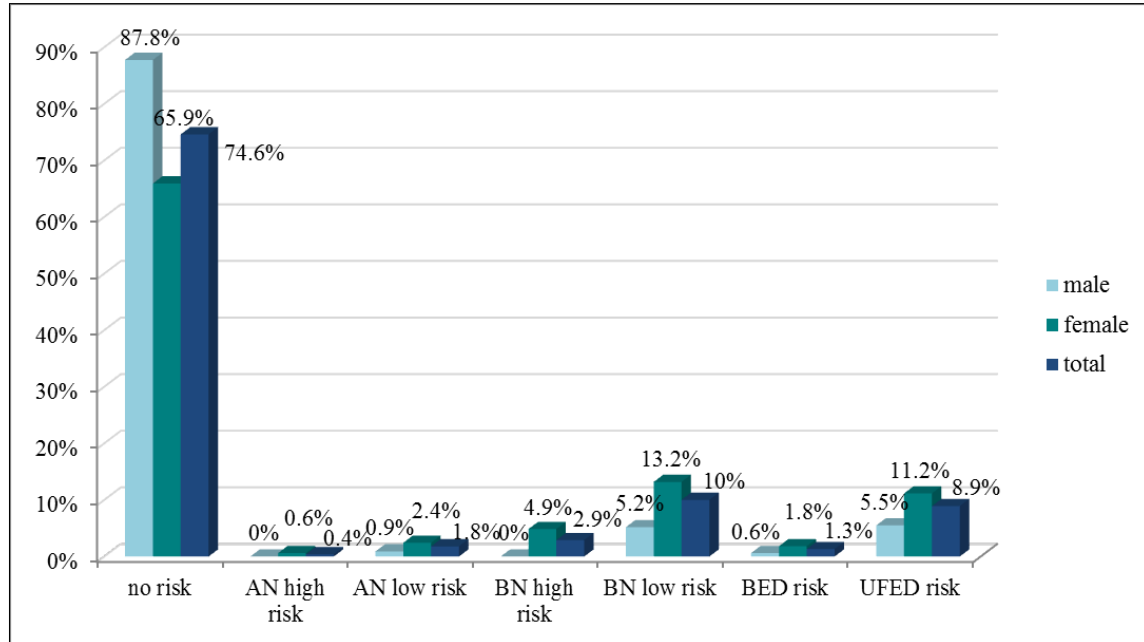


Figure 12: Gender differences in the incidence of ED risk.

Multinomial logistic regression analysis was used to test the predictors for eating disorders risk. During this procedure, three categories were created out of the above-mentioned ones. These were: **not at risk** for ED/UFED group (N=612, 74.6%), at **risk for UFED** (N=73, 8.9%) and at **risk for ED** (N=135, 16.5%). The Chi-square test showed significant gender differences. Among women, the frequency of being at risk for UFED and being at risk for ED is greater than among men ($\chi^2_{(2)}=50.936$, $p<0,001$).

In the multinomial logistic regression analysis, two models were tested to examine the possible predictors for eating disorders' risk. In the first one, the predictive strength of diet, fitness and health related media contents (magazines, TV, Internet) and eating disorder promoting websites (ProED) were tested. These variables were dichotomous variables in the model.

- *Regarding magazine reading*, two groups were discriminated where the first group included those who read diet, health and fitness related magazines less often than once a month (N=775, 94.5%) and the other group included those who read magazines at least once a month (N=45, 5.5%).
- *Regarding watching fitness, healthy lifestyle related TV programmes*, again two subgroups were discriminated. In the first group those belonged who did not engage in watching these kinds of programmes at least once a week (N=759, 92.6%) and the second group contained those who watched these TV programmes at least on a weekly basis (N=61, 7.4%).
- *Regarding Internet use*, two subgroups reflected frequency in browsing diet, fitness, and healthy eating related websites. Those who visited these pages less than weekly were N=683 (83.3%) and those who visited these pages at least once a week were N=137 (16.7%).
- Lastly, two subgroups were created regarding *visiting frequency for ProED pages*. The first subgroup contained those who never visit such pages (N=741, 90.4%) and the other group consisted of participants who do visit such pages at least occasionally (N=79, 9.6%).

Results (Table 17) of the first model showed that those who browse diet, fitness and healthy eating related websites at least once a week, compared to those who visit these pages less often, had significantly greater odds of being at risk for UFED and significantly greater odds of being at risk for ED (OR=3.28, $p<0.001$, and OR=2.53, $p<0.001$, respectively) than having no risk at all. Those who visit ProED pages occasionally, compared to those who never visit these pages, had greater odds of being at risk for UFED at a tendency level (OR=2.02, $p=0.073$) and had significantly greater odds of being at risk for ED (OR=3.96, $p<0.001$) than to have no risk at all. Furthermore, those who watch fitness, healthy lifestyle related TV programmes at least once a week, compared to those who don't watch these programmes weekly, had greater odds of being at risk for ED at a tendency level (OR=1.83, $p=0.086$) than having no risk at all. Comparing those who are at risk for UFED and those who are at risk for ED along the media contents, we only found a

difference at a tendency level regarding visiting ProED pages. Those who visit ProED pages occasionally compared to those who never visit these pages had greater odds of being at risk for ED at a tendency level than being at risk for UFED (OR=1.96, $p=0.096$). The explained variance by this model is 11.6%.

Table 17: Predictors for risk of eating disorders (Multinomial Logistic Regression Analysis) – Model 1

Variables	No risk vs. at risk for UFED OR [95% CI]	No risk vs. at risk for ED OR [95% CI]	At risk for UFED vs. at risk for ED OR [95% CI]
Magazines ^a			
<i>At least once a month</i>	1.19 [0.44–3.22]	1.07 [0.47–2.43]	0.90 [0.31–2.63]
<i>Less often than once a month</i>	1.00	1.00	1.00
TV ^a			
<i>At least once a weekly</i>	1.14 [0.44–2.86]	1.83 ⁺ [0.92–3.67]	1.62 [0.61–4.27]
<i>Less often than once a week</i>	1.00	1.00	1.00
Internet ^a			
<i>At least once a week</i>	3.28*** [1.77–6.08]	2.53** [1.51–4.22]	0.77 [0.38–1.55]
<i>Less often than once a week</i>	1.00	1.00	1.00
ProED			
<i>Occasionally</i>	2.02 ⁺ [0.94–4.37]	3.96*** [2.27–6.89]	1.96 ⁺ [0.89–4.31]
<i>Never</i>	1.00	1.00	1.00

Note: ⁺ $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Significant results are highlighted in bold. ^a: diet, fitness, and healthy lifestyle related media content. ProED: eating disorder promoting websites. Nagelkerke $R^2=11.6\%$.

In the second model, we included two aspects of sociocultural attitudes towards appearance, namely the Pressures and Internalization–General subscales of the SATAQ-3, the tendency toward body comparison (PACS); and we adjusted for gender, age, education, BMI, and self-esteem. Results of the second model can be summed up the following. Those

participants who browse diet, fitness, and healthy eating related websites at least once a week, compared to those who visit these sites less often, had significantly greater odds of being at risk for UFED (OR=2.76, $p=0.002$), and significantly greater odds of being at risk for ED (OR=1.91, $p=0.029$) as well, than having no risk at all for EDs. Results also showed that those, who visit ProED pages occasionally, compared to those, who never visit these websites, had significantly greater odds of being at risk for ED (OR=3.28, $p<0.001$) than to have no risk at all. Elevated perceived sociocultural pressures and a higher BMI also associated with a greater odds of being at risk for UFED (OR=1.05, $p=0.007$; and OR=1.08, $p=0.003$ respectively) and being at risk for ED (OR=1.04, $p=0.041$; and OR=1.08, $p=0.001$ respectively) than having no risk at all. Furthermore, lower self-esteem predicted significantly greater odds of being at risk for UFED and being at risk for ED (OR=0.91, $p<0.001$; and OR=0.88, $p<0.001$; respectively). Being female had greater odds of being at risk for UFED at a tendency level (OR=1.85, $p=0.054$) and significantly greater odds of being at risk for ED (OR=2.43, $p=0.002$) than having no risk at all. Higher tendency toward physical appearance comparison associated with significantly greater odds of being at risk for ED (OR=1.13, $p=0.002$) than having no risk at all. Finally, comparing those who are at risk for UFED and those who are at risk for ED along the variables, only one significant relationship was discovered: higher physical appearance comparison predicted greater odds of being at risk for ED (OR=1.14, $p=0.010$) than being at risk for UFED. The explained variance by this model is 32.5%. Results are detailed in Table 18.

Table 18: Predictors for risk of eating disorders (Multinomial Logistic Regression Analysis) – Model 2.

Variables	No risk vs. at risk for UFED OR [95% CI]	No risk vs. at risk for ED OR [95% CI]	At risk for UFED vs. at risk for ED OR [95% CI]
Magazines ^a <i>At least once a month</i>	1.10 [0.39–3.11]	1.15 [0.48–2.78]	1.05 [0.35–3.16]
<i>Less often than once a month</i>	1.00	1.00	1.00
TV ^a <i>At least once a weekly</i>	0.86 [0.33–2.27]	1.54 [0.72–3.31]	1.79 [0.65–4.91]
<i>Less often than once a week</i>	1.00	1.00	1.00
Internet ^a <i>At least once a week</i>	2.76** [1.43–5.32]	1.91* [1.07–3.41]	0.69 [0.34–1.42]
<i>Less often than once a week</i>	1.00	1.00	1.00
ProED <i>Occasionally</i>	1.89 [0.85–4.22]	3.28*** [1.75–6.16]	1.74 [0.77–3.91]
<i>Never</i>	1.00	1.00	1.00
Pressure (SATAQ-3)	1.05** [1.01–1.09]	1.04* [1.00–1.07]	0.98 [0.94–1.03]
Internalization – general (SATAQ-3)	1.00 [0.96–1.04]	1.00 [0.96–1.03]	1.00 [0.95–1.04]
Physical comparison (PACS)	0.99 [0.91–1.08]	1.13** [1.05–1.22]	1.14* [1.03–1.26]
Gender <i>Female</i>	1.85 ⁺ [0.99–3.44]	2.43** [1.38–4.29]	1.32 [0.61–2.83]
<i>Male</i>	1.00	1.00	1.00
Age	0.95 [0.90–1.01]	0.97 [0.92–1.02]	1.01 [0.95–1.09]
Education <i>Higher education</i>	0.99 [0.56–1.76]	0.85 [0.52–1.39]	0.86 [0.45–1.66]
<i>At least secondary</i>	1.00	1.00	1.00
BMI	1.08** [1.03–1.14]	1.08** [1.03–1.13]	1.00 [0.95–1.06]
Self-esteem (RSE)	0.91*** [0.87–0.96]	0.88*** [0.84–0.92]	0.97 [0.91–1.03]

Note: ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, ^a: diet, fitness, and healthy lifestyle related media content. ProED: eating disorder promoting websites. SATAQ-3: Sociocultural Attitudes Towards Appearance Questionnaire-3, PACS: Physical Appearance Comparison Scale, RSE: Rosenberg Self-Esteem Scale. Nagelkerke $R^2 = 32.5\%$ Significant results are highlighted in bold.

6. DISCUSSION

Eating disorders are not only serious mental health conditions (Klump et al., 2009) but the public health burden of EDs (including traditional EDs, and the more prevalent subthreshold EDs) is also significant. Research suggests that EDs continue to occur all over the world in both developed and developing countries (Treasure, Claudino, & Zucker, 2010). Furthermore, the increasing rates of EDs related behaviours and symptoms can be found in both genders (Chao et al., 2008) and most importantly the high mortality rates of EDs, (Arcelus, Mitchell, Wales, & Nielsen, 2011) and high treatment costs (Wang, Nichols, & Austin, 2011) require more extensive research to explore possible underlying mechanisms. Media use, especially where appearance is in focus is associated with various aspects of body image, eating habits and disordered eating (Levine & Murnen, 2009). One of the well-known risk factors is the sociocultural pressure on women and men to achieve the almost impossible body ideal and shape represented mainly by the media (Thompson et al., 2004). Women are especially targeted by these messages from a very early age. These expectations, open, and hidden communication of these unrealistic appearance standards originate mostly from parents, peers and the mass media. These factors increase the risk of being dissatisfied with one's body, the experience of negative affect, thin-ideal internalization, body comparison, and, finally, they might contribute to the occurrence of extreme weight control methods, radical diet, and fitness plans and disordered eating behaviours (Stice, 1994). Since media represents one of the strongest sociocultural influences in our everyday lives, it is vital to explore the underlying mechanisms that can result in body dissatisfaction, risky health behaviour and other EDs related symptomatology. In Hungary, this is the first comprehensive study exploring the mass media's effect on EDs in a non-clinical sample of adult men and women.

6.1 Adaptation of three questionnaires in Hungary

6.1.1 Adaptation of the Beliefs About Attractiveness Scale– Revised questionnaire in Hungary

The purpose of the first part of this study was to complete the psychometric evaluation of the Hungarian version of three questionnaires, one of which was the Beliefs About Attractiveness Scale – Revised questionnaire (BAA-R). The findings of the confirmatory factor analysis revealed that the theoretical two-factor structure of the questionnaire was not supported. Because of this, we carried out an exploratory factor analysis, which resulted in a new three-factor structure. The analysis showed that a three-factor structure with 14 items was a better fit in this case instead of the original two-factor structure with 19 items. Besides the originally existing two factors (*Importance of being attractive and thin* and *Importance of being physically fit and in-shape*) a third factor was discovered of which factor the items were referring to the life fulfilment aspect of attractiveness. This factor was named the *Life fulfilment aspect of attractiveness*. The goodness of fit of the three-factor structure also proved to be acceptable, the internal consistency of the scales and the construct validity of the questionnaire was supported by the positive, significant relationships with the internalization subscales of the SATAQ-3 questionnaire. However, it is important to note that while these associations were moderate among women, regarding men they were only weak. We suggest a further psychometric examination of the BAA-R questionnaire on a wider range of population, especially among younger people, individuals suffering from EDs, or overweight people. The availability of this questionnaire in Hungarian contributes to the better understanding of societal values influencing beliefs regarding physical appearance and attractiveness.

6.1.2 Adaptation of the Physical Appearance Comparison Scale in Hungary

The second part of the first study aimed to adapt the Physical Appearance Comparison Scale (PACS) into Hungarian. After testing the single factor structure with CFA it was found that, because of the 4th item, the questionnaire did not show a good fit. The reason for this is most likely that the 4th item was the only reverse item in the questionnaire. Attention

was brought to the potential difficulties when reverse items are used and how these elements can alter the structure of a measure (Weijters, Baumgartner, & Schillewaert, 2013). After deleting the 4th item and repeating the CFA, the model's goodness of fit greatly improved. The construct validity of the questionnaire was supported by the positive, significant relationships with the internalization subscales of the SATAQ-3 questionnaire and by the positive, significant relationship with the body dissatisfaction subscale of the EDI questionnaire. The observed associations were stronger among women (mostly strong and moderate associations), than among men. It could add value to the questionnaire if further psychometric examinations would focus on adolescents too, and on overweight, obese individuals and people who are suffering from eating disturbances. The availability of this questionnaire in Hungary might add to the understanding of body evaluation processes, and could deepen the understanding of the development of body image concerns.

6.1.3 Adaptation of the Social Comparison Scale in Hungary

The third goal of the first study was to adapt the Social Comparison Scale (SCS). In this case, the CFA did not support the single factor structure of the questionnaire. Instead, the exploratory factor analysis revealed a three-factor structure where the goodness of fit of the model was acceptable. The first factor ("Competence") was related to skills and abilities in association with social attributes based on which people carry out comparisons, higher scores on this scale meant that people rate themselves superior, more competent, talented, and stronger in comparison to others. The second factor ("Social acceptance") described the social acceptance and social belonging, higher scores here meant that the individual rated their social ranking compared to others as being someone who is more acceptable and more likely as an insider. The third factor ("Physical features") was related to the physical attributes of comparisons. Although the third factor was treated here as "Physical features" it is important to note that one item (*Undesirable/More desirable*) had multiple meanings and could be explained as a social attribute too. In addition, because this factor had only two items, we did not use it in analyses in the current study. Internal consistency of the scales appeared acceptable. The construct validity of the questionnaire was supported by the positive, significant relationships with the RSE (self-esteem) scale. Associations

regarding both genders were strong. The availability of this questionnaire in Hungarian helps the understanding of the importance of social rank and evaluation processes regarding body image concerns. Future research could focus on carrying out further examinations including different age groups, or people suffering from existing mental health disorders such as mood disorders or depression.

As we saw, there were quite a few differences in the psychometric properties compared to the original version of the questionnaires. These differences can have multiple possible explanations. One reason could be the heterogeneity, size and the age range of the current sample. Originally, each validated questionnaire was first administered and then later used mainly in student groups, consisting of younger people of whom the majority were women. For example, the original PACS was validated on 80 university female students ([Thompson et al., 1991](#)), the BAA-R questionnaire was first administered to 154 female undergraduates ([Petrie et al., 1996](#)) and when first validating the SCS, the sample consisted of 263 university undergraduates ([Allan & Gilbert, 1995](#)). Another reason for the discovered differences could be that the study was hosted online. Studies have documented that online data collection might modify in some cases the psychometric properties of questionnaires ([Buchanan et al., 2005](#)). They reported that the factor structure they found was different from the original paper-pencil version of the questionnaire. Reasons behind this could include the differences in the samples or the method of assessment. Furthermore, just like in our study, when [Buchanan and colleagues \(2005\)](#) assessed the psychometric differences between the online and offline versions of the same questionnaire, they found that the assessed sample was more diverse than the original one, which mainly included students. The fact that the current study used different statistical packages (e.g. Mplus) to explore these psychometric properties of the questionnaires could also have an influence on the outcome and what factor structures and correlations were shown between variables. Lastly, the role of the culture might have influenced the outcome as well. Since all these questionnaires were validated on U.S. samples, the possible differences between the U.S. and Hungarian culture and language could have contributed to the previously seen outcomes. Future research should focus on validating these measures offline as well as on samples that are more diverse. The above-validated questionnaires can be used in a wider

range of areas of psychology as well. The importance of social and appearance based comparisons, societal beliefs about attractiveness are important constructs considering social acceptance, and in general, when people evaluate themselves. Many areas of psychology could benefit from the existence of these measures. Human relationships, communication, and behavioural patterns are formed by underlying mechanisms that are many times influenced by perceptions from others and where people put themselves in comparison to peers.

