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Am I pretty enough?

**Influence of Instagram usage and appearance related Instagram
content on young women's body concerns in Serbia**

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Abstract

Given the fact that body issues constantly gain more importance under the pressure of social media rise, it was considered relevant to examine this problem more closely in Serbia, country where physical appearance plays a big part in one's life, especially among women and especially those younger ones. This paper therefore more precisely tested, through an online survey conducted on females aged 18 to 25 in Serbia, how them using Instagram in general, but also encountering content on Instagram which depicts female faces/bodies influences concerns about their own appearance. Based on cultivation theory and social comparison theory, the author hypothesizes that general Instagram usage and exposure to its female appearance related content causes greater body concerns, which is operationalized through three measures – body dissatisfaction, face/hair/skin discrepancies and body surveillance. Furthermore, this study examines whether appearance comparison tendencies among those young females who are exposed to this content mediate any connection between exposure to body- and face-related female posts on Instagram and body concerns among young woman who are exposed to them. Greater values of the latter have been associated with higher appearance comparison tendencies.

Keywords: body concerns, Instagram, appearance content, appearance tendencies, social comparison, cultivation theory

Abstrakt

Im Hinblick darauf, dass das Thema von Body Image unter dem Druck der reisenden Social Media Popularität ständig an Bedeutung gewinnen, wir sind der Meinung dass es wichtig wäre, dieses Thema zu erleuchten, und zwar in Serbien, dem Land wo das physische Aussehen eine große Rolle im Leben spielt. Das gilt besonders für Frauen und insbesondere für jene, die jünger sind. Deswegen ist das Ziel dieser Arbeit festzustellen, mittels einer Online-Umfrage verteilt unter 18 bis 25-jährigen Serbinnen, wie allgemeine Nutzung von Instagram sowie Konsumierung von spezifischem Instagram Inhalt, der weibliche

Körper/Gesichter abbildet, Sorgen um ihre eigenen Körper beeinflusst. Basierend auf die Kultivationshypothese und die Theorie des sozialen Vergleichs, die Autorin geht davon aus, dass die allgemeine Instagram Nutzung, sowie Begegnung mit dem weiblichen Aussehen-bezogenen Inhalt größere Körpersorgen verursacht, wobei der Begriff der Körpersorgen durch drei Elemente operationalisiert wurde: Körperüberwachung, Körperunzufriedenheit und Gesicht-, Haar- und Haut-Abweichungen. Weiterhin forscht diese Arbeit, ob die Tendenz zum Aussehensvergleich zwischen jenen Serbinnen, die das erwähnte Inhalt begegnen, die Beziehung zwischen Konsumierung solches Inhaltes und Körpersorgen vermittelt. Häufigere Begegnung solcher Inhalte wird mit größeren Körpersorgen verbunden.

Schlüsselbegriffe: Körpersorgen, Instagram, Aussehensinhalt, Aussehensvergleichstendenzen, Sozialvergleich, Kultivationshypothese

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1.Introduction

Social media have become one of the everyday necessities of modern life. Since the beginning of millennium we constantly witness their rise – MySpace and LinkedIn first appeared in 2003, followed by the birth of Facebook and Twitter in 2004 and 2006. According to the Global Digital Report 2018 made by We Are Social, approximately 3.196 billion people, i.e. almost half of the population worldwide use social platforms (Kemp, 2018). And although there has been a lot of controversy around this emerging phenomenon right from the start, not until *Instagram* was created in 2010 did the real discussion and concern began. It seems like its appearance was a turning point, not only because it led to creation of other, similarly shaped platforms such as *Pinterest* or *Snapchat*, but also because it caused an expansion of users, thus presenting social media world with a completely new wave of popularity. As a consequence, some arguments and doubts on privacy and security of the users' data on social networks arose. This was mostly a concern focused on children and younger users, who are generally more prone to threats and dangers that platforms of this kind could possibly contain. These threats only got bigger with time, taking over other age groups and spreading to other aspects of human life.