6.2 Media exposure and psychological correlates

The second part of the current study investigated media use frequencies and the related psychological correlates. Although it is important to describe the associations we have found, it is also relevant to describe the characteristics of the current sample with regards to media consumption. Currently, there is no existing broader report on appearance, dieting and exercise related media content use in the Hungarian population. Results revealed that among the 18-35 year old adult population in most cases women spend more time reading various body focused magazines, watching appearance related TV shows and browsing the Internet in bodily appearance, exercise or diet related topics. The following parts of the study are strongly building on the previous questionnaire adaptations as these measures help us to have a deeper understanding of the relationship between media exposure and, for instance, social comparison, appearance comparison or values regarding bodily appearance and attractiveness.

In this study, the most popular magazines were fashion and women's magazines, which were followed by gastronomy, health, fitness, and gossip pages. It is not so surprising that these magazines were popular among women. Research shows that fashion and beauty magazines are often read by young girls and adult women too (Thomsen, Weber, & Brown, 2002). It has been reported that 98% of women read these kinds of magazines at least once a year (Thomsen et al., 2002). Among men, men's magazines and fitness, health magazines were slightly less popular; it could be simply that men have fewer options in magazines. Regarding TV shows, it seems that women spend more time watching television in general

on weekdays, and on the weekend too. The most popular TV programmes were films, series, and cooking, gastronomy shows followed by music videos, cosmetic makeover shows, fitness and health programmes, reality shows, and pornographic content on TV. Women tend to engage watching all types of TV shows apart from porn, where results showed that men spent the most time doing this. Internet program exposure and in general browsing the Internet showed that men spend more time watching programmes on the Internet, both on weekdays and on weekends. Furthermore, men engaged more in watching movies, music videos, and porn, whereas women watch more reality shows, healthy lifestyle programmes, and cosmetic makeover shows. The most popular shows in popularity order were the following: music videos, films, series, porn, gastronomy, cooking shows, cosmetic makeover programmes, fitness, healthy lifestyle shows, and online reality shows. We saw that the gender difference regarding online porn was considerable, probably because such programmes are mainly designed for men and it is more acceptable for men to report watching such content.

Lastly, regarding general online topics, we saw that the most popular Internet topic was social networking sites, mainly Facebook. After this, the second most popular web topic was cooking and gastronomy followed by healthy lifestyle topics, women's websites and gossip pages. The sixth most popular Internet topic was websites regarding adult content, which was followed in popularity by diet pages, online websites of women's magazines, men's fitness magazines, men's magazines, and lastly proED pages. We saw that not surprisingly, women spend more time browsing most of the above-mentioned topics online, apart from men's magazines, men's health and fitness magazines and online porn where men appeared to be the majority. In general social media use was reported to be popular and women appeared to be more active on these sites. It is not only important to see the media exposure tendency among this age group but to use the data and enrich fields such as prevention and school education. The general knowledge of risks of online and offline media among young people is quite limited. People, especially adolescents and young adults are very susceptible to the various messages coming from multiple sources. These messages are many times harmful, conflicting, and unhealthy. From an education and prevention perspective, it would be very important to start early education in schools and

institutions and inform young people about the harms of media. Many times young people and adolescents are not aware that conflicting, unhealthy messages and false reports are all over the media. Based on viewers preferences these educational programs could focus on the most often preferred media types.

6.2.1 Magazines

Similar to the expectations of the current study, women were affected more by magazine reading in general and in particular reading fashion, beauty, and health, fitness magazines than men were. Although among men several associations were found, most of them were weaker than the ones among women. Interestingly, men were not only affected by reading magazines designed for men (e.g., men's magazines, men's health, and fitness) but also by general health and fitness magazines. For instance, those men who reported reading health, fitness, men's magazines and men's health and fitness magazines tend to internalize the athletic body ideal more frequently. Among women, the more frequent reading of beauty, fashion, fitness, and health magazines was mostly associated positively with media as an important information source, internalizing both the slim and athletic body ideal, and drive for thinness. Moreover, beauty and fashion magazines were negatively related to age, which quite logically indicates that as women get older, they will read such magazines less likely. These results were in line with previous findings. For example, [Thomsen \(2002\)](#) described that beauty and fashion magazine reading and health and fitness magazine reading was linked to body shape concerns among women via various mediating factors. [Morry and Staska \(2001\)](#) argued that among women, reading beauty magazines resulted in internalizing societal ideals and that beauty magazine consumption predicted self-objectification and body dissatisfaction. They also explained that among men, the reading of fitness magazines led to internalizing the athletic body ideals and it predicted body dissatisfaction as well. In addition, reading these magazines predicted eating problems for both men and women. [Botta \(2003\)](#) also found that reading health and fitness magazines that claim to try to improve the reader's health, in fact, predicted body image dissatisfaction and eating disturbances among readers. The study revealed that reading health and fitness magazines for boys were accompanied with the desire for increased muscularity and for

girls a stronger drive for thinness and increased ED related behaviours. Interestingly, in the current research, we did not find any remarkable association with self-esteem, despite the fact that some research reported connections between magazine reading and self-esteem among young women (Newman & Dodd, 1995).

A recent trend, using disclaimer labels under modified pictures in magazines is supported by some. The aim of these labels is to inform readers that the picture in the magazine has been altered and that the presented model/body does not exist in real life and, therefore, it is not a realistic or relevant comparison target (Tiggemann et al., 2013). Although this may seem like a good idea, placing an explicit text under such images can, in fact, trigger, even more, body comparison and body dissatisfaction in some cases (Bissell, 2006; Selimbegović & Chatard, 2015). Tiggemann and colleagues (2013) reported that the least specifically worded disclaimer messages under the picture were better, or, at least, had the least detrimental effects since the explicit messages only directed the look of the readers and increased body dissatisfaction. It could be possible that a small difference in wording can greatly influence the effects on readers. However, Veldhuis, Konijn, and Seidell (2014) reported that informing and not warning readers that the presented model was underweight in the magazine induced less negative body perceptions in adolescent girls, especially among those with lower self-esteem. Placing such information under pictures in magazines would benefit the Hungarian population too. Young people and adults often buy appearance focused magazines without being aware that their content is modified, the pictures of models are heavily edited and not representing a real or healthy standard for women or men. Furthermore, the diets presented in such media products raise the concern in many professionals. These “healthy” eating plans and weight loss plans are mostly unrealistic, unhealthy and very difficult to manage. This not only can result in the feeling of failure when the diet does not work out, but also in a dangerous loop where readers keep starting different diets instead of implementing manageable lifestyle changes in their lives for a long term goal. It is vital that media literacy and prevention programs focus on such messages and educate readers as early as possible.

6.2.2 Television

The analysis showed slightly stronger associations between TV watching frequency and psychological correlates than what we saw in case of magazine reading. An even stronger distinction can be observed between men and women as most mentionable associations were observed among women. It is probably not surprising that watching television was reported to be more popular than magazine reading. Although men were affected by a few TV programmes, such as reality shows (body comparison), music videos and cosmetic makeover shows (media as an important information source regarding bodily appearance), women showed the most association with the measured variables. Among those women, who reported watching reality shows, the importance of information in media about bodily appearance was elevated. Findings regarding reality shows are further supported by previous findings by [Ferguson, Salmond, and Modi \(2013\)](#). They reported that watching reality television was related to an increased focus on appearance among women. Moreover, a recent analysis showed that the depiction of men is more muscular and athletic than of the average men in the population ([Dallesasse, Kluck, 2013](#)) which in turn might create elevated levels of body dissatisfaction in viewers.

Furthermore, those women who watch more music videos tend to internalize the thin ideal and rated media being as an important source of appearance. It was found that fitness, health programmes, and cosmetic makeover shows had the strongest and most extensive influence on body image and eating behaviours related variables among women. Watching these programmes on TV might lead to not only experiencing media as an important source of information regarding the societal standards of appearance but also to elevated levels of perceived pressure from media, internalization of both the slim and athletic ideal, body dissatisfaction and drive for thinness. [Cramblitt and Pritchard \(2013\)](#) observed similar associations. [Sperry and colleagues \(2009\)](#) described in their study that viewership of cosmetic surgery makeover programmes was related to more favourable cosmetic surgery attitudes, perceived pressure to undergo cosmetic surgery, also to overall body dissatisfaction, media ideal internalization, and disordered eating. Furthermore, [Mazzeo and colleagues \(2007\)](#) argued that viewing such makeover shows might lead to eating

disordered attitudes and behaviours among young women, especially among those who internalized the slim body ideal. Not just young adult women but adolescents are affected as well. [Ashikali and colleagues \(2014\)](#) explained that cosmetic surgery shows might have a damaging influence on young girls as they reported more dissatisfaction with their weight and appearance after being exposed to such media content. Although TV programs seemed to be less influential compared to magazines it is still raising a lot of concerns how many body modification focused shows viewers are currently exposed to. In Hungary TV shows many times focus on stories that show how a certain individual can change their unfavourable appearance with either plastic surgery or excessive diets/fitness plans. These shows are extremely dangerous not only because viewers might believe that such changes can be achieved in such a short time frame but also because they present unhealthy weight loss and body modification processes. This can trigger unhealthy behaviours among viewers especially if they are already vulnerable to such messages and might even seek them out. From a public health point of view, it would be extremely important to let the public know before or during the programs that the depicted stories are extreme and almost impossible to follow, not without possible health consequences. As it was mentioned earlier, prevention programs for eating disorders and media literacy education should put a lot of focus on these programs.

6.2.3 Internet

According to expectations, stronger associations were found between various Internet themes, topics, and psychological variables than the observed ones in case of magazines and television. We can see an interesting difference between Internet topics and Internet shows, namely, that online shows, even within the same topics as it was measured by Internet themes from a broader perspective, resulted in fewer and weaker correlations with certain psychological correlates. This is not so surprising when taking into account that users have more freedom when browsing the Internet and when they choose a film, show or other selected program, they probably know what they are looking for. By the same token when talking about topics and themes on the Internet, it is harder to control what comes on one's page and what exactly the content will be when for instance somebody is looking for

diets or healthy lifestyle tips. We observed that those men who reported browsing healthy lifestyle related topics reported higher internalization of the athletic ideal and more frequent physical appearance comparison. Moreover, women who engaged in browsing healthy lifestyle related topics tend to internalize the athletic ideal, and have a higher drive for thinness. Browsing diet related topics among men was related to the internalization of the thin and athletic ideal. Those women who reported reading diet content online also experienced more pressure from the media to attain the presented body ideals, stronger internalization of the thin and athletic ideal, rated being fit and in shape as an important part of defining attractiveness, found attractiveness important in reaching fulfilment in life and reported greater body dissatisfaction and a higher drive for thinness. Moreover, among women connections were found between reading female topics online and websites of women's magazines and media as information and internalizing the thin ideal. The current findings are in line with the findings of previous studies.

[Tiggemann and colleagues \(2013\)](#) reported that in their study among adolescent girls time spent on the Internet was related to the internalization of the slim ideal, body surveillance, reduced body esteem, and increased dieting. In addition, [Rodgers \(2015\)](#) highlighted the importance of various Internet platforms in their effect to body image and eating disorder related symptomatology via complex pathways. Although we expected social networking sites to have an influence on body image and self-esteem, as previous research indicates (e.g. [Smith, Hames, & Joiner, 2013](#); [Tiggemann et al., 2013](#)) we did not find any significant associations in the current study. One explanation might be the cultural differences in Facebook use compared to Western countries. Although Facebook is becoming popular in Hungary, it was introduced to the Hungarian population slightly later than to English-speaking countries. The Hungarian version of Facebook reached users in Hungary in 2008, four years after the English version of Facebook was accessible and it is still being translated ([Ur & Wang, 2012](#)). As [Ur and Wang argue \(2012\)](#) in Hungary there might be a tendency, especially among the older generation to share less on Facebook based on the historical background of the country. Furthermore, there was an exponential growth in social networking sites in Hungary following the period of the current data collection. The lack of significant associations are in line with previous findings in Hungary. Namely, that

on an adolescent representative sample [Király and colleagues \(2014\)](#) found very low effect sizes of social networking on problematic internet use. They also argued that Facebook started to be more popular after the data was already collected and is still behind in penetration compared to Western countries from where most of the previously cited studies originate ([We Are Social, 2014](#)). Given the fact that the current sample was older in age as well, and the only significant association in this study showed that the older people get the less likely they are to spend time on social networking sites support our explanation too. In addition, the use of smartphones, where many people reported using social networking sites in Hungary is still on the uprise and significantly behind the Western standards ([Forsense, 2013](#); [Kutatópont, 2015](#)).

Although we could not replicate findings regarding Facebook; among women, we did find association regarding spending time on ProED websites and the drive for thinness. [Juarez, Soto and Pritchard \(2012\)](#) reported similar findings, namely that among women the internalization of pro-anorexia website content was positively associated with the drive for thinness. This especially supports the need to develop media literacy programmes and to educate young people about the dangers of the Internet.

6.3 Seeking weight loss information on the Internet and in magazines and weight reduction techniques in a Hungarian sample

After seeing the association between various media content and measured variables the aim of the third part of this study was to investigate the characteristics of users regarding online and magazine based weight loss seeking behaviours and also to examine which activity will most likely predict the use of healthy, unhealthy and extremely unhealthy weight reduction methods. It is important to see whether the participants are passively exposed or they actually choose to look for such information. We distinguished between the magazine and Internet-based weight loss information and intentional and unintentional exposure. The results indicate that women engage more in reading about weight loss articles in magazines and on the Internet, also when it comes to browser searching or when they just run into such content, compared to men. We have to mention, that in this part of the study the

estimations in case of men were quite uncertain because the confidence intervals for odds ratios were wide since in each examined answer category the item numbers were low. Regarding the results, the reason why women seemed to engage more in reading such media content simply might indicate the societal pressure on women to lose weight which pressure for men is smaller and appears more in the direction of achieving the male muscular ideal (e.g. [Fitzsimmons-Craft, 2011](#); [Leahey, LaRose, Fava, & Wing, 2011](#); [Tylka, 2011](#)). Moreover, another contributor could be the content of such magazines or websites, as such; [Andersen and DiDomenico \(1992\)](#) reported that in women's magazines there were 10 times as many advertisements and articles promoting weight loss than what the men's magazines contained. In all cases, the Internet was more popular as a method compared to magazines to find out about weight-reduction techniques. Furthermore, regarding weight reduction techniques, women reported almost in all cases to engage more in unhealthy (dieting, excessive exercise) and extremely unhealthy (vomiting, laxatives) weight loss methods compared to men. According to the expectations, it was predicted that those who seek weight loss information, especially on the Internet would have elevated risk to engage in unhealthy and extremely unhealthy weight-reduction techniques to lose weight. The results support the findings of [Laz and colleagues \(2011\)](#) who reported that those women who obtained weight loss information online were more likely to exercise, use diet pills, laxatives, vomit after eating, smoke more cigarettes, and stop eating carbohydrates. They argued that women who engage in such unhealthy behaviours might learn these methods online. Furthermore, [Thomsen and colleagues \(2001 and 2002\)](#) also reported that among adolescents and young women reading certain types of magazines increased the likelihood of utilizing pathogenic weight loss methods. [Utter and colleagues \(2003\)](#) described in their study that dieting related magazine exposure was in association with unhealthy dieting among middle and high school students. [Botta \(2003\)](#) also reported that for girls reading, health/fitness magazines were not only linked to a stronger drive to be thin but also to vomiting, abusing laxatives, and fasting. We think that initiating media literacy prevention programs are very important, especially if those would focus on the dangers of diet and weight loss information in the printed and online media. As we saw these magazines and Internet pages are not only influencing the way people think about

their bodies but also the way they treat it. Engaging in unhealthy diets and excessive workouts can predict an elevated chance to develop EDs. In Hungary currently there is no existing media education in regards to EDs and body image and there are no prevention programs targeting these issues. To develop such programs and educational packages can benefit younger and older generations too. Furthermore, we suggest the implementation of these practices in therapies for people who are suffering from EDs. Randomized control trials could investigate whether not being exposed to or have a minimized exposure to harmful media contents could lead to less extreme dieting habits or healthier eating habits. In clinical practices patients report often that they seek out information about weight loss and diets in fashion, diet, fitness magazines. Probably many times, they do not even realise how much this type of media plays a part in their lives, especially if we think about the amount of uncontrolled information that can be found online. Although media is not representing a causal factor in the development of EDs it is a huge factor in maintaining and prolonging unhealthy habits. Therefore, we suggest the implementation of media education in prevention programs, therapies, especially in cognitive behavioural therapies.

6.4 Multivariate predictors of drive for thinness

The fourth part of the current study attempted to explore the complex underlying mechanisms between media and drive for thinness. This is the first study conducted in Hungary that uses a complex theoretical model to explore the relationship between the importance of various forms of media sources about appearance and drive for thinness in males and females ages 18 to 35. As we saw earlier, men reported being on the Internet, in general, more often during the week, women reported using appearance-, diet-, and fitness-oriented media more frequently than men, and women felt significantly greater pressure from various media sources to attain the ideals promoted in various forms of media. Although replication is needed, we found that, in Hungarian women and men across a wide range of ages, there were significant connections between the information from the media and drive for thinness via the experience of media pressures, internalization of the slender

beauty ideal, and a tendency to engage in body comparison and the experience of body dissatisfaction.

Those women who reported that various media sources were important to them as a source of information about attractiveness and beauty ideals also reported a greater pressure from the media to attain these ideals and a greater internalization of the slender and athletic body ideals. It is likely that there is a network of reciprocal influence in which more appearance-oriented, objectifying media content, greater media pressure, greater subjective importance, and more interest in visiting these sites feed each other. In many Western cultures, this network is framed by a general schema, reinforced in the media, which places appearance at the core of the feminine gender role, and invites men and women to evaluate women initially and principally based on a pleasing appearance (Smolak & Murnen, 2004).

In the present study, the bivariate correlations indicated that for women and men there were significant associations between the self-reported importance of the media as an information source about attractiveness and both drive for thinness and body dissatisfaction. Thus, the role of these psychological factors, and other important variables such as body comparison tendencies and internalization of the body (thin and athletic) ideals, in this network of media content and behaviour remains in need of explanation. Future research should consider the influence on media use and media effects of the various motives (e.g. self-improvement, entertainment, gathering information such as weight loss tips) that for instance, women report for reading fashion and beauty magazines (Thomsen, McCoy, Gustafson, & Williams, 2002). We did find that, compared to their male counterparts, Hungarian women tend to internalize the slim body ideal significantly more, tend to make more social comparisons in regard to their physical appearance, have a significantly higher drive for thinness, and are significantly more dissatisfied with their bodies. Numerous studies reported that girls and women in Westernized countries experience a lot of pressure from the media to attain the ideal body, and are more likely to internalize and glorify slenderness as an important goal. Across a wide range of actual body weights, women consequently feel dissatisfied with their bodies, they report, “feeling” and “seeing themselves as” too fat and otherwise being dissatisfied with their shape and weight

(Eisenberg, Neumark-Sztainer, & Paxton, 2006; Knauss, Paxton, & Alsaker, 2007; Wilksch, Tiggemann, & Wade, 2006).

Structural equation modelling indicated that women who attached greater importance to media as a source of information about physical attractiveness feel more appearance-related pressures from media and are more likely to have internalized the thin ideal in general. According to the results, perceived pressure is associated with greater internalization and greater acceptance of the thin ideal and the athletic body ideal. One significant aspect of the SEM results confirmed that women who internalized the thin ideal tended to compare their bodies to other people's appearance more often and were more dissatisfied with their bodies. It is well documented that internalization of the slim ideal, especially among women and young girls, could result in sustained, pervasive disappointment with body size and shape (e.g. Sands & Wardle, 2003). The finding that internalization is a mediator in one path between pressure and drive for thinness supports a previous research with pre-adolescent boys in a French study (Rodgers, Ganchou, Franko, Chabrol & 2012). In addition, the result that body comparison and body dissatisfaction have a mediating role between the internalization of the thin and athletic ideals and drive for thinness extends previous findings with pre-adolescent girls (Blowers, Loxton, Grady-Flessner, Occhipinti & Dawe, 2003) and female undergraduates (Fitzsimmons-Craft et al., 2014). Consistent with the concept, introduced above, the SEM results showed that women with a higher BMI reported an elevated pressure to reach current standards of attractiveness and body dissatisfaction. The most parsimonious explanation of these correlations is that, in a culture that glorifies female appearance and harshly criticises body fat and fat women; women are more distressed about their weight and shape and would like to do something about it. Future research is needed to investigate further the relationship between nutritional status, perceived pressure from the media (and other sociocultural sources), the content of media exposure, and psychological outcomes. Interestingly, in the present study, the SEM analyses supported Thompson and colleagues' (2004) previous finding that BMI had no positive significant linear relationship with internalization; in fact, this relationship was a weak, negative association at a tendency level. The results for women and men are

consistent with previous research ([van den Berg et al., 2007](#)) showing that independent of gender, an increased level of BMI is associated with greater body dissatisfaction.

SEM analysis of the data for men yielded a different set of relationships. Interestingly, the multivariate analysis indicated that those men who held media as an important source of information about body ideals and attractiveness tend to internalize the ideals more often, too. We found that men who said that media as a source of information was important also reported an elevated pressure from the media to achieve these ideals. These data are consistent with [Karazsia and Crowther's \(2008\)](#) finding that men who rate media messages about appearance as more important tended to report feeling more pressure from media to obtain athletic and thin ideals, and were more likely to internalize both body ideals. However, in this sample of Hungarian men, those who rated media as an important source of information about appearance had a more positive body image and compared their bodies less often to others'. It appears that media play a less important role in delivering sociocultural messages about body ideals to boys than to girls ([Levine & Harrison, 2009](#)). Males are both less likely to be defined principally in terms of their appearance and less likely to be sexually objectified in the media or elsewhere. In other words, future research should investigate the likely possibility that the network of media content, motives for media use, the experience of pressure from the media, and media effects in terms of body dissatisfaction is both qualitatively and quantitatively different for boys and men than for girls and women ([Presnell, Bearman, & Stice, 2004](#)). Those Hungarian men who reported more perceived pressure from the media to attain cultural ideals for males tended to compare their bodies to other men more often. This is consistent with [Barlett and colleagues' \(2008\)](#) meta-analytic conclusion that in male participants the experience of pressure from mass media was positively correlated with greater body image concerns, more negative self-esteem, and more negative body esteem. In addition, it has been disputed that having a higher BMI will increase the self-relevance of thinness and could be associated with an increase in body dissatisfaction ([van Den Berg et al., 2007](#)). The current results are in line with this: among men, higher BMI predicted a higher tendency to drive for thinness and greater body dissatisfaction.

The literature highlights the importance of multiple mediators in the development of body dissatisfaction and drive for thinness. It has been mentioned before that not only media but also many social and environmental factors play a considerable role in the above-mentioned processes. Many studies argue that the role of peers, bullying and critical comments (Greenleaf, Petrie, & Martin, 2014), judgements and critical evaluations, behaviours from parents regarding appearance add to the effects of media and may intensify that (Bauer, Bucchianeri, & Neumark-Sztainer, 2013). Media rather plays an amplifying role in this process than being its cause. It is highly possible that these processes (messages from peers, parents, vulnerability to such messages, their reinforcements by other sources, consequences, and behaviours) are working in a circular way. It is important to note that media mirrors the world that surrounds us, reflects our values and beliefs in a very profit-driven and not well-being-driven way. Future research should focus on longitudinal studies and examine the effects of media, peers, and parents in a complex model.

Future research should be designed to test alternative models. For example, the Tripartite Influence Model proposes that thin-ideal internalization has a mediating role between appearance comparisons and body dissatisfaction (Keery et al., 2004; Rodgers, Chabrol, & Paxton, 2011). However Fitzsimmons-Craft and colleagues (2014) and Blowers and colleagues (2003) proposed, as we do, that body comparison is one important process that mediates between internalization (and activation) of the thin ideal and body dissatisfaction. They argue that body comparison behaviour might be facilitated by thin-ideal internalization, where women use this to evaluate their current standing regarding the thin ideal; detecting a discrepancy between the perceived body shape and the highly valued ideal produces body image discontent (Dittmar, Halliwell, & Sterling, 2009).

6.5 Predictors for being at risk for EDs in regards to visiting diet, fitness and ProED websites

As seen previously, media use is associated with many different aspects of body image, eating habits, and EDs. The emerging tendencies best fit in a complex model where multiple mediators take place and media use (especially when individuals use it with

certain motivations such as dieting) can predict the use of unhealthy weight loss methods. Therefore, it was important to examine that after all these possible contributors to EDs, whether media use, especially the exposure to diet, fitness and ProED content (which showed strong associations previously) would be able to predict if there is a risk for EDs or not based on exposure to these media contents.

The fifth part of the current study aimed to investigate whether reading magazines, watching TV shows, visiting websites in the topic of fitness, diet and/or browsing web pages that support eating disorders predicts the elevated risk for EDs and/or risk for developing unspecified feeding or eating disorders (UFED) among the 18-35 years old young population. Results showed that most often the preferred way to seek media content in regards to dieting, sport and lifestyle was online. It was found that one-sixth of the sample was browsing such online content at least once a week. The occasional browsing of eating disorders promoting pages appeared to be alarmingly high, close to 10% of the respondents reported such activity. Compared to Internet use, magazine reading and television watching with regards to bodily appearance were considerably less often preferred. Women compared to men reported a more frequent media use in case of all types of media content.

The assessment of ED risk was carried out by using the EDI, SEED, and SCOFF questionnaires. These measures are widely used in the literature. The study aimed to assess the risk regarding developing traditional EDs such as AN and BN and also the risk for developing binge eating disorders and unspecified feeding or eating disorders. It is important to emphasize that since the study did not use any diagnostic clinical interview the categories reflecting the risk for developing EDs, BED and UFED is solely based on the already mentioned questionnaires and screening tools. According to the results, the vast majority of this sample (men and women) showed no risk at all for developing EDs. Nevertheless, 25.4% of the participants appeared to be at risk for some sort of EDs or UFED.

Similar to previous findings ([Hudson, Hiripi, Pope, & Kessler, 2007](#)) among women the risk for developing EDs was higher than it is among men. It was found in this study that

browsing diet, fitness/health related websites at least once a week was associated with 2.5 times higher risk for UFED and a threefold risk of being at risk for EDs. The exposure to ProED pages elevated the risk for ED and UFED as well, again with having even (almost four times) higher risk for EDs. After adjusting for potential background variables (gender, age, education and self-esteem), as well as involving other psychological variables, in addition, it was found that browsing diet, fitness/health related websites at least once a week and browsing ProED pages occasionally still predicted a significant the risk for developing UFED and EDs. These results could be especially important given that based on previous research of all adults that seek treatment for eating disorders about half are diagnosed with EDNOS (eating disorders otherwise not specified) and research also has shown that 60% of most eating disorder cases are EDNOS (Fairburn, Cooper, Bohn, O'Connor, Doll, & Palmer, 2007).

Results also indicate that the pressure from media was associated with a higher risk for developing UFED and EDs. The tendency to compare one's physical appearance to others predicted a higher risk for EDs and when compared to UFED, the model showed that this risk is in favour for EDs rather than UFED. Finally, the model revealed, similar to previous findings that higher BMI, lower self-esteem, and the female gender all predicted a higher risk for EDs and UFED (Haines & Neumark-Sztainer, 2006). Rouleau and colleagues (2011) argued that ProED websites could exacerbate or maintain users' eating disorder symptoms, especially since they not only disguise promoting EDs as support but also reinforce EDs related behaviours and prevent help-seeking and recovery. Furthermore, in Jett, LaPorte, and Wanchis's (2010) study the authors explained that after participants were exposed to ProED websites only for 1.5 hrs., they reported using techniques they learnt from the websites to help them with food reduction and reported strong emotional reactions to the websites. These changes persisted for three weeks after the study finished. It is not only important to consider the possible risks from such websites but also to take into account their clinical relevance. As Harshbarger and colleagues (2009) explained, it is meaningful to be clear with the content of such web pages and to support those who suffer from EDs in this aspect as well. The content of these pages not only contains harmful and encouraging messages regarding unhealthy or extremely unhealthy weight loss methods but

also can also deepen the maladaptive habits and beliefs in those who already suffer from EDs and with a seemingly supportive attitude actually prevent them from getting the appropriate help they need.

Previous research also supports our findings regarding diet and fitness content in media and the elevated risk for EDs. [Utter, Neumark-Sztainer, Wall, and Story \(2003\)](#) found that being exposed to diet-related content in magazines indicated psychosocial distress and unhealthy dieting among adolescents. [Thomsen and colleagues \(2001, 2002\)](#) and [Hyla \(2003\)](#) reported that reading women's health and fitness magazines was associated with the use of unhealthy weight-control practices such as low calorie diet, excessive exercise, self-induced vomiting, and the use of laxatives among high-school girls, adolescent females, and college women as well. The results showed that the appearance-focused media; especially diet, fitness-themed Internet pages, and ProED websites carry a considerable risk for developing EDs among young adults as well. We suggest putting a great emphasis on online diet and fitness content and ProED sites when designing future prevention and media education programs. Results of this study highlight the importance of such programmes and the need to educate children and young people of all aspects of the media that could influence their relationship with their bodies. We suggest the implementation of the current results not only in prevention and education programs that are targeting EDs but also in individual, group, and family therapies. Clinical care and public education should demystify the taboo surrounding these sites. Legislators and lawmakers should tighten the rules around ProED web pages and limit the availability of such websites.

6.6 Limitations

The limitations of this study must be acknowledged. First of all, this study is not a representative study as data collection was based on online self-selection. Results are promising but causal conclusions cannot be drawn, as the current work followed a cross-sectional design, so only correlations can be observed. For example, being exposed to various media content emphasizing thinness and weight control increases body dissatisfaction, especially for those who are already experiencing weight and shape concerns ([Groesz et al., 2002](#)). And is it likely that those who have internalized the slender

beauty ideal and are dissatisfied with their appearance will seek out particular media content, engage in automatic and distressing social comparisons (Want, 2009), and both activate and reinforce that beauty standard (Dittmar et al., 2009). The powerful operation of unconscious, automatic mediating processes is particularly likely in the case of Internet use because people are often making quick use of salient information, as driven more by their own choices than passive exposure. As reports regarding media content exposure were retrospective and self-reported, this limits the generalizability of the results as well. A relatively simple measure was developed for media usage, and results might be different with measures that are more refined. Future research should focus on more precise and objective recording ways, e.g., tracking of actual Internet websites visited, eye movements. It is important to mention that in the current survey various Hungarian websites, magazines, and TV shows were listed as examples to indicate the type of content the question was referring to. Data collection was carried out via convenience sampling, and those who had a higher education level were overrepresented in this sample. However, we targeted adults on various platforms, and participants came from all over the country. As this study was a cross-sectional study, we cannot draw final causal conclusions; we can only talk about cross-sectional predictions. Tentative conclusions can be drawn based on the multivariate test of a specific theoretical model, but longitudinal research and comparative model testing are needed. This will be challenging because it is almost certain that many of the important relationships are bidirectional. For example, being exposed to various media content emphasizing thinness and weight control increases body dissatisfaction, especially for those who are already experiencing weight and shape concerns (Groesz et al., 2002). It is likely that those who have internalized the slender beauty ideal and are dissatisfied with their appearance will seek out particular media content, engage in automatic and distressing social comparisons (Want, 2009), and both activate and reinforce that beauty standard (Dittmar et al., 2009).

The powerful operation of unconscious, automatic mediating processes is particularly likely in the case of Internet use because people are often making quick use of salient information, as driven more by their own choices than passive exposure. Regarding the direction of the effects in the MIMIC model, we can only have theoretical assumptions

since these are equivalent SEM models; we have no statistical method to determine directions. Meanwhile being exposed to various appearance and diet focusing media content can result in a drive for thinness; it is also possible that those, who are initially dissatisfied with their appearance, will seek out particular media content. In case of Internet use, the latter is more possible, given the fact that on the Internet people are driven more by their own choices rather than passive exposure. Most probably, the relationship between media exposure and body image are bidirectional and complex (Steele & Brown, 1995).

Anthropometric data was self-reported and the validity of BMI might be impaired. Regarding the fifth study it is important to mention that the estimates of odds ratios are very uncertain, this is also the reason why the variables were aggregated into “purging behaviours” and into “compensatory behaviours”, therefore via the larger group numbers, we could increase the statistical power of these estimations. Another limitation of the study is that people with higher education were slightly overrepresented in this study. This could originate from various things, such as online data collection, where it has been documented that participants, who usually participate in online experiments have generally a higher educational level and higher socioeconomic status (Birnbaum, 2000). In addition, the platforms where the study was advertised were mainly school and education related. It is possible that recent changes in the educational system in Hungary (such as the distinction between BSc and MSc) influenced who considered themselves having a higher education. Since the NQR (National Qualifications Register = OKJ) as a category was not listed, it is also possible that some participants who only had an NQR qualification considered themselves having a college degree to fit in the categories. In addition, it is possible that the health, lifestyle, fitness-themed Facebook pages affected some of the results, it is quite possible that persons following such Facebook pages are themselves engaged in a health-conscious lifestyle to some extent. Presumably, in their case, body image and body satisfaction is a major topic.

7. CONCLUSIONS

Despite the limitations of the study, this work contributes to the understanding of appearance-centred media exposure and body image disturbances. Although replication is needed, possibly on a larger and representative sample, many significant connections could be found in this study between reading magazines, watching various TV shows or browsing appearance, diet- and fitness-oriented online content and negative body image via the experience of media pressures, internalization of the slender beauty ideal, and the tendency to engage in body comparison processes. Weight loss seeking information on the Internet and in the printed media was a strong predictor for the use of unhealthy weight reduction methods. In addition, the exposure to online fitness/health and ProED pages strongly predicted the risk for developing eating disturbances. It is interesting to see, that most results on the current Hungarian sample are consistent with the findings of previous correlational studies. The core literature regarding media and body image originates from Western countries such as the USA, Australia, and the UK. Importantly enough, most current findings were consistent with the findings of these studies, which also highlights that although some magazines or TV shows might not be the same or might not be targeting body image and appearance that explicitly, the influence of various forms of media is also present in Hungary. In fact, our sample is more diverse compared to most previous studies, as they mainly recruited students, yet our results yield many similarities.

As men and older populations are generally under-represented in studies of media, body image, and disordered eating, the strength of the present study was the inclusion of both groups. The current results support [Slevec and Tiggemann's \(2011\)](#) finding that sociocultural theories of body dissatisfaction and disordered eating can be extended to an older age group. If they can be replicated, the results of the present study support the conclusion that there is a need in Hungary to develop media literacy and prevention programmes ([Szabó et al., 2015](#)) that address the influence of the media through psychosocial processes such as thin-ideal/athletic internalization, the experience of pressures from media, the importance of media messages and body comparison.

A few countries, such as France, Italy, Spain and Israel enacted some legislation regarding underweight fashion models ([BBC News, 2006](#); [Reuters, 2012](#)). The French government accepted a law most recently, ordering that fashion models in France must possess a medical certificate (to be above a minimum BMI, to have a healthy body shape) in order to be allowed to work. This aims to prevent the employment of "extremely thin" models in the fashion industry ([The Fashion Law, 2015](#)). In addition, the law also requires that digitally modified images of models in magazines must inform readers that the images were "touched up" ([Vogue, 2015](#)). Similarly to these countries and their body positive campaigns, Hungary should also create some laws to monitor the BMI of fashion models and the use of image alteration techniques that are implemented in appearance related magazines. These laws and regulations could allow that men and women would be exposed to more realistic and healthier bodies in the media. This, in turn, would support a more diverse and more positive body image among the general population. Furthermore, the implementation of media literacy and media awareness in therapies and school education could have a greater and longer-term effect. The results of the current study provide a strong basis for future investigations and media literacy prevention programs.