Among those aspects, distorted Body Image has generally become throughout the years a crucial construct of modern society and one of burning social problems. The importance of this has grown over the past years; on one side, a big change in understanding what is considered as “beautiful” surely has to get a huge part in blame; on the other side, the rise of social media undoubtedly helped in taking the issue to the next level. Plastic surgery created completely new beauty standards, both facial and body ones, which are very close to the questionable measures of thinness and distorted facial expressions. Media directly plays huge part in spreading these ideals to the bigger audience; being surrounded by them on a daily basis, viewers often find it difficult to resist,

adopting and internalizing offered body image and ideals, ending up looking like clones and not very successful copies of their social media idols, being dissatisfied and concerned about their looks. It has already been showed that among several SNS (Social Networking Sites) that people often use nowadays, Instagram holds the throne when it comes to the level of its detrimentalness to women's appearance concerns in comparison to other social media platforms (e.g. Fardouly and Vartanian, 2016; Holland and Tiggemann, 2016). Despite this, there are only a few studies dealing with this question on Instagram (f.e. Fardouly et al., 2018) – most of them are focused solely on Facebook, as a platform created significantly earlier. Therefore, it was considered important to fill this research gap by examining the direct association between Instagram and its dominant female appearance-related content and women's appearance related concerns and beliefs.

One more aspect that was aimed to be covered with this study is the question *if*, and if yes, *how* do comparison tendencies of the examinees, which could be at different level among young females, mediate this relation between the exposure to this Instagram content and their body concerns. More precisely, the author wanted to see if girls and young adult females who are more likely to compare themselves, i.e. in this case their appearance with those seen in content they consume on Instagram, develop bigger concerns about their looks than those who show less need to compare. Previous research shows that appearance comparisons to different target groups on Facebook are differentially associated with women's appearance concerns and self-objectification (Fardouly and Vartanian, 2015; Fardouly et al., 2015a).

An East European country located in the middle of Balkans, namely the Republic of Serbia, was taken as social and geographical context of the study, mostly because it was realized that there is almost zero research done generally regarding social media in Eastern Europe, not to mention regarding this particular social problem. In addition to this, it is important to notice that physical

appearance represents an important construct in the life of women in this country. Sample used for the study included solely young female adults from Serbia, aged 18-25, not necessarily having an Instagram account. However, it was hypothesized that those young ladies in Serbia who are using the platform, as well as those who are exposed to Instagram content depicting various females, (both famous and not famous ones) would feel more concerned about their physical appearance. Moreover, it was initially assumed that, among users often exposed to female-appearance depicting Instagram content, the ones who are more likely to compare themselves with others will develop greater body concerns than the ones who show less tendency towards this. The results were gained by conducting an online survey created via survey software SoSci Survey.

2. Previous research

Throughout the years, with the rise of technology and new media (Internet and its various platforms), the academic community tried to engage the newcomers in examining this growing social problem. We are all witness of the strong daily influence that SNS have on all aspects of our lives, but especially on certain social needs, such as being well represented publically and creating a good public image of yourself, what also includes physical appearance to a great extent. Social media, as the main player on the Internet side, therefore gained an important place in the eyes of academic workers. However, the vast majority of previously conducted research on the relation between media and body concerns in general covers traditional media such as television and magazines (especially fashion or fitness magazines) (Field et al. 1999; Taylor et al.; 1998, Tiggemann, 2003). Women's magazines, probably more than any other form of mass media, have a long history of being criticized as being advocates of an unrealistic thin ideal. Interestingly, there are some studies that focused solely on men and how the exposure to the media influence affects

their body image and/or eating concerns (Barlett et al. 2008; Carper et al. 2010), but this is a rather rare case. Very few examples concentrated on both sexes (Striegel et al. 2005; McCabe and Ricciardelli, 2003). Among them, only a few studies addressed this issue among preadolescent children (Vaughan and Fouts 2003; Sands and Wardle 2003; Dohnt and Tiggemann, 2006), whereas a significant amount of research regarding this question has been done on adolescent and young women (Keery et al., 2004; Grabe et al., 2008; Ata et al., 2007).

Later, when academia started including SNS in research as well, many researchers chose Facebook as a starting point, as a social networking site that emerged among the firsts (after My Space, which is not in use anymore). Their many attempts to link this SNS to the rising problem of body image concerns, dissatisfaction, eating disorders etc. showed that, for example online social grooming behaviors, such as viewing and commenting on peer's profiles, were significantly correlated with the drive for thinness for both female and male participants (Kim and Chock, 2015). Furthermore, conducting an experiment, Fardouly et al. (2015b) proved that participants who spent time on Facebook reported being in a more negative mood than those who spent time on some other, randomly chosen control website, but this will be more discussed later in the text. Moreover, some of the authors moved on to the concrete consequences of distorted body image and body concerns, claiming that both self-objectification and body dissatisfaction are important predictors of disordered eating and depression among young women (Paxton et al., 2006; Stice, 2002; Tylka and Hill, 2004). In fact, there is strong evidence from prospective studies that body image dissatisfaction is a causal risk factor for the evolution of eating disturbances (Cattarin & Thompson, 1994; Stice & Hoffman, 2004). Finally, a 2010 study found that 69% of American girls aged 5-12 say pictures influence their concept of ideal body shape and 47% report that images make them want to lose weight (Martin, 2010). In order to prevent this from further expansion, it