8. SUMMARY

Research indicates that sociocultural factors contribute to the development and maintenance of eating disorders (EDs). The lack of studies aiming to investigate the effects of mass media on body image disordered eating and EDs related symptomatology in Hungary has influenced this study. The participants (N=820, 39.9% male; mean age=26.5 years, SD=4.78, range: 18 - 35 years) were recruited via online, convenience sampling. The following measures were implemented: self-reported sociodemographic, anthropometric data, media exposure survey, the Eating Disorder Inventory, the SCOFF questionnaire, the Short Evaluation of Eating Disorders questionnaire, the Sociocultural Attitudes Towards Appearance Questionnaire, the Rosenberg Self-esteem Scale, Beliefs About Attractiveness Scale-Revised, the Physical Appearance Comparison Scale, the Social Comparison Scale, and a measure of dieting habits. Associations between weight loss content seeking behaviour and the use of unhealthy weight reduction methods were investigated. Predictors and different pathways with regards to body dissatisfaction and drive for thinness in association with the media were explored implementing multiple indicators and multiple causes analysis. Predictors of risk for developing EDs; based on diet, fitness and ED promoting web page browsing were tested. Results of the current study showed many correlations between various forms of the appearance centred media and psychological correlates, such as body image, thin-ideal internalization, and drive for thinness. Among Hungarian young adults, similar to their Western counterparts, there were significant connections between the information from the media and drive for thinness via the experience of media pressures, internalization of the athletic and slender beauty ideal, and a tendency to engage in body comparison and body dissatisfaction. Results also revealed that online and printed media based weight loss seeking information was a strong predictor for the use of unhealthy weight reduction methods. In addition, the exposure to online fitness/health and ProED web pages strongly predicted the risk of developing eating disturbances. The results of the present study support the conclusion that there is a strong need in Hungary to develop media literacy programmes that focus on EDs and body image and to integrate this knowledge into psychotherapies.

9. ÖSSZEFOGLALÁS

A szociokulturális faktorok közreműködhetnek az evészavarok kialakulásában és fenntartásában. A jelen kutatás témáját az olyan tanulmányok hiánya inspirálta, melyek a média hatását vizsgálnák a testképre, zavart evési szokásokra, illetve az evészavarokhoz kapcsolódó pszichés tényezőkre vonatkozóan. A résztvevőket (39% férfi, átlagéletkor=26,5 év, SD=4,78, tartomány: 18 - 35 év) online, kényelmi mintavétellel toboroztuk. A következő mérőeszközöket használtuk: önbeszámolás szociodemográfiai és antropometriai adatok, médiahasználat kérdéssor, az Evési Zavar Kérdőív, a SCOFF kérdőív, Az Evészavarok Rövid Értékelése Kérdőív, a Megjelenéssel Kapcsolatos Szociokulturális Attitűdök Kérdőív, a Rosenberg Önértékelési Skála, a Vonzóságról Alkotott Hiedelmek Skála, a Fizikai Megjelenéssel Kapcsolatos Összehasonlítás Skála, a Társas Összehasonlítás Skála, és diétázási szokások. Feltártunk összefüggéseket, melyek a testsúlycsökkentő tartalmak keresésével és egészségtelen testsúlycsökkentő magatartással kapcsolatosak. Többszörös indikátor többszörös ok elemzés segítségével feltérképeztük azon eltérő útvonalakat, melyek a médiával kapcsolatban testi elégedetlenséghez és a karcsúság iránti késztetéshez vezetnek. Vizsgáltuk a diétát, fitneszt és evészavarokat népszerűsítő oldalak előrejelző szerepét az evészavarok kialakulásában. A kutatás számos összefüggést tárt fel a külső megjelenéssel kapcsolatos méditartalmak és pszichológiai tényezők között, úgy mint a testtel való elégedetlenség, a karcsú testideál belsővé tétele és a karcsúság iránti késztetés. A magyar felnőttek körében, hasonlóan a nyugati országokhoz, számos szignifikáns asszociációt kaptunk a médiából érkező információ és a karcsúság iránti késztetés között, mely a médiából érkező nyomás, a karcsú és sportos testideálok belsővé tétele, a külső összehasonlítása és a testtel való elégedetlenség által volt közvetített. Az eredmények arra is rámutattak, hogy a diétával és súlyvesztéssel kapcsolatos tartalom keresése bejósolta az egészségtelen és káros súlykontroll módszerek használatát. Az online fitness és egészség tematikájú weboldalak valamint az evészavarokat támogató weblapok böngészése erőjelezte az evészavarok kialakulásának emelkedett kockázatát. A jelen kutatás eredményei alapján szükséges az evészavarokat és testképet előtérbe helyező médiaeducációs programok kialakítása és a tudásanyag pszichoterápiába integrálása.

10. BIBLIOGRAPHY

Agliata D, Tantleff-Dunn S. (2004) The impact of media exposure on males' body image. *J Soc Clin Psychol* 23(1): 7-22.

Allan S, Gilbert P. (1995) A social comparison scale: Psychometric properties and relationship to psychopathology. *Pers Individ Dif*, 19(3): 293-299.

Allan S, Gilbert P. (1997) Submissive behaviour and psychopathology. *Brit J Clin Psychol*, 36(4): 467-488.

American Psychiatric Association. (2013) *Diagnostic and Statistical Manual of Mental Disorders (DSM-5®)*. American Psychiatric Publishing, Washington, DC

American Society of Plastic Surgeons (ASPS) (2004) Press release: New reality TV programs create unhealthy, unrealistic expectations of plastic surgery. Retrieved from: <http://manhattanbeachplasticsurgery.com/facts-and-articles/plastic-surgery-articles/new-reality-tv-programs-create-unhealthy-unrealistic-expectations-of-plastic-surgery/>

(Accessed: 10 Oct, 2013)

Andersen AE, DiDomenico L. (1992) Diet vs. shape content of popular male and female magazines: A dose-response relationship to the incidence of eating disorders? *Int J Eat Disord*, 11(3): 283-287.

Arcelus J, Mitchell AJ, Wales J, Nielsen S. (2011) Mortality rates in patients with anorexia nervosa and other eating disorders: a meta-analysis of 36 studies. *Arch Gen Psychiatry*. 68(7): 724–731.

Ashikali EM, Dittmar H Ayers S. (2014) The effect of cosmetic surgery reality tv shows on adolescent girls' body image. *Psychol Pop Media Cult*, 3(3): 141.

Azar B. (2000) A web of research. *Monitor on Psychology*, 31(4): 42-44.

Bair CE, Kelly NR, Serdar KL, Mazzeo SE. (2012) Does the Internet function like magazines? An exploration of image-focused media, eating pathology, and body dissatisfaction. *Eat behav*, 13(4): 398-401.

- Barak A, Buchanan T, Kraus R, Zack JS, Stricker G. (2004) Internet-based psychological testing and assessment. Online counseling: A handbook for mental health professionals, (pp. 217-239), Elsevier Academic Press, London.
- Barlett CP, Vowels CL, Saucier DA. (2008) Meta-analyses of the effects of media images on men's body-image concerns. *J Soc Clin Psychol*, 27(3): 279-310.
- Bartram D, Brown A. (2004) Online testing: Mode of administration and the stability of OPQ 32i scores. *Int J Select Assess*, 12(3): 278-284.
- Bauer KW, Bucchianeri MM, Neumark-Sztainer D. (2013) Mother-reported parental weight talk and adolescent girls' emotional health, weight control attempts, and disordered eating behaviors. *J Eat Disord*, 1(1): 45.
- Bauer S, Winn S, Schmidt U, Kordy H. (2005) Construction, scoring and validation of the Short Evaluation of Eating Disorders (SEED). *Eur Eat Disord Rev*, 13(3): 191-200.
- BBC News (2006) Madrid bans waifs from catwalks. Retrieved from: <http://news.bbc.co.uk/1/hi/5341202.stm> (Accessed: 18 Feb, 2016)
- Bearman SK, Presnell K, Martinez E, Stice E. (2006) The skinny on body dissatisfaction: A longitudinal study of adolescent girls and boys. *J Youth Adolesc*, 35(2): 217-229.
- Becker AE, Burwell RA, Herzog DB, Hamburg P, Gilman SE. (2002) Eating behaviours and attitudes following prolonged exposure to television among ethnic Fijian adolescent girls. *Br J Psychiatry*, 180(6): 509-514.
- Becker AE, Hamburg P. (1996) Culture, the media, and eating disorders. *Harv Rev Psychiatry*, 4(3): 163-167.
- Becker AE. (2004) Television, disordered eating, and young women in Fiji: Negotiating body image and identity during rapid social change. *Cult Med Psychiatry*, 28(4): 533-559.
- Bell BT, Lawton R, Dittmar H. (2007) The impact of thin models in music videos on adolescent girls' body dissatisfaction. *Body Image*, 4(2): 137-145.
- Bergeron D, Tylka TL. (2007) Support for the uniqueness of body dissatisfaction from drive for muscularity among men. *Body Image*, 4(3): 288-295.

Bergeron D, Tylka TL. (2007) Support for the uniqueness of body dissatisfaction from drive for muscularity among men. *Body Image*, 4(3): 288-295.

Bilukha OO, Utermohlen V. (2002). Internalization of Western standards of appearance, body dissatisfaction and dieting in urban educated Ukrainian females. *Eur Eat Disord Rev*, 10(2): 120-137.

Birnbaum MH. (Ed.). (2000) *Psychological experiments on the Internet*. Academic Press, San Diego.

Bissell KL. (2006) Skinny like you: Visual literacy, digital manipulation and young women's drive to be thin. *SIMILE*, 6(1): 1-14.

Blowers LC, Loxton NJ, Grady-Flessner M, Occhipinti S, Dawe S. (2003) The relationship between sociocultural pressure to be thin and body dissatisfaction in preadolescent girls. *Eat Behav*, 4(3), 229-244.

Boepple L, Thompson JK. (2014) A content analysis of healthy living blogs: evidence of content thematically consistent with dysfunctional eating attitudes and behaviors. *Int J Eat Disord*, 47(4): 362-367.

Borzekowski DL, Robinson TN, Killen JD. (2000) Does the camera add 10 pounds? Media use, perceived importance of appearance, and weight concerns among teenage girls. *J Adolesc Health*, 26: 36-41.

Botta RA. (1999) Television images and adolescent girls' body image disturbance. *J Commun*, 49(2): 22-41.

Botta RA. (2003) For your health? The relationship between magazine reading and adolescents' body image and eating disturbances. *Sex Roles*, 48(9-10): 389-399.

Braun DL, Sunday SR, Huang A, Halmi KA. (1999) More males seek treatment for eating disorders. *Int J Eat Disord*, 25(4): 415-424.

Brenner J, Smith A. (2013) 72 % of online adults are social networking users. Washington, DC: Pew Internet and American Life Project.

Brislin RW. (1986) Research instruments. Field methods in cross-cultural research, 159-162.

British Association of Aesthetic Plastic Surgeons (BAAPS) (2004). Cosmetic surgery reality TV sends the wrong message. Retrieved from: <http://www.baaps.org.uk/aboutus/press-releases/134-cosmetic-surgery-reality-tv-sends-the-wrong-message> (Accessed: 10 Oct, 2013)

Brown TA. (2006) Confirmatory factor analysis for applied research. New York: Guilford Press.

Buchanan T, Ali T, Heffernan TM, Ling J, Parrott AC, Rodgers J, Scholey AB. (2005) Nonequivalence of on-line and paper-and-pencil psychological tests: The case of the prospective memory questionnaire. Behav Res Methods, 37(1): 148-154.

Buchanan T, Smith JL. (1999) Using the Internet for psychological research: Personality testing on the World Wide Web. Br J Psychol, 90(1): 125-144.

Buchanan T. (2003) Internet-based questionnaire assessment: appropriate use in clinical contexts. Cogn Behav Ther, 32(3): 100-109.

Byrd-Bredbenner C, Murray J, Schluskel YR. (2005) Temporal changes in anthropometric measurements of idealized females and young women in general. Women Health, 41(2): 13-30.

Byrd-Bredbenner C, Murray J. (2003) A comparison of the anthropometric measurements of idealized female body images in media directed to men, women, and mixed gender audiences. Top Clin Nutr, 18(2): 117-129.

Cafri G, Yamamiya Y, Brannick M, Thompson, JK. (2005) The Influence of Sociocultural Factors on Body Image: A Meta-Analysis. Clin Psychol Sci Pract, 12(4): 421-433.

Carlbring P, Brunt S, Bohman S, Austin D, Richards J, Öst LG, Andersson G. (2007) Internet vs. paper and pencil administration of questionnaires commonly used in panic/agoraphobia research. Comput Human Behav, 23(3): 1421-1434.

- Carlbring P, Brunt S, Bohman S, Austin D, Richards J, Öst LG, Andersson G. (2007) Internet vs. paper and pencil administration of questionnaires commonly used in panic/agoraphobia research. *Comput Human Behav*, 23(3): 1421-1434.
- Carroll JS, Padilla-Walker LM, Nelson LJ, Olsen CD, McNamara Barry C, Madsen SD. (2008) Generation XXX: Pornography acceptance and use among emerging adults. *J Adolesc Res*, 23: 6-30.
- Catina A, Boyadjieva S, Bergner M. (1996) Social context, gender identity, and eating disorders in Western and Eastern Europe: Preliminary results of a comparative study. *Eur Eat Disord Rev*, 4(2): 100-106.
- Cattarin JA, Thompson JK, Thomas C, Williams R. (2000). Body image, mood, and televised images of attractiveness: The role of social comparison. *J Soc Clin Psychol*, 19(2): 220-239.
- Chao YM, Pisetsky EM, Dierker LC, Dohm F-A, Rosselli R, May AM, Striegel-Moore RH: Ethnic differences in weight control practices among U.S. adolescents from 1995 to 2005. *Int J Eat Disord* 2008,41(2):124–133
- Chesley EB, Alberts JD, Klein JD, Kreipe RE. (2003) Pro or con? Anorexia nervosa and the Internet. *J Adolesc Health*, 32(2): 123-124.
- Cohen J. (1988) *Statistical power analysis: A computer program*. Routledge, New York
- Cohen J. (1992) A power primer. *Psychol Bull*, 112(1): 155.
- Coles ME, Cook LM, Blake TR. (2007) Assessing obsessive compulsive symptoms and cognitions on the internet: evidence for the comparability of paper and Internet administration. *Behav Res Ther*, 45(9): 2232-2240.
- Cooper A, Delmonico DL, Burg R. (2000) Cybersex users, abusers, and compulsives: New findings and implications. *Sex Addict Compulsivity*, 7(1-2): 5-29.
- Corrigan K. (2010) Finding Community in Cyberspace: Pro Eating Disorder Websites. *Relational Child & Youth Care Practice*, 23(1): 48

Cramblitt B, Pritchard M. (2013) Media's influence on the drive for muscularity in undergraduates. *Eat Behav*, 14(4): 441-446.

Cusumano DL, Thompson JK. (1997) Body image and body shape ideals in magazines: Exposure, awareness, and internalization. *Sex roles*, 37(9): 701-721.

Czeplédi E, Pál E, Bartha E. (2015) A Megjelenéssel Kapcsolatos Szociokulturális Attitűdök Kérdőív hazai alkalmazásával szerzett tapasztalatok. [Hungarian adaptation of the Sociocultural Attitudes Towards Appearance Questionnaire-3.] *Mentálhig Pszichoszom*, 16(3): 209-230.

Czeplédi E., Szabó K., (in press) Hungarian experiences with the Beliefs About Attractiveness Scale – Revised. *Ideggyógy Szemle*

Dallesasse SL, Kluck AS. (2013) Reality television and the muscular male ideal. *Body image*, 10(3): 309-315.

Daniel S, Bridges SK. (2010) The drive for muscularity in men: Media influences and objectification theory. *Body Image*, 7(1): 32-38.

Davis C, Katzman M. (1997) Charting new territory: Body esteem, weight satisfaction, depression, and self-esteem among Chinese males and females in Hong Kong. *Sex Roles*, 36(7-8): 449-459.

Davis RN. (1999) Web-based administration of a personality questionnaire: Comparison with traditional methods. *Behav Res Methods Instrum Comput*, 31(4): 572-577

Digitális Média Tények Könyve (DMTK), 2010 [Digital Media Fact Book], Retrieved from: http://neo-interactive.hu/dmtk/2010/tenyek_konyve_2010.pdf, (Accessed 11 April, 2010).

Digitális Média Tények Könyve (DMTK), 2014 [Digital Media Fact Book], Retrieved from: <http://neo-interactive.hu/dmtk/2014/index.php>, (Accessed: 21 March, 2014).

Dittmar H, Halliwell E, Ive S. (2006) Does Barbie make girls want to be thin? The effect of experimental exposure to images of dolls on the body image of 5-to 8-year-old girls. *Dev Psychol*, 42(2): 283.

- Dittmar H, Halliwell E, Stirling E. (2009) Understanding the impact of thin media models on women's body-focused affect: The roles of thin-ideal internalization and weight-related self-discrepancy activation in experimental exposure effects. *J Soc Clin Psychol*, 28(1): 43-72.
- Dohnt H, Tiggemann M. (2006) The contribution of peer and media influences to the development of body satisfaction and self-esteem in young girls: a prospective study. *Dev Psychol*, 42(5): 929.
- Dolan, B. (1993). Eating disorders: A Western 'epidemic' spreads east? *Eur Eat Disord Rev*, 1(2): 71-73.
- Duggan SJ, McCreary DR. (2004) Body image, eating disorders, and the drive for muscularity in gay and heterosexual men: The influence of media images. *J Homosex*, 47(3-4): 45-58.
- Dukay-Szabó Sz, Simon D, Varga M, Szabó P, Túry F, Rathner, G. (in press) Egy rövid evészavar kérdőív (SCOFF) magyar adaptációja.[Hungarian adaptation of a brief eating disorder survey (SCOFF)] *Ideggyógy. Szemle*
- Dunning D, Hayes AF. (1996) Evidence of egocentric comparison in social judgment. *J Pers Soc Psychol*, 71(2): 213-229.
- Eapen V, Mabrouk AA, Bin-Othman S. (2006) Disordered eating attitudes and symptomatology among adolescent girls in the United Arab Emirates. *Eat Behav*, 7(1): 53-60.
- Eddy KT, Hennessey M, Thompson-Brenner H. (2007) Eating pathology in East African women: the role of media exposure and globalization. *J Nerv Ment Dis*, 195(3): 196-202.
- Eisenberg ME, Neumark-Sztainer D, Paxton SJ. (2006) Five-year change in body satisfaction among adolescents. *J Psychosom Res*, 61(4), 521-527.
- Engeln-Maddox R. (2005) Cognitive responses to idealized media images of women: The relationship of social comparison and critical processing to body image disturbance in college women. *J Soc Clin Psychol*, 24(8), 1114 –1138.

Englis BG, Solomon MR, Ashmore RD. (1994) Beauty before the eyes of the beholders: The cultural encoding of beauty types in magazine advertising and music television. *J Advert*, 23(2): 49–64.

Fairburn CG, Cooper Z, Bohn K, O'Connor ME, Doll HA, Palmer RL. (2007) The severity and status of eating disorder NOS: implications for DSM-V. *Behav Res Ther*, 45(8): 1705-1715.

Fallon A. (1990). Culture in the mirror: Sociocultural determinants of body image. In Cash T.F., Pruzinsky T., (Eds.), *Body images: Development, deviance, and change* (pp. 80–109). New York: Guilford Press.

Fardouly J, Diedrichs PC, Vartanian L, Halliwell E. (2015) Social comparisons on social media: The impact of Facebook on young women's body image concerns and mood. *Body Image*, 13: 38-45.

Fardouly J, Vartanian LR. (2015) Negative comparisons about one's appearance mediate the relationship between Facebook usage and body image concerns. *Body image*, 12: 82-88.

Ferguson CJ, Salmond K, Modi K. (2013) Reality television predicts both positive and negative outcomes for adolescent girls. *J Pediatr*, 162(6): 1175-1180.

Ferguson CJ, Winegard B, Winegard BM. (2011) Who is the fairest one of all? How evolution guides peer and media influences on female body dissatisfaction. *Rev Gen Psychol*, 15(1): 11.

Festinger L. (1954). A theory of social comparison processes. *Hum. Relat.*, 7(2): 117–140.

Field AE, Austin SB, Camargo CA, Taylor CB, Striegel-Moore RH, Loud KJ, Colditz GA. (2005) Exposure to the mass media, body shape concerns, and use of supplements to improve weight and shape among male and female adolescents. *Pediatrics*, 116(2): e214-e220.

Field AE, Camargo CA, Taylor CB, Berkey CS, Colditz GA. (1999) Relation of peer and media influences to the development of purging behaviors among preadolescent and adolescent girls. *Arch Pediatr Adolesc Med*, 153(11): 1184-1189.

Field AE, Camargo CA, Taylor CB, Berkey CS, Roberts SB, Colditz GA. (2001) Peer, parent, and media influences on the development of weight concerns and frequent dieting among preadolescent and adolescent girls and boys. *Pediatrics*, 107(1): 54-60.

Fitzsimmons-Craft EE, Bardone-Cone AM, Bulik CM, Wonderlich SA, Crosby RD, Engel SG. (2014) Examining an elaborated sociocultural model of disordered eating among college women: The roles of social comparison and body surveillance. *Body Image*, 11(4), 488–500.

Fitzsimmons-Craft EE. (2011) Social psychological theories of disordered eating in college women: Review and integration. *Clin Psychol Rev*, 31(7): 1224-1237.

Forgács A, Németh M. (2008) Evészavarok a média fogságában. [Eating Disorders in media captivity] In P. Balogh, A. Dobos, A. Forgács B, Nagy, A. Szűcs (szerk.), 60 éves Közgáz. Új gazdasági hajtóerők és mechanizmusok a 21. században (23-33).Aula Kiadó, Budapest.

Forgács A. (2008) Médiaüzenetek – evészavarok. [Media messages - eating disorders] *Lege Artis Med.*, 18(11): 822–824.

Forgács A. (2010) Médiatünetek és evészavarok. [Media symptoms and eating disorders] *Magy. tud.*, 11: 1300-1305.

Forsense. (2013) Okostelefonok és számítógéphasználat a magyar középiskolások körében [Smart phone and PC-usage among Hungarian secondary school students]. Retrieved from: <http://forsense.hu/piac/okostelefonok-es-szamitogep-hasznalat-amagyar-kozepiskolasok-koreben> (Accessed Feb 15, 2016)

Frederick, D. A., Forbes, G. B., & Berezovskaya, A. (2008). Female Body Dissatisfaction and Perceptions of the Attractive Female Body in Ghana, the Ukraine, and the United States. *Psychological Topics*, 17(2): 203-219.

- Fredrickson BL, Roberts TA. (1997) Objectification theory. *Psychol Women Q*, 21(2): 173-206.
- Frisén A, Berne S, Lunde C. (2014) Cybervictimization and body esteem: Experiences of Swedish children and adolescents. *Eur J Dev Psychol*, 11(3): 331-343.
- Furnham A, Alibhai N. (1983) Cross-cultural differences in the perception of female body shapes. *Psychol Med*, 13(04): 829-837.
- Furnham A, Baguma P. (1994) Cross-cultural differences in the evaluation of male and female body shapes. *Int J Eat Disord*, 15(1): 81-89.
- Garner DM, Olmstead MP, Polivy J. (1983) Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. *Int J Eat Disord*, 2(2): 15-34.
- Gerbner G, Gross L. (1976) Living with television: The violence profile. *J Commun*, 26(2): 172-194.
- Ghannam F. (1997) Fertile plump and strong: the social construction of the female body in low-income Cairo. The Population Council, Giza, Egypt
- Giles DC, Close J. (2008) Exposure to 'lad magazines' and drive for muscularity in dating and non-dating young men. *Pers Individ Dif*, 44(7): 1610-1616.
- Gordon RA. (2001) Eating disorders East and West: A culture-bound syndrome unbound. In M. Nasser, M. Katzman, & R. Gordon (Eds.), *Eating disorders and cultures in transition* (pp. 1–16). Brunner-Routledge, East Sussex, UK.
- Gow J. (1996) Reconsidering gender roles on MTV: Depictions in the most popular music videos of the early 1990s. *Communication Reports*, 9, 151–161.
- Grabe S, Ward LM, Hyde JS. (2008) The role of the media in body image concerns among women: a meta-analysis of experimental and correlational studies. *Psychol Bull*, 134(3): 460.
- Greenleaf C, Petrie TA, Martin SB. (2014) Relationship of weight-based teasing and adolescents' psychological well-being and physical health. *J Sch Health*, 84(1): 49-55.

- Groesz LM, Levine MP, Murnen SK. (2002) The effect of experimental presentation of thin media images on body satisfaction: A meta-analytic review. *Int J Eat Disord*, 31(1): 1-16.
- Gross EF. (2004) Adolescent Internet use: What we expect, what teens report. *J Appl Dev Psychol*, 25(6): 633-649.
- Guillen EO, Barr SI. (1994) Nutrition, dieting, and fitness messages in a magazine for adolescent women, 1970–1990. *J Adolesc Health*, 15(6): 464-472.
- Han T-I, Rudd NA. (2015) Images of beauty: Sex, race, age, and occupational analysis of fashion magazine covers, *JGFM*, 6: 47-59
- Hargreaves DA, Tiggemann M. (2009) Muscular ideal media images and men's body image: Social comparison processing and individual vulnerability. *Psychol Men Masc*, 10(2): 109.
- Harper B, Tiggemann M. (2008) The effect of thin ideal media images on women's self-objectification, mood, and body image. *Sex Roles*, 58(9-10): 649-657.
- Harper K, Sperry S, Thompson JK. (2008) Viewership of pro-eating disorder websites: Association with body image and eating disturbances. *Int J Eat Disord*, 41(1): 92-95.
- Harrison K, Cantor J. (1997) The relationship between media consumption and eating disorders. *J Commun*, 47: 40-67.
- Harshbarger JL, Ahlers-Schmidt CR, Mayans L, Mayans D, Hawkins JH. (2009) Pro-Anorexia websites: What a clinician should know. *Int J Eat Disord*, 42(4): 367-370.
- Haworth-Hoeppner S. (2000) The critical shapes of body image: The role of culture and family in the production of eating disorders. *J Marriage Fam*, 62(1): 212-227.
- Heinberg LJ, Thompson JK. (1995) Body image and televised images of thinness and attractiveness: A controlled laboratory investigation. *J Soc Clin Psychol*, 14(4): 325-338.
- Helfert S, Warschburger P. (2011) A prospective study on the impact of peer and parental pressure on body dissatisfaction in adolescent girls and boys. *Body Image*, 8(2): 101-109.

Hoek HW, Van Hoeken D. (2003) Review of the prevalence and incidence of eating disorders. *Int J Eat Disord*, 34(4): 383-396.

Hogan MJ, Strasburger VC. (2008) Media and prosocial behavior in children and adolescents. *Handbook of moral and character education*. Mahwah, NJ: Lawrence Erlbaum, 537-553.

Holländare F, Andersson G, Engström I. (2010) A comparison of psychometric properties between internet and paper versions of two depression instruments (BDI-II and MADRS-S) administered to clinic patients. *J Med Internet Res*, 12(5): e49

Holmstrom AJ. (2004) The effects of the media on body image: A meta-analysis. *J Broadcast Electron Media*, 48(2): 196-217.

Homan K, McHugh E, Wells D, Watson C, King C. (2012) The effect of viewing ultra-fit images on college women's body dissatisfaction. *Body Image*, 9(1): 50-56.

Irving LM. (1990) Mirror images: Effects of the standard of beauty on the self-and body-esteem of women exhibiting varying levels of bulimic symptoms. *J Soc Clin Psychol*, 9(2): 230-242.

Jett S, LaPorte DJ, Wanchisn J. (2010) Impact of exposure to pro-eating disorder websites on eating behaviour in college women. *Eur Eat Disord Rev*, 18(5): 410-416.

Joinson A. (1999) Social desirability, anonymity, and Internet-based questionnaires. *Behav Res Methods Instrum Comput*, 31(3): 433-438.

Joinson AN, Buchanan T. (2001) Doing education research on the Internet. In: Wolfe, C. R. (ed.) *Learning and teaching on the World Wide Web*. (pp. 221–242) *The Educational Psychology Series*. San Diego, USA: Academic Press Inc (London) Ltd,

Jones DC. (2004) Body image among adolescent girls and boys: a longitudinal study. *Dev Psychol*, 40(5): 823.

Jones S, Fox S. (2009) *Generations online in 2009* (pp. 1-9). Washington, DC: Pew Internet & American Life Project.

- Juarascio AS, Shoaib A, Timko CA. (2010) Pro-eating disorder communities on social networking sites: a content analysis. *Eat Disord*,18(5): 393-407.
- Juarez L, Soto E, Pritchard ME. (2012) Drive for muscularity and drive for thinness: The impact of pro-anorexia websites. *Eat Disord*, 20(2): 99-112.
- Kalof L. (1999) The effects of gender and music video imagery on sexual attitudes. *J Soc Psychol*, 139: 378–385
- Kalpidou M, Costin D, Morris J. (2011) The relationship between Facebook and the well-being of undergraduate college students. *Cyberpsychol Behav Soc Netw*, 14(4): 183-189.
- Karazsia BT, Crowther JH. (2008) Psychological and behavioral correlates of the SATAQ-3 with males. *Body Image*, 5(1): 109-115.
- Kashubeck-West S, Mintz LB. (2001) Eating disorders in women: Etiology, assessment, and treatment. *Couns Psychol*. 29(5): 627-634.
- Keel PK, Klump KL. (2003) Are eating disorders culture-bound syndromes? Implications for conceptualizing their etiology. *Psychol Bull*, 129(5): 747.
- Keery H, Boutelle K, van den Berg P, Thompson JK. (2005) The impact of appearance-related teasing by family members. *J Adolesc Health*, 37(2): 120-127.
- Keery H, Van den Berg P, Thompson JK. (2004) An evaluation of the tripartite influence model of body dissatisfaction and eating disturbance with adolescent girls. *Body image*, 1(3): 237-251.
- Kilbourne J. (2012) *Can't buy my love: How advertising changes the way we think and feel*. Simon and Schuster, New York
- Kimbrough AM, Guadagno RE, Muscanell NL, Dill J. (2013) Gender differences in mediated communication: Women connect more than do men. *Comput Human Behav*, 29(3), 896-900.
- Király O, Griffiths MD, Urbán R, Farkas J, Kökönyi G, Elekes Z, ... Demetrovics Z. (2014) Problematic internet use and problematic online gaming are not the same: Findings

from a large nationally representative adolescent sample. *Cyberpsychol Behav Soc Netw*, 17(12): 749-754.

Klump KL, Bulik CM, Kaye WH, Treasure J, Tyson E. (2009) Academy for eating disorders position paper: eating disorders are serious mental illnesses. *Int J Eat Disord*, 42(2): 97-103.

Knauss C, Paxton SJ, Alsaker FD. (2007) Relationships amongst body dissatisfaction, internalisation of the media body ideal and perceived pressure from media in adolescent girls and boys. *Body Image*, 4(4): 353-360.

KSH (2014) Szélessávú internet-hozzáféréssel rendelkező háztartások aránya (2003–2014). Retrieved from: https://www.ksh.hu/docs/hun/eurostat_tablak/tabl/tin00089.html (Accessed 12 April, 2014)

Kutatópont (2015) Az okostelefonok aránya 39 százalék Magyarországon. Retrieved from: <http://www.netkutatasok.hu/2015/02/kutatópont-az-okostelefonok-aranya-39.html> (Accessed: Feb 15, 2016)

Labre MP. (2005) Burn fat, build muscle: A content analysis of men's health and men's fitness. *Int J Mens Health*, 4(2).

Law C, Labre MP. (2002) Cultural standards of attractiveness: A thirty-year look at changes in male images in magazines. *Journal Mass Commun Q*, 79(3): 697-711.

Laz TH, Berenson AB. (2011) Association of web-based weight loss information use with weight reduction behaviors in adolescent women. *J Adolesc Health*, 49(4): 446-448.

Leahey TM, Crowther JH, Mickelson KD. (2007) The frequency, nature, and effects of naturally occurring appearance-focused social comparisons. *Behav Ther*, 38: 132–143.

Leahey TM, LaRose JG, Fava JL, Wing RR. (2011) Social influences are associated with BMI and weight loss intentions in young adults. *Obesity*, 19(6): 1157-1162.

Leit RA, Pope HG, Gray JJ. (2001) Cultural expectations of muscularity in men: The evolution of Playgirl centerfolds. *Int J Eat Disord*, 29(1): 90-93.

- Lenhart A, Madden M, Hitlin P. (2005) Teens and Technology. Youth are leading the transition to a fully wired and mobile nation. Washington, DC: Pew Internet and American Life Project, Retrieved from: http://www.pewinternet.org/files/old-media/Files/Reports/2005/PIP_Teens_Tech_July2005web.pdf.pdf (Accessed: 3 June, 2014)
- Levine MP, Chapman K. (2011) Media influences on body image. In T. F. Cash & L. Smolak (Eds.), *Body image: A handbook of science, practice, and prevention* (2nd ed., 101–109). The Guilford Press, New York.
- Levine MP, Harrison K. (2009) Effects of media on eating disorders and body image. *Media effects: Advances in theory and research*, 490-516.
- Levine MP, Murnen SK. (2015) Media and Eating Disorders. *The Wiley Handbook of Eating Disorders*, (pp. 379-393), John Wiley & Sons, West Sussex, UK
- Levine MP, Smolak L, Hayden H. (1994) The relation of sociocultural factors to eating attitudes and behaviors among middle school girls. *J Early Adolesc*, 14(4): 471-490.
- Levine MP, Smolak L. (2010) Cultural influences on body image and the eating disorders. *The Oxford handbook of eating disorders*, 223-246.
- Löfgren-Mårtenson L, Månsson S. (2010) Lust, love, and life: A qualitative study of Swedish adolescents' perceptions and experiences with pornography. *J Sex Res*, 47: 568–579.
- López-Guimerà G, Levine MP, Sánchez-Carracedo D, Fauquet J. (2010) Influence of mass media on body image and eating disordered attitudes and behaviors in females: A review of effects and processes. *Media Psychol*, 13(4): 387-416.
- Lumeng JC, Rahnema S, Appugliese D, Kaciroti N, Bradley RH. (2006) Television exposure and overweight risk in preschoolers. *Arch Pediatr Adolesc Med*, 160(4): 417-422.
- Mabe AG, Forney KJ, Keel PK. (2014) Do you “like” my photo? Facebook use maintains eating disorder risk. *Int J Eat Disord*, 47(5): 516-523.
- Machado PP, Machado BC, Gonçalves S, Hoek HW. (2006) The prevalence of eating disorders not otherwise specified. *Int J Eat Disord*, 40(3): 212-217.

Makino M, Tsuboi K, Dennerstein L. (2004) Prevalence of eating disorders: a comparison of Western and non-Western countries. *MedGenMed*, 6(3).

Malkin AR, Wornian K, Chrisler JC. (1999) Women and weight: Gendered messages on magazine covers. *Sex Roles*, 40(7-8): 647-655.

Marques L, Alegria M, Becker AE, Chen CN, Fang A, Chosak A, Diniz, JB. (2011) Comparative prevalence, correlates of impairment, and service utilization for eating disorders across US ethnic groups: Implications for reducing ethnic disparities in health care access for eating disorders. *Int J Eat Disord*, 44(5): 412-420.

Matesz (Magyar Terjesztés-ellenőrző Szövetség) (2011), Megjelenésenkénti átlagadatok, 2011. II. félév audit. Retrieved from: http://matesz.hu/upload_periods/1/excel (Accessed: 29 Oct, 2011).

Mazzeo SE, Trace SE, Mitchell KS, Gow RW. (2007) Effects of a reality TV cosmetic surgery makeover program on eating disordered attitudes and behaviors. *Eat behav*, 8(3): 390-397.

Mazzeo SE. (1999) Modification of an existing measure of body image preoccupation and its relationship to disordered eating in female college students. *J Couns Psychol*, 46(1): 42.

McLaren, L. (2012). 40 Social and Economic Determinants of Obesity. Introduction to Systems Ecology, 445 In Jorgensen, S. E. (2012). Introduction to systems ecology. CRC Press, USA.

Melioli T, Rodgers RF, Rodrigues M, Chabrol H. (2015) The role of body image in the relationship between Internet use and bulimic symptoms: Three theoretical frameworks. *Cyberpsychol Behav Soc Netw*, 18(11): 682-686.

Mensing JL, Bonifazi DZ, LaRosa J. (2007) Perceived gender role prescriptions in schools, the superwoman ideal, and disordered eating among adolescent girls. *Sex Roles*, 57(7-8), 557-568.

Metropolitan Life Insurance Company. (1959) New weight standards for men and women. *Stat Bull Metropol Life Insur Co*. 40: 1-4.

Meyer DF. (2005) Psychological Correlates of Help Seeking for Eating-Disorder Symptoms in Female College Students. *JCC*, 8(1): 20-30.

Meyerson P, Tryon WW. (2003) Validating Internet research: A test of the psychometric equivalence of Internet and in-person samples. *Behav Res Methods Instrum Comput*, 35(4): 614-620.

Mischner IH, Van Schie HT, Wigboldus DH, Van Baaren RB, Engels RC. (2013) Thinking big: The effect of sexually objectifying music videos on bodily self-perception in young women. *Body image*, 10(1): 26-34.

Moradi B, Huang YP. (2008) Objectification theory and psychology of women: A decade of advances and future directions. *Psychol Women Q*, 32(4): 377-398.

Morgan JF, Reid F, Lacey JH. (1999) The SCOFF questionnaire: assessment of a new screening tool for eating disorders. *BMJ*, 319(7223): 1467-1468.

Morry MM, Staska SL. (2001) Magazine exposure: Internalization, self-objectification, eating attitudes, and body satisfaction in male and female university students. *Can J Behav Sci*, 33(4): 269.

Morton R. (1694) *Phisiologia-or a treatise of consumption*. Smith & Walford, Londres.

Mulgrew KE, Volcevski-Kostas D, Rendell PG. (2014) The effect of music video clips on adolescent boys' body Image, mood, and schema activation. *J Youth Adolesc*, 43: 92-103.

Mulgrew KE, Volcevski-Kostas D. (2012) Short term exposure to attractive and muscular singers in music video clips negatively affects men's body image and mood. *Body image*, 9(4): 543-546.

Murnen SK, Smolak L, Mills JA, Good L. (2003) Thin, sexy women and strong, muscular men: Grade-school children's responses to objectified images of women and men. *Sex Roles*, 49(9-10): 427-437.

Muthén LK, Muthén BO. (1998 – 2010). *Mplus user's guide*, 5. Muthén & Muthén, Los Angeles, CA.

Myers TA, Crowther JH. (2007) Sociocultural pressures, thin-ideal internalization, self-objectification, and body dissatisfaction: Could feminist beliefs be a moderating factor? *Body Image*, 4(3): 296–308.

Myers TA, Crowther JH. (2009) Social comparison as a predictor of body dissatisfaction: A meta-analytic review. *J Abnorm Psychol*, 118(4): 683.

Neumark-Sztainer D, Wall M, Guo J, Story M, Haines J, Eisenberg M. (2006) Obesity, disordered eating, and eating disorders in a longitudinal study of adolescents: how do dieters fare 5 years later? *J Am Diet Assoc*, 106(4): 559-568.

Newman LB, Dodd DK. (1995) Self-esteem and magazine reading among college students. *Perceptual and motor skills*, 81(1): 161-162.

Norris ML, Boydell KM, Pinhas L, Katzman DK. (2006) Ana and the Internet: A review of pro-anorexia websites. *Int J Eat Disord*, 39(6): 443-447.

Owen PR, Laurel-Seller E. (2000) Weight and shape ideals: Thin is dangerously in. *J Appl Soc Psychol*, 30(5): 979-990.

Owens EW, Behun RJ, Manning JC, Reid RC. (2012) The impact of internet pornography on adolescents: a review of the research. *Sexual Addiction & Compulsivity*, 19(1-2): 99-122.

Page, R. M., Ihász, F., Uvacsek, M., Kalabiska, I., Johnson, E., Hantiu, I., ... & Simonek, J. (2007). Self-perception of body weight, weight management practices and goals, and other weight-related factors in central and eastern European adolescents. *International quarterly of community health education*, 27(1): 39-58.

Paksi B, Felvinczi K, Schmidt A. (2004) [Prevention and health promotion in education. Research report] *Prevenção/egészségfejlesztési tevékenység a közoktatásban. Kutatási jelentés. Oktatási Minisztérium, Budapest.*

Papp I, Czeglédi E, Túry F. (2011) A szociokulturális hatások kapcsolata az elhízottakkal szembeni előítéletekkel kora serdülőkorban. *Mentálhig Pszichoszom*, 12(2): 149-171

Papp I, Urbán R, Czeglédi E, Babusa B, Túry F. (2013) Testing the Tripartite Influence Model of body image and eating disturbance among Hungarian adolescents. *Body Image*, 10(2): 232–242.

Petrie T, Rogers R, Johnson C, Diehl N. (1996) Development and validation of the revised Beliefs About Attractiveness Scale. In 104th Annual Convention of the American Psychological Association. Toronto, Ontario, Canada.

Polivy J, Herman CP. (2002) Causes of eating disorders. *Annu Rev Psychol*, 53(1): 187-213.

Pollock NJ. (1995) Cultural elaborations of obesity-fattening practices in Pacific societies. *Asia Pacific journal of clinical nutrition*, 4(4): 357-360.

Presnell K, Bearman SK, Stice E. (2004) Risk factors for body dissatisfaction in adolescent boys and girls: A prospective study. *Int J Eat Disord*, 36(4), 389-401.

Preti A, de Girolamo G, Vilagut G, Alonso J, de Graaf R, Bruffaerts R, ... ESEMeD-WMH Investigators. (2009) The epidemiology of eating disorders in six European countries: results of the ESEMeD-WMH project. *Journal of psychiatric research*, 43(14): 1125-1132.

Prince R. (1985) The concept of culture-bound syndromes: anorexia nervosa and bulimia and brain fog. *Social Sciences and Medicine*, 21(2): 197-203.

Quick V, Eisenberg ME, Bucchianeri MM, Neumark-Sztainer D. (2013) Prospective predictors of body dissatisfaction in young adults 10-year longitudinal findings. *Emerging Adulthood*, 2167696813485738.

Reips UD, Musch J. (2000) A brief history of Web experimenting. In M. H. Birnbaum (Ed.), *Psychology Experiments on the Internet* (61-87). Academic Press, San Diego, CA

Reips UD. (2000) The Web experiment method: Advantages, disadvantages, and solutions. In M. H. Birnbaum (Ed.), *Psychology Experiments on the Internet* (89-117). Academic Press, San Diego, CA

Reuters (2012) Israel bans use of ultra-skinny models. Retrieved from: <http://www.reuters.com/article/us-israel-models-law-idUSBRE82J0G420120320>

(Accessed: 18 Feb, 2016)

Rguibi M, Belahsen R. (2006) Body size preferences and sociocultural influences on attitudes towards obesity among Moroccan Sahraoui women. *Body Image*, 3(4): 395-400.

Ricciardelli L, McCabe M. (2015) Eating Disorders in Boys and Men. *The Wiley Handbook of Eating Disorders*, (pp. 492-506.)

Rideout VJ, Foehr UG, Roberts DF. (2010) *Generation M²: Media in the Lives of 8-to 18-Year-Olds*. Henry J. Kaiser Family Foundation.

Riva G, Teruzzi T, Anolli L. (2003) The use of the internet in psychological research: comparison of online and offline questionnaires. *Cyberpsychol Behav*, 6(1): 73-80.

Rodgers RF, Lowy AS, Halperin DM, Franko DL. (2015) A Meta-Analysis Examining the Influence of Pro-Eating Disorder Websites on Body Image and Eating Pathology. *Eur Eat Disord Rev*, 24(1): 3-8.

Rodgers RF. (2015) The relationship between body image concerns, eating disorders and internet use, part II: An integrated theoretical model. *Adolescent Res Rev*, 1-17.

Rodin J, Silberstein L, Striegel-Moore R. (1984) Women and weight: A normative discontent. *Nebr Symp Motiv*, 32: 267–307.

Rojo L, Livianos L, Conesa L, García A, Domínguez A, Rodrigo G, Sanjuán L, Vila M. (2003). Epidemiology and risk factors of eating disorders: a two-stage epidemiologic study in a Spanish population aged 12-18 years. *Int. J. Eat. Disord.*, 34: 281-291.

Rosenberg M. (1965) *Society and the adolescent self-image*. Princeton University Press, Princeton, NJ

Rouleau CR, von Ranson KM. (2011) Potential risks of pro-eating disorder websites. *Clin Psychol Rev*, 31(4): 525-531.

Rubin AM. (1994) *Media uses and effects: A uses-and-gratifications perspective*.

- Rubin AM. (2009) Uses-and-gratifications perspective on media effects. In J. Bryant & M. B. Oliver (Eds.), *Media effects: Advances in theory and research* (3rd ed., pp. 165–184). New York: Routledge
- Russell G. (1979) Bulimia nervosa: an ominous variant of anorexia nervosa. *Psychol Med*, 9(3): 429-448.
- Sands ER, Wardle J. (2003) Internalization of ideal body shapes in 9–12-year-old girls. *Int J Eat Disord*, 33(2): 193-204.
- Saperstein SL, Atkinson NL, Gold RS. (2007) The impact of Internet use for weight loss. *Obes Rev*, 8(5): 459-465.
- Sarwer DB, Crerand CE. (2004) Body image and cosmetic medical treatments. *Body image*, 1(1): 99-111.
- Scully M, Dixon H, Wakefield M. (2009) Association between commercial television exposure and fast-food consumption among adults. *Public Health Nutr*, 12(01): 105-110.
- Seifert T. (2005) Anthropomorphic characteristics of centerfold models: Trends towards slender figures over time. *Int J Eat Disord*, 37(3): 271-274.
- Selimbegović L, Chatard A. (2015) Single exposure to disclaimers on airbrushed thin ideal images increases negative thought accessibility. *Body image*, 12: 1-5.
- Sharpe H, Musiat P, Knapton O, Schmidt U. (2011) Pro-eating disorder websites: Facts, fictions and fixes. *Journal of Public Mental Health*, 10(1): 34-44.
- Shen S. (2015) Photoshop: The Tool to Being Unrealistically Gorgeous. Retrieved from: <http://sites.psu.edu/shelleyshen/wp-content/uploads/sites/26834/2015/04/Photoshop.pdf> (Accessed: 20 December, 2015).
- Shroff H, Thompson JK. (2006) The tripartite influence model of body image and eating disturbance: A replication with adolescent girls. *Body Image*, 3(1): 17-23.
- Sigman GS, Flanery RC. (1992) Eating disorders. In D. E. Greydanus & M. C. Wolraich (Eds.), *Behavioral pediatrics*. New York: Springer-Verlag, pp 257-279.

Sigman GS. (2003) Eating disorders in children and adolescents. *Pediatric Clinics of North America*, 50(5): 1139-1177.

Slater A, Tiggemann M, Hawkins K, Werchon D. (2012) Just one click: A content analysis of advertisements on teen web sites. *J Adolesc Health*, 50(4), 339-345.

Slater A, Tiggemann M. (2006) The contribution of physical activity and media use during childhood and adolescence to adult women's body image. *Journal of health psychology*, 11(4): 553-565.

Slater A, Tiggemann M. (2014) Media matters for boys too! The role of specific magazine types and television programs in the drive for thinness and muscularity in adolescent boys. *Eat behav*, 15(4): 679-682.

Slevec J, Tiggemann M. (2010) Attitudes toward cosmetic surgery in middle-aged women: body image, aging anxiety, and the media. *Psychol Women Q*, 34(1): 65-74.

Slevec JH, Tiggemann M. (2011) Predictors of body dissatisfaction and disordered eating in middle-aged women. *Clin Psychol Rev*, 31(4): 515-524.

Smink FR, van Hoeken D, Hoek HW. (2012) Epidemiology of eating disorders: incidence, prevalence and mortality rates. *Current psychiatry reports*, 14(4): 406-414.

Smith AR, Hames JL, Joiner TE. (2013) Status Update: Maladaptive Facebook usage predicts increases in body dissatisfaction and bulimic symptoms. *Journal of affective disorders*, 149(1): 235-240.

Smolak L, Levine MP, Schermer F. (1999) Parental input and weight concerns among elementary school children. *Int J Eat Disord*, 25(3): 263-271.

Smolak L, Striegel-Moore RH. (2001) Challenging the myth of the golden girl: Ethnicity and eating disorders. In Striegel-Moore, Ruth H. (Ed); Smolak, Linda (Ed), *Eating disorders: Innovative directions in research and practice*. (pp. 111-132). American Psychological Association, Washington, DC

Smolak L. (2009) Risk factors in the development of body image, eating problems, and obesity. In L. Smolak, & Thompson, J. K. (Eds). *Body image, eating disorders, and obesity*

in youth: Assessment, prevention, and treatment.(2nd ed., pp. 135-155). American Psychological Association, Washington DC.

Sobal J, Stunkard AJ. (1989) Socioeconomic status and obesity: a review of the literature. *Psychol Bull*, 105(2): 260.

Sommers-Flanagan R, Sommers-Flanagan J, Davis B. (1993) What's happening on music television? A gender role content analysis. *Sex Roles*, 28(11): 745–753.

Sperry S, Thompson JK, Sarwer DB, Cash TF. (2009) Cosmetic surgery reality TV viewership: Relations with cosmetic surgery attitudes, body image, and disordered eating. *Annals of plastic surgery*, 62(1): 7-11.

Spitzer BL, Henderson KA, Zivian MT. (1999) Gender differences in population versus media body sizes: A comparison over four decades. *Sex Roles*, 40(7-8): 545-565.

SPSS I. (2012) IBM SPSS statistics version 21. Boston, Mass: International Business Machines Corp.

Steele JR, Brown JD. (1995) Adolescent room culture: Studying media in the context of everyday life. *J Youth Adolesc*, 24(5): 551-576.

Stice E, Burton EM, Shaw H. (2004) Prospective relations between bulimic pathology, depression, and substance abuse: unpacking comorbidity in adolescent girls. *J Consult Clin Psychol*, 72(1): 62.

Stice E, Cameron RP, Killen JD, Hayward C, Taylor CB. (1999) Naturalistic weight-reduction efforts prospectively predict growth in relative weight and onset of obesity among female adolescents. *J Consult Clin Psychol*, 67(6): 967.

Stice E, Hayward C, Cameron RP, Killen JD, Taylor CB. (2000) Body-image and eating disturbances predict onset of depression among female adolescents: a longitudinal study. *J Abnorm Psychol*, 109(3): 438.

Stice E, Marti CN, Durant S. (2011) Risk factors for onset of eating disorders: Evidence of multiple risk pathways from an 8-year prospective study. *Behav Res Ther*, 49(10): 622-627.

Stice E, Schupak-Neuberg E, Shaw HE, Stein RI. (1994) Relation of media exposure to eating disorder symptomatology: an examination of mediating mechanisms. *J Abnorm Psychol*, 103(4): 836.

Stice E, Whitenton K. (2002) Risk factors for body dissatisfaction in adolescent girls: a longitudinal investigation. *Dev Psychol*, 38(5): 669.

Stice E. (1994) Review of the evidence for a sociocultural model of bulimia nervosa and an exploration of the mechanisms of action. *Clin Psychol Rev*, 14(7): 633-661.

Stice E. (2001) A prospective test of the dual-pathway model of bulimic pathology: mediating effects of dieting and negative affect. *J Abnorm Psychol*, 110(1): 124.

Stice E. (2002) Risk and maintenance factors for eating pathology: A meta-analytic review. *Psychol Bull*, 128(5): 825–848.

Strahan EJ, Wilson AE, Cressman KE, Buote VM. (2006) Comparing to perfection: How cultural norms for appearance affect social comparisons and self-image. *Body Image*, 3: 211–227.

Striegel-Moore RH, Kearney-Cooke A. (1994) Exploring parents' attitudes and behaviors about their children's physical appearance. *Int J Eat Disord*, 15(4): 377-385.

Striegel-Moore RH. (1997) Risk factors for eating disorders. *Annals of the New York Academy of Sciences*, 817(1): 98-109.

Swami V, Frederick DA, Aavik T, Alcalay L, Allik J, Anderson D, ... & Danel D. (2010) The attractive female body weight and female body dissatisfaction in 26 countries across 10 world regions: Results of the International Body Project I. *Pers Soc Psychol Bull*, 36(3): 309-325.

Swami V, Furnham A. (2008) *The psychology of physical attraction*. Routledge/Taylor & Francis Group, London.

Swami V. (2006) Female physical attractiveness and body image disorders in Malaysia. *Malaysian Journal of Psychiatry*, 14: 3-7.

Swami V. (2007) *The missing arms of Venus de Milo: Reflections on the science of attractiveness*. Book Guild, Brighton, UK.

Swami V. (2015) Cultural Influences on Body Size Ideals. *Eur Psychol.*, 20(1): 44-51.

Sypeck MF, Gray JJ, Ahrens AH. (2004) No longer just a pretty face: Fashion magazines' depictions of ideal female beauty from 1959 to 1999. *Int J Eat Disord*, 36(3): 342-347.

Sypeck MF, Gray JJ, Etu SF, Ahrens AH, Mosimann JE, Wiseman CV. (2006) Cultural representations of thinness in women, redux: Playboy magazine's depiction of beauty from 1979 to 1999. *Body Image*, 3(3): 229-235.

Szabó K, Czeglédi E, Babusa B, Szumska I, Túry F, Sándor I, Bauer S. (2015) The European Initiative ProYouth for the Promotion of Mental Health and the Prevention of Eating Disorders* Screening Results in Hungary. *Eur Eat Disord Rev*, 23(2): 139-146.

Szabó K, Túry F, Czeglédi E. (2011) Evészavarok és a média—a magazinolvasási szokások és az evészavarok lehetséges kapcsolata.[Eating disorders and the media – magazine reading habits and their possible relationship to eating disorders] *Mentálhig Pszichoszom*, 12(4): 353-374.

Szabó, K, Túry, F. (2012) A magazinokban megjelenő írott és képi tartalmak evészavarokkal való lehetséges kapcsolata [Written and pictorial content in magazines and their potential relationship to eating disorders.] *Lege Artis Med.*, 22(02):139–145.

Székellyi M, Barna I. (2002) *SPSS Survival Kit-Multivariate analysis techniques for social researchers*. Hung.) Typotex elektronikus Kiadó, Budapest

Szumska I, Túry F, Csoboth CT, Réthelyi J, Purebl G, Hajnal A. (2005) The prevalence of eating disorders and weight-control methods among young women: a Hungarian representative study. *Eur Eat Disord Rev*, 13(4): 278-284.

Szumska I, Túry F, Szabó P. (2008) Az evészavarok epidemiológiájának újabb adatai. Evészavarok és testképzavarok. [Recent data on the epidemiology of eating disorders. Eating disorders and body image disturbances.] In F. Túry, & B. Pászthy (Eds.), *Evészavarok és testképzavarok* (109-120). ProDie Kiadó, Budapest

Tantleff-Dunn S, Barnes RD, Larose JG. (2011) It's not just a "woman thing:" The current state of normative discontent. *Eat Disord*, 19(5): 392-402.

The Fashion Law (2015), France Enacts New Law Banning "Excessively Thin" Models, Retrieved from: <http://www.thefashionlaw.com/home/france-passes-model-law>, (Accessed: 18 Feb, 2016)

Thompson JK, Coovert MD, Stormer SM. (1999) Body image, social comparison, and eating disturbance: A covariance structure modeling investigation. *Int J Eat Disord*, 26(1): 43-51.

Thompson JK, Heinberg LJ, Altabe M, Tantleff-Dunn S. (1999) *Exacting beauty: Theory, assessment, and treatment of body image disturbance*. American Psychological Association.

Thompson JK, Heinberg LJ, Tantleff S. (1991) The Physical Appearance Comparison Scale (PACS). *Behav Ther*, 14: 174.

Thompson JK, Smolak L. (Eds.). (2001) *Body image, eating disorders, and obesity in youth: Assessment, prevention, and treatment*. Taylor & Francis.

Thompson JK, Stice E. (2001) Thin-ideal internalization: Mounting evidence for a new risk factor for body-image disturbance and eating pathology. *Curr Dir Psychol Sci*, 10(5): 181-183.

Thompson JK, van den Berg P, Roehrig M, Guarda AS, Heinberg LJ. (2004) The sociocultural attitudes towards appearance scale-3 (SATAQ-3): Development and validation. *Int J Eat Disord*, 35(3): 293-304.

Thomsen SR, McCoy JK, Gustafson R, Williams H. (2002) Motivations for reading beauty and fashion magazines and anorexic risk in college-age women. *Media Psychol*, 4(2): 113-135.

Thomsen SR, Weber MM, Brown LB. (2001) The relationship between health and fitness magazine reading and eating-disordered weight-loss methods among high school girls. *Am J Health Educ*, 32(3): 133-138.

Thomsen SR, Weber MM, Brown LB. (2002) The relationship between reading beauty and fashion magazines and the use of pathogenic dieting methods among adolescent females/Steven R. Thomsen, Michelle M. Weber and Lora Beth Brown.

Tiggemann M, Gardiner M, Slater A. (2000) "I would rather be size 10 than have straight A's": A focus group study of adolescent girls' wish to be thinner. *J Adolesc*, 23(6): 645-659.

Tiggemann M, Martins Y, Kirkbride A. (2007) Oh to be lean and muscular: Body image ideals in gay and heterosexual men. *Psychol Men Masc*, 8(1): 15–24.

Tiggemann M, McGill B. (2004) The role of social comparison in the effect of magazine advertisements on women's mood and body dissatisfaction. *J Soc Clin Psychol*, 23(1): 23-44.

Tiggemann M, Miller J. (2010) The Internet and adolescent girls' weight satisfaction and drive for thinness. *Sex Roles*, 63(1-2), 79-90.

Tiggemann M, Pickering AS. (1996) Role of television in adolescent women's body dissatisfaction and drive for thinness. *Int J Eat Disord*, 20: 199–203.

Tiggemann M, Polivy J, Hargreaves D. (2009) The processing of thin ideals in fashion magazines: A source of social comparison or fantasy? *J Soc Clin Psychol*, 28(1): 73-93.

Tiggemann M, Polivy J. (2010) Upward and downward: Social comparison processing of thin idealized media images. *Psychol Women Q*, 34(3): 356-364.

Tiggemann M, Slater A, Bury B, Hawkins K, Firth B. (2013) Disclaimer labels on fashion magazine advertisements: Effects on social comparison and body dissatisfaction. *Body image*, 10(1): 45-53.

Tiggemann M, Slater A. (2004) Thin ideals in music television: A source of social comparison and body dissatisfaction. *Int J Eat Disord*, 35(1): 48-58.

Tiggemann M, Slater A. (2013) NetGirls: The Internet, Facebook, and body image concern in adolescent girls. *Int J Eat Disord*, 46(6): 630-633.

Tiggemann M, Slater A. (2014) NetTweens The Internet and Body Image Concerns in Preteenage Girls. *J Early Adolesc*, 34(5): 606-620.

Tiggemann M, Williams E. (2012) The role of self-objectification in disordered eating, depressed mood, and sexual functioning among women a comprehensive test of objectification theory. *Psychol Women Q*, 36(1): 66-75.

Tiggemann M. (2005) Body dissatisfaction and adolescent self-esteem: Prospective findings. *Body image*, 2(2): 129-135.

Tiggemann M. (2011) Sociocultural perspectives on human appearance and body image. *Body image: A handbook of science, practice, and prevention*, 12-19.

Tiggemann, M. (2002). Media influences on body image development. *Body image: A handbook of theory, research, and clinical practice*, 91-98.

Török Zs, Pászthy B. (2008) Az evészavarok és az internet. [Eating disorders and the Internet] In F. Túry, & B. Pászthy (szerk.), *Evészavarok és testképzavarok* (387—395). ProDie Kiadó, Budapest

Treasure J, Claudino AM, Zucker N: Eating disorders. *Lancet* 2010, 375: 583–593.

Túry F, Babusa B. (2012) Adonisztól Schwarzeneggerig: Férfiideálok és civilizáció. [From Adonis to Schwarzenegger: male ideals and civilization]. Oriold Kiadó, Budapest.

Túry F, Czegléd E, Papp I, Dukay-Szabó S, Babusa B, Güleç H, Mezei Á, Szabó K, Varga M, Szumska I. (2013) A táplálkozási magatartás zavarainak felmérése reprezentatív haza minta alapján-különös tekintettel a háttértényezőkre. [Assessment of eating behaviours in a representative Hungarian sample – with special focus on background factors.] In: É. Susánszky, Z. Szántó (Eds.), *Magyar lelkiállapot 2013* [Hungarian State of Mind 2013] (147-160). Semmelweis Kiadó, Budapest

Túry F, Pászthy B szerk (2008) *Evészavarok és testképzavarok*. [Eating disorders and body image disturbances] Pro Die, Budapest

Túry F, Sáfrán Z, Wildmann M, László Z. (1997) The Hungarian adaptation of Eating Disorders Inventory. *Addictol Hung*, 5: 336-42.

Túry F, Szabó P (2000) A táplálkozási magatartás zavarai: az anorexia nervosa és a bulimia nervosa. [Eating disorders: Anorexia nervosa and bulimia nervosa] Medicina Könyvkiadó, Budapest.

Tylka TL. (2011) Refinement of the tripartite influence model for men: Dual body image pathways to body change behaviors. *Body Image*, 8(3): 199-207.

Tylka TL. (2015) No harm in looking, right? Men's pornography consumption, body image, and well-being. *Psychol Men Masc*, 16(1): 97.

Ur B, Wang Y. (2012) Online social networks in a post-Soviet state: How Hungarians protect and share on Facebook. In *Proceedings of the 2012 iConference* (pp. 398-406). ACM, New York

Rodgers RF, Ganchou C, Franko DL, Chabrol H. (2012) Drive for muscularity and disordered eating among French adolescent boys: A sociocultural model. *Body Image*, 9(3): 318-323

Utter J, Neumark-Sztainer D, Wall M, Story M. (2003) Reading magazine articles about dieting and associated weight control behaviors among adolescents. *J Adolesc Health*, 32(1): 78-82.

Van den Berg P, Neumark-Sztainer D, Hannan PJ, Haines J. (2007) Is dieting advice from magazines helpful or harmful? Five-year associations with weight-control behaviors and psychological outcomes in adolescents. *Pediatrics*, 119(1): e30-e37.

Van den Berg P, Thompson JK, Obrowski-Brandon K, Covert M. (2002) The Tripartite Influence model of body image and eating disturbance: A covariance structure modeling investigation testing the mediational role of appearance comparison. *J Psychosom Res*, 53(5), 1007-1020.

van Hoeken D, Seidell JC, Hoek HW. (2003) Epidemiology. In J.L. Treasure, U. Schmidt, & E.F. van Furth (Eds.), *Handbook of eating disorders* (11–34). Wiley, Chichester.

van Son GE, van Hoeken D, Bartelds AI, van Furth EF, Hoek HW. (2006) Time trends in the incidence of eating disorders: a primary care study in the Netherlands. *Int J Eat Disord*, 39(7): 565-569.

Vargha A, Torma B, Bergman LR. (2015) ROPstat: a general statistical package useful for conducting person-oriented analyses. *J Pers Oriented Res*, 1, (1-2), 87-98.

Vaughan KK, Fouts GT. (2003) Changes in television and magazine exposure and eating disorder symptomatology. *Sex Roles*, 49(7-8), 313-320.

Veldhuis J, Konijn EA, Seidell JC. (2014) Counteracting media's thin-body ideal for adolescent girls: Informing is more effective than warning. *Media Psychol*, 17(2): 154-184.

Vogue (2015) France Passes Model Health Law. Retrieved from: <http://www.vogue.co.uk/news/2015/12/21/french-model-law-bmi-medical-certificate-for-models-in-france> (Accessed: 18 Feb, 2016)

Voracek M, Fisher ML. (2002) Shapely centrefolds? Temporal change in body measures: trend analysis. *BMJ*, 325(7378): 1447-1448.

Wade TD, Bergin JL, Tiggemann M, Bulik CM, Fairburn CG. (2006) Prevalence and long-term course of lifetime eating disorders in an adult Australian twin cohort. *Aust. N. Z. J. Psychiatry*, 40: 121-128.

Wang LY, Nichols LP, Austin SB: The economic effect of planet health on preventing eating disorders. *Arch Pediatr Adolesc Med* 2011, 165(8): 756–762.

Want SC. (2009) Meta-analytic moderators of experimental exposure to media portrayals of women on female appearance satisfaction: Social comparisons as automatic processes. *Body Image*, 6(4): 257-269.

We Are Social (2014) Social, Digital & Mobile Worldwide In 2014. Retrieved from: <http://wearesocial.com/uk/special-reports/social-digital-mobile-worldwide-2014> (Accessed: Feb 15, 2016)

Weijters B, Baumgartner H, Schillewaert N. (2013) Reversed item bias: An integrative model. *Psychol. Methods*, 18(3): 320.

Wertheim EH, Paxton SJ, Blaney S. (2009) Body image in girls. In L. Smolak & J. K. Thompson (Eds.), *Body image, eating disorders, and obesity in youth: Assessment, prevention, and treatment* (2nd ed., 47–76). American Psychological Association, Washington, DC.

Whitlock JL, Powers JL, Eckenrode J. (2006) The virtual cutting edge: the internet and adolescent self-injury. *Dev Psychol*, 42(3): 407.

Wilcox K, Laird JD. (2000) The impact of media images of super-slender women on women's self-esteem: Identification, social comparison, and self-perception. *J Res Pers*, 34(2): 278-286.

Wilksch SM, Tiggemann M, Wade TD. (2006) Impact of interactive school-based media literacy lessons for reducing internalization of media ideals in young adolescent girls and boys. *Int J Eat Disord*, 39(5): 385-393.

Wilson JL, Peebles R, Hardy KK, Litt IF. (2006) Surfing for thinness: A pilot study of pro-eating disorder web site usage in adolescents with eating disorders. *Pediatrics*, 118(6): e1635-e1643.

Wiseman CV, Gray JJ, Mosimann JE, Ahrens AH. (1992) Cultural expectations of thinness in women: An update. *Int J Eat Disord*, 11(1): 85-89.

Woodside DB, Garfinkel PE, Lin E, Goering P, Kaplan AS, Goldbloom DS, Kennedy SH. (2001) Comparisons of men with full or partial eating disorders, men without eating disorders, and women with eating disorders in the community. *Am J Psychiatry*, 158(4): 570-574.

Zhang Y, Dixon TL, Conrad K. (2010) Female body image as a function of themes in rap music videos: A content analysis. *Sex roles*, 62(11-12): 787-797.

11. BIBLIOGRAPHY OF THE CANDIDATE'S PUBLICATIONS

11.1 PEER-REVIEWED ARTICLES

Czeplédi E, **Szabó K.** (2016) Hungarian experiences with the Beliefs About Attractiveness Scale – Revised. *Ideggyógyászati Szemle*, 69(3-4): 98-105.

Szabó K, Czeplédi E, Babusa B, Szumska I, Túry F, Sándor I, Bauer S. (2015) The European Initiative ProYouth for the Promotion of Mental Health and the Prevention of Eating Disorders* Screening Results in Hungary, *European Eating Disorders Review*, 23(2): 139–146.

Szabó K, Túry F. (2012) A magazinokban megjelenő írott és képi tartalmak evészavarokkal való lehetséges kapcsolata. [Written and pictorial content in magazines and their potential relationship to eating disorders.] *Lege Artis Medicinæ*, 22(02):139–145.

Szabó K, Túry F, Czeplédi E. (2011) Evészavarok és a média — a magazinolvasási szokások és az evészavarok lehetséges kapcsolata. [Eating disorders and media — magazine reading habits and their potential relationship to eating disorders.] *Mentálhigiéne és Pszichoszomatika*, 12(4): 353-74.

11.2 BOOK CHAPTERS

Túry F, Czeplédi E, Papp I, Dukay-Szabó Sz, Babusa B, Güleç H, Mezei Á, **Szabó K,** Varga M, Szumska I. (2013) A táplálkozási magatartás zavarainak felmérése reprezentatív hazai minta alapján – különös tekintettel a háttértényezőkre [The assessment of disordered eating behaviours in a representative national sample survey – particular focus on the background factors] In: Susánszky Éva, Szántó Zsuzsa (szerk.), *Magyar lelkiállapot*

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APPENDIX

13.1 Questionnaires used in the current study**13.1.1 Médiafogyasztás kérdőív (Media exposure questionnaire)****Magazinolvasás**

A következők során a magazinolvasással kapcsolatos szokásaira kérdezzük rá. Kérjük, figyelmesen olvassa el a kérdéseket, és őszintén válaszoljon rájuk.

Kérjük, jelölje a megfelelő számmal, hogy a következő magazin típusokat milyen rendszerességgel olvassa, lapozgatja!

Soha=1

Talán évente egyszer=2

2-5 alkalommal évente=3

6-11 alkalommal évente=4

Havonta=5

2-4 alkalommal havonta=6

5 vagy több alkalommal havonta=7

Divatmagazin és szépségmagazin (pl.: Cosmopolitan, Glamour stb.)

Egészség és fitneszmagazin (pl.: Wellnes, Shape)

Gasztrónómiai lapok (pl.: BBC Good Food, Blikk Nők Konyha)

Női lapok (pl.: Nők lapja, Kiskegyed stb.)

Bulvár lapok (pl.: Best, Hot, Blikk stb.)

Férfimagazinok (pl.: CKM, Playboy)

Férfi egészség, fitness magazinok (pl.: Men's health)

—

Tévézés (Television watching)

Az alábbi kérdésekben tévézéssel kapcsolatos szokásaira kérdezzük rá. Kérjük, figyelmesen olvassa el a kérdéseket, és őszintén válaszoljon rájuk. Egy átlagos hét során hány órát tölt el tévézéssel?

Hétköznapi

Hétvégén

0 - 1 óra | 2 – 5 óra | 6 - 10 óra | 11 – 20 óra | 21- 40 óra | 41 - 60 óra | ≥61 óra

Kérjük, jelölje a megfelelő számmal, hogy a következő típusú tévé műsorokat milyen rendszerességgel nézi!

Soha=1

Kevesebb, mint heti nap=2

Heti 1-2 nap=3

Heti 3-4 nap=4

Legalább heti 5 nap=5

Filmek, sorozatok (pl.: Mozifilmek, Barátok közt, Helyszínelők)

Valóság show (pl.: Való Világ)

Főzőműsorok, gasztronómia (pl.: Gasztrotúra)

Fitness, egészséges életmóddal kapcsolatos műsorok (pl.: 2testŐr, Egészségkalauz, Fitt-térítők)

Videoklippek (pl.: zenei klippek MTV-n, VIVA-n)

Átalakító, külsővel kapcsolatos műsorok, stílustanácsadás (pl.: Én is szép vagyok!, Zsírregetők)

Erotikus felnőtt tartalom

—

Internet

A következők során internettel kapcsolatos szokásaira kérdezzük rá. Kérjük, figyelmesen olvassa el a kérdéseket, és őszintén válaszoljon rájuk.

Naponta átlagosan hány órát tölt el az **internet** böngészésével?

Hétköznap

Hétvégén

0 óra **|30 perc vagy kevesebb** **|1 óra** **|2 óra** **|3 óra** **|4 óra vagy több**

A következő típusú **internetes** oldalakat milyen gyakran látogatja?

Soha=1

Talán havonta egyszer=2

2-5 alkalommal havonta=3

6-11 alkalommal havonta=4

Hetente=5

2-4 alkalommal hetente=6

5 vagy több alkalommal hetente=7

Naponta=8

Naponta többször=9

Közösségi portálok (pl.: iwiw.hu, facebook.com)

Főzés, gasztronómia, recept oldalak (pl.: mindmegette.hu, nosalty.hu)

Női portálok, szépségápolás, divat (pl.: femina.hu, life.hu, nlcafe.hu)

Bulvár oldalak (pl.: velvet.hu, blikk.hu, storyonline.hu)

Egészséggel, egészségmegőrzéssel kapcsolatos oldalak (pl.: hazipatika.hu)
 Diétával, táplálkozással, fitnesszel foglalkozó portálok (pl.: www.dietafitness.hu)
 Női magazinok internetes oldala (pl.: cosmopolitan.hu, www.glamouronline.hu)
 Férfi magazinok internetes oldala (pl.: http://www.ckm.hu)
 Férfi fitness, egészségmagazinok internetes oldala (pl.: http://menshealth.hu/)
 Erotikus felnőtt tartalom
 Evészavarokat népszerűsítő oldalak

Naponta átlagosan hány órát tölt el **közösségi oldalak** böngészésével? (pl.: www.iwiw.hu, www.facebook.com stb.)

	0 óra	30 perc vagy kevesebb	1 óra	2 óra	3 óra	4 óra vagy több
Hétköznap						
Hétvégén						

Egy átlagos hét során hány órát tölt el **filmek/sorozatok/műsorok** nézésével az **interneten**? (pl.: letöltés, online stream, internetes oldalakon sorozatok egyéb műsor stb.)

	0 -1 óra	2 - 5 óra	6 - 10 óra	11 - 20 óra	21- 40 óra	41 - 60 óra	≥61 óra
Hétköznap							
Hétvégén							

Kérjük, jelölje, hogy a **következő típusú műsorokat** milyen rendszerességgel nézi az **interneten**!

Soha=1 |Kevesebb, mint heti nap=2 |Heti 1-2 nap=3 |Heti 3-4 nap=4 |Legalább heti 5 nap=5

Filmek, sorozatok (pl.: Mozifilmek, Barátok közt, Helyszínelők)
 Valóság show (pl.: Való Világ)
 Főzőműsorok, gasztronómia (pl.: Gasztrotúra)
 Fitness, egészség életmóddal kapcsolatos műsorok (pl.: 2testŐr, Egészségkalauz, Fitt-térítők)
 Videoklippek (pl.: zenei klippek www.youtube.com-on)
 Átalakító, külsővel kapcsolatos műsorok, stílustanácsadás (pl.: Én is szép vagyok!, Zsírregetők)
 Erotikus felnőtt tartalom

—

13.1.2 Diétázási szokásokkal kapcsolatos kérdéssor

Kérjük, figyelmesen olvassa el a most következő kérdéseket és válaszoljon rájuk őszintén.
 Minden válasz fontos, hiszen az Ön véleményét tükrözik!

1=igen 2=nem

1. Diétázott-e már valaha legalább 2 hétig súlyvesztés céljából?
2. Jelenleg diétázik-e súlyvesztés céljából?
3. Olvas-e fogyókúra cikkeit magazinokban?
4. Olvas-e fogyókúra cikkeit az interneten?
5. Keres-e aktívan fogyókúra tartalmakat a magazinokban?
6. Keres-e aktívan fogyókúra tartalmakat az interneten?
7. Ha valamilyen fogyókúra tartalomba fut egy magazinban, elolvassa-e?
8. Ha valamilyen fogyókúra tartalomba fut az interneten, elolvassa-e?
9. Kezdett-e valaha olyan fogyókúrába, melyről magazinban olvasott először?
10. Kezdett-e valaha olyan fogyókúrába, melyről az interneten olvasott először?
11. Volt-e valaha internetes fogyókúra közösség tagja?

—

13.1.3 Evési Zavar Kérdőív (Eating Disorder Inventory, EDI)

Ez a kérdőív különböző véleményeket, érzéseket és viselkedéseket mér. A tételek némelyike ételekkel és evéssel kapcsolatos. Más tételek önmagával kapcsolatos érzésekre vonatkoznak. Nincs jó vagy rossz válasz, így próbáljon meg teljesen őszinte lenni válaszaiban. Az eredményeket szigorúan bizalmasan kezeljük. Olvassa el mindegyik tételt és jelölje kereszttel az Önre leginkább érvényes oszlopban lévő négyzetet. Kérjük, hogy minden kérdésre nagyon gondosan válaszoljon.

1=mindig 2=rendszerint 3=gyakran 4=néha 5=ritkán 6=soha

1. Édességeket és szénhidrátokat anélkül eszem, hogy idegességet éreznék.
2. Azt hiszem, a gyomrom túl nagy.
3. Bárcsak vissza tudnék térni a gyermekkor biztonságához.
4. Eszem, ha nyugtalan vagyok.
5. Teletömöm magam étellel.
6. Bárcsak fiatalabb lehetnék.
7. Diétázásra gondolok.
8. Megrémülök, ha érzelmeim túl erősek.
9. Úgy gondolom, combjaim túl vastagok.
10. Hasznavehetetlen embernek érzem magam.
11. Rendkívül bűnösnek érzem magam túlevés után.
12. Azt hiszem, a gyomrom éppen jó méretű.
13. Csak a kiemelkedő teljesítmény elég jó, megfelelő a családomban.
14. A legboldogabb időszak az életben a gyermekkor.
15. Nyílt vagyok érzelmeimmel kapcsolatban.
16. Rettenetesen félek a hízástól.
17. Megbízom másokban.
18. Egyedül érzem magam a világon.

19. Elégedett vagyok az alakommal.
20. Általában úgy érzem, hogy a dolgokat ellenőrzés alatt tartom életemben.
21. Megzavar az, hogy milyen érzelmet is érzek.
22. Inkább felnőtt lennék, mint gyermek.
23. Könnyen kapcsolatba tudok kerülni másokkal.
24. Bárcsak valaki más lennék.
25. Eltúlzom vagy felnagyítom a testsúly fontosságát.
26. Világosan meg tudom határozni, milyen érzelmet érzek.
27. Elégtelennek érzem magam.
28. Voltak falási rohamaim, amikor úgy éreztem, hogy nem tudom abbahagyni.
29. Gyermekként nagyon erősen próbáltam elkerülni, hogy csalódást okozzam szüleimnek vagy tanárainknak.
30. Közele kapcsolataim vannak.
31. Tetszik a fenekem formája.
32. Nagyon foglalkoztat a vágy, hogy soványabb legyek.
33. Nem tudom, mi zajlik bennem.
34. Nehezemre esik, hogy kimutassam érzelmeimet másoknak.
35. A felnőttkor elvárásai túl nagyok.
36. Gyűlölöm, ha különböző dolgokban nem a legjobb vagyok.
37. Biztonságot érzek saját magammal kapcsolatban.
38. Falásrohamokra (túlevésekre) gondolok.
39. Boldog vagyok, hogy már nem vagyok gyermek.
40. Zavaran vagyok, hogy éhes vagyok-e vagy nem
41. Rossz véleményem van magamról.
42. Úgy érzem, teljesíteni tudom elvárásaimat.
43. Szüleim kiemelkedőt vártak tőlem.
44. Aggódom, hogy érzéseim fölött elveszítem az uralmat.
45. Úgy gondolom, hogy a csípőm túl nagy.
46. Mások előtt mérsékelten eszem, de teletömöm magam, ha elmennek.
47. Normális étkezés után is felfúvódottnak érzem magam.
48. Úgy érzem, az emberek gyerekkorukban a legboldogabbak.
49. Ha hízom egy kg-ot, aggódom, hogy tovább hízom.
50. Úgy érzem, értékes személy vagyok.
51. Ha zaklatott vagyok, nem tudom, hogy szomorú, rémült, vagy dühös vagyok.
52. Úgy érzem, hogy tökéletesen kell csinálnom a dolgokat vagy sehogysem.
53. Azt gondolom, meg kell próbálnom hányni, hogy fogyni tudjak.
54. Az embereket bizonyos távolságra kell tartanom (kényelmetlen számomra, ha valaki túl közel próbál kerülni hozzám).
55. Azt hiszem, combjaim éppen megfelelő méretűek.
56. Belül (érzelmileg) üresnek érzem magam.
57. Tudok személyes gondolatokról, érzésekről beszélni.
58. Az élet legszebb évei azok, amikor az ember felnőtté válik.

59. Úgy gondolom, a fenekem túl nagy.
60. Vannak érzelmeim, melyeket nem tudok eléggé meghatározni
61. Titokban eszem vagy iszom.
62. Azt hiszem, csípőm éppen jó méretű.
63. Igen magas céljaim vannak.
64. Ha zaklatott vagyok, aggódom, hogy enni kezdek.

—

13.1.4 SCOFF kérdőív (SCOFF questionnaire)

Az alábbi kérdések az étellel való viszonyról illetve a testtel kapcsolatosak. Kérjük jelölje X-szel a megfelelő választ.

	igen	nem
Meghánytatja magát, mert kellemetlenül tele érzi magát?		
Aggódik amiatt, hogy elvesztette a kontrollt afölött, hogy mennyit eszik?		
Fogyott-e az utolsó három hónapban 5 kg-nál többet?		
Kövérenek érzi magát, amikor mások azt mondják, hogy túl sovány?		
Elmondhatja magáról, hogy az étel uralja az életét?		

—

13.1.5 The Short Evaluation of Eating Disorders questionnaire

Jelenlegi súly (kg): / Magasság (cm):

Fél attól, hogy kövér lesz, illetve meghízik?

- Soha
- Ritkán
- Néha
- Gyakran
- Mindig

Milyennek találja az alakját? (Kérem, jelölje meg, érzése szerint hol helyezkedik el a két végpont között)

	1	2	3	4	5	
túl sovány						túl kövér
vonzó						csúnya
Izmos						vézna
nőies (nő tölti ki)/ férfias (férfi tölti ki)						nem nőies (nőknél)/ nem férfias (férfiaknál)

Milyen gyakran alkalmazta a következő módszereket az elmúlt 4 hét során? (Kérem, jelölje meg az egyes válaszokat)

Egyáltalán nem=1
 Egyszer egy héten=2
 Legalább kétszer egy héten=3
 Naponta=4
 Többször egy nap=5

Falásroham

Hányás

Hashajtó használata

Diétázás vagy alacsony kalóriatartalmú étkezés

Intenzív sportolás

Elmaradt-e a menstruációja az elmúlt 4 hét során?

- Igen
- Nem
- Férfiakra nem vonatkozik

Szed fogamzásgátlót jelenleg?

- Igen
- Nem
- Férfiakra nem vonatkozik

—

13.1.6 A Megjelenéssel Kapcsolatos Szociokulturális Attitűdök Kérdőív (The Sociocultural Attitudes Towards Appearance Questionnaire, SATAQ-3)

Kérjük, olvassa el figyelmesen a következő állításokat, és karikázza be azt a számot, amely a legjobban tükrözi az állítással való egyetértésének mértékét!

Egyáltalán nem értek egyet=1

Inkább nem értek egyet=2

Semleges az álláspontom az állítással kapcsolatban=3

Inkább egyetértek=4

Teljes mértékben egyetértek=5

1. A TV műsorok fontos információforrások a divatról és arról, hogy mi a vonzó.
2. Úgy érzem, hogy a TV adások illetve a magazinok nyomást gyakorolnak rám, hogy fogyjak.
3. Nem törődöm azzal, hogy a testem úgy néz-e ki, mint a TV-ben szereplő embereké.
4. Összehasonlítom a testemet a TV-ben szereplő emberek testével.
5. A TV reklámok fontos információforrások a divatról és arról, hogy mi a vonzó.
6. Nem érzem úgy, hogy a TV vagy a magazinok nyomást gyakorolnak rám, hogy csinosan nézzek ki.
7. Bárcsak úgy nézne ki a testem, mint a magazinokban szereplő modelleké!
8. Összehasonlítom a megjelenésemet a TV és mozi sztárok megjelenésével.
9. A TV-ben sugárzott videóklippek nem tartoznak a fontos információforrások közé, ami a divatot és a vonzóságot illeti.
10. Úgy érzem, hogy a TV és a magazinok nyomást gyakorolnak rám, hogy sovány legyek.
11. Bárcsak úgy nézne ki a testem, mint a filmekben szereplő embereké!
12. Nem hasonlítom össze a testemet a magazinokban megjelenő emberek testével.
13. A magazinok cikkei nem fontos információforrások a divatról és arról, hogy mi a vonzó.
14. Úgy érzem, hogy a TV vagy a magazinok nyomást gyakorolnak rám, hogy a testem tökéletes legyen.
15. Bárcsak úgy néznék ki, mint a videóklippekben szereplő modellek!
16. Összehasonlítom a megjelenésemet a magazinokban szereplő emberek megjelenésével.
17. A magazinok reklámjai fontos információforrások a divatról és arról, hogy mi a vonzó.
18. Úgy érzem, hogy a TV vagy a magazinok nyomást gyakorolnak rám, hogy diétázzak.
19. Nem vágyom arra, hogy olyan kisportoltan nézzek ki, mint a magazinokban látható emberek.
20. Összehasonlítom a testemet a jó alakú emberek testével.
21. A magazinok képei fontos információforrások a divatról és arról, hogy mi a vonzó.
22. Úgy érzem, hogy a TV illetve a magazinok nyomást gyakorolnak rám, hogy testgyakorlást végezzek.
23. Bárcsak olyan kisportolt lennék, mint a sportcsillagok!
24. Összehasonlítom a testemet a kisportolt emberek testével.
25. A mozifilmek fontos információforrások a divatról és arról, hogy mi a vonzó.

26. Úgy érzem, hogy a TV illetve a magazinok nyomást gyakorolnak rám, hogy megváltoztassam a megjelenésemet.
27. Nem törekszem arra, hogy úgy nézzek ki, mint a TV-ben szereplő emberek.
28. A mozicsillagok nem fontos információforrások a divatról és arról, hogy mi a vonzó.
29. A híres emberek fontos információforrások a divatról és arról hogy mi a vonzó. 30. Arra törekszem, hogy úgy nézzek ki, mint a sportolók.

—

13.1.7 A Vonzóságról Alkotott Hiedelmek Skála módosított változata (Beliefs About Attractiveness – Revised, BAA-R)

Útmutató: Az alább felsorolt állítások társadalmi ítéletek a nők vonzóságáról.

Minden kijelentésnél kérem, karikázza be azt a számot, amelyik Ön szerint a leginkább igaz az adott állításra, az alábbi skála szerint:

1	2	3	4	5	6	7
Egyáltalán nem értek egyed velem			Egyet is értek velem meg nem is			Teljes mértékben egyedérték velem

Nagyon fontos, hogy minden kérdésre válaszoljon és minden válasza őszinte legyen.

1. Az emberek szívesebben randevúznak vékony, mint túlsúlyos nőkkel.
2. A túlsúlyos nőknek nem olyan fontos pénzt költeniük ruhákra, mert úgysem lesznek vonzók, akármit is viselnek.
3. Egy szép arcú nő, ha nem vékony alkatú, nem sokra viheti az életben.
4. A túlsúlyos nőkből hiányzik az önkontroll és a fegyelem.
5. Minél nagyobb súlyú egy nő, annál kevésbé vonzó.
6. A jó kondíció és a jó alak közvetlenül összefügg a vonzósággal.
7. Jó kondícióban levő és jó alakú nők jobban érzik magukat.
8. A nők számára a soványság képviseli a jelenlegi szépségideált.
9. A vonzó nők okosabbak, mint kevésbé vonzó társaik.
10. Egy nő minél jobb kondícióban van és minél job alakú, annál valószínűbb, hogy lesz szerelmi partnere.
11. A vonzó nők sokkal érdekesebbek és társaságkedvelőbbek, mint kevésbé vonzó társaik.
12. A nők számára nagyon fontos, hogy jó kondícióban legyenek, és jó alakjuk legyen.
13. A túlsúlyos nőknek szégyellniük kellene, hogy így néznek ki.
14. A vonzó nők teljesebb életet élnek, mint kevésbé vonzó társaik.
15. Minél vékonyabb egy nő, annál vonzóbb.
16. A vonzóság növeli a szakmai siker valószínűségét.

17. A nők számára a szépségideált a jó kondíció és a jó alak jelenti.
18. A jó kondíciójú és jó alakú nők magabiztosabbak.
19. Azok a nők, akik jó kondícióban vannak és jó alakúak, jobban élvezik az életet, mint azok, akik nem.

—

13.1.8 Rosenberg Önértékelés Skála (The Rosenberg Self-esteem Scale, RSE)

Az alábbiakban néhány állítást sorolunk fel azzal kapcsolatban, amit általában Önmagával kapcsolatban érezhet. Soronként egy választ jelöljön meg attól függően, hogy mennyire ért egyet az adott állítással.

Nagyon egyetértek=3 |Egyetértek=2 |Nem értek egyet=1 |Nagyon nem értek egyet=0

1. Általánosságban elégedett vagyok magammal.
2. Néha azt gondolom, hogy egyáltalán nem vagyok jó.
3. Úgy érzem, hogy számos jó tulajdonságom van.
4. Képes vagyok arra, hogy olyan jól tegyem a dolgaimat, ahogy azt az emberek többsége teszi.
5. Úgy érzem, nem sok mindenre lehetek büszke.
6. Néha meg vagyok győződve arról, hogy hasznavehetetlen vagyok.
7. Úgy érzem, legalább olyan értékes vagyok, mint mások.
8. Úgy érzem, hogy többre kellene tartanom magam.
9. Mindent egybe vetve egy csődtömeg vagyok.
10. Pozitívan értékelem, kedvelem magam.

—

13.1.9 A Fizikai Megjelenéssel Kapcsolatos Összehasonlítás Skála (The Physical Appearance Comparison Scale, PACS)

A következő skála segítségével kérjük, jelölje meg azt, mely legközelebb áll ahhoz, ahogyan érez.

Soha=1 |Ritkán=2 |Időnként=3 |Gyakran=4 Mindig=5

1. Bulik vagy más társas események alkalmával fizikai megjelenésemet mások fizikai megjelenéséhez hasonlítom.
2. A legjobb módja annak, hogy valaki megtudja, hogy túlsúlyos vagy sovány, ha saját alakját mások alakjával hasonlítja össze.

3. Bulik vagy más társas események alkalmával öltözetemet összehasonlítom azzal, hogyan vannak mások felöltözve.
4. Annak eldöntésére, hogy vonzóak vagyunk-e vagy sem, rossz módja az, ha önmagunk „kinézetét” mások „kinézetével” vetjük össze.
5. Társas események során alakomat néha más emberek alakjával hasonlítom össze.

—

13.1.10 Társas Összehasonlítás Skála (The Social Comparison Scale, SCS)

Kérjük, jelölje meg azt a számot, mely legközelebb áll ahhoz, ahogyan Önmagát látja másokhoz viszonyítva.

Például:

Alacsony		1	2	3	4	5	6	7	8	9	10		Magas
----------	--	---	---	---	---	---	---	---	---	---	----	--	-------

Ha a hármas (3) számot jelöli meg, az azt jelenti, hogy másoknál alacsonyabbnak látja magát, ha az ötös számot (5) (közép), jelöli meg, akkor átlagos magasságúnak tartja magát, ha a hetes (7) számot jelöli meg, akkor némileg magasabbnak tartja magát másokhoz képest. Amennyiben a fenti instrukciók érthetőek az Ön számára kérjük, töltsé ki a tesztet. Minden sorban egyetlen számot jelöljön be annak függvényében, hogy hogyan látja Önmagát másokhoz viszonyítva.

Másokhoz viszonyítva ilyennek érzem magam:

	1	2	3	4	5	6	7	8	9	10	
Alárendelt											Fölérendelt
Alkalmatlan											Hozzáértőbb
Nem szerethető											Szerethetőbb
Kirekesztett											Elfogadott
Eltérő											Ugyanolyan
Tehetségtelen											Tehetésegebb
Gyengébb											Erősebb
Kevésbé magabiztos											Magabiztosabb
Nem kíváncsi											Kíváncsibb
Kevésbé vonzó											Sokkal vonzóbb
Kívülálló											Beavatott