is important to detect whether there is such a negative influence of Instagram usage on girls' body concerns and indirectly their potential eating problems.

In conclusion, prior research on the relationship between Instagram and body concerns remains scant. There is one study conducted recently, in 2018, among young women in United States and Australia, which basically tried to examine the relationship between Instagram use and exposure to fitspiration images on this SNS on one side, and body concerns and self-objectification on the other. As a result, greater overall Instagram use was associated with greater self-objectification, and that relationship was mediated both by internalization and by appearance comparisons to celebrities; moreover, more frequent consumption of fitspiration images on Instagram was associated with greater body image concerns (Fardouly et al., 2018). Apart from this, there is not enough effort put into revealing how Instagram and its specific tools/features correlate with body image concerns. Besides, scarcely any academic work deals with the influence of SNS on youth in general in countries outside USA/UK/Australia, let alone with their impact on some specific mental aspects like the one tried to be explained here; the Eastern Europe region thus remains completely unexplored. This paper aims to fulfill this gap, and that by applying two already classic communication theories - the cultivation theory, formulated by George Gerbner, and classic Social Comparison Theory, defined by Leon Festinger in 1954.

3. Context: Serbia

The Republic of Serbia was used as social, cultural and geographical frame in this study out of several reasons. Firstly, beauty is in this country ranked as one of the most important values among females from their early age, which will be thoroughly explained in later text. Secondly, there is generally very few research covering social media in Eastern Europe, especially in this still non-

EU country that is now on its way of economic and political development and recovery from the 90's war and inflation crisis. Serbia, a country often credited as a land of great history, good food and beautiful women, is definitely an interesting sample to make a research on. With the total population of 7.000.000 and gross salary of 633 USD per capita (Statistical Office of the Republic of Serbia, 2018), this country has not (yet) become focus of tourists nor academic researchers. The social scene and usage of social networks is however - despite lower standard and level of development - very wide spread. Out of around 7 million Serbian inhabitants approximately 6,3 million uses Internet, and there are around 3,4 million Facebook users - meaning around 45% (Internet World Stats, 2017). When it comes to social media, using them is almost a "must", particularly among younger Serbians – 93% Serbian natives in a random sample admitted they have an account on some social networking site, while only 7% doesn't use them at all (Stanje drustvenih medija, 2018). Furthermore, among Serbian Internet population, the age category 16-24 years is the most common in having an account on social networks, with share of 96.4 % (Statistical Office of the Republic of Serbia, 2018). This means that almost every person belonging to this age group is a member of some social media community. When it comes to Instagram, this social platform gathered around 1.200.000 Serbian users in 2017 (Instagram u Srbiji – svi smo tu!, 2017); it is assumed this number has increased significantly by now. Among them the majority are females (650.000, Figure 1), and most of the users belong to the age category 18-34 (Instagram u Srbiji – svi smo tu!, 2017, Fig. 2).

Figure 1. Number and gender of Instagram users in Serbia, 2017.



Figure 2. Number of Instagram users in Serbia in 2017 placed in age categories



There is also a noticeable beauty standard generally in show-business, which, combined with the worldwide one, forms strong pressure on young girls. Similarities in female beauty ideals that dominate in the world and in this particular country consist of forcing thinness as an ideal female body shape, meaning long legs and round bottom without cellulite, as well as perfectly linear face

features - straight small nose, full lips, round eyes and emphasized cheekbones. What is however recognizable in Serbia, but not on the world beauty and fashion scene in general, is the popularity of big breasts. Dating back to the 90's, when folk music started overtaking music scene in Serbia, this trend rearing strong until today, being promoted by all generations of singers and actresses that followed. This look is, unfortunately, in most cases possible to achieve only with a help of a plastic surgeon, leading to the fact that plastic surgery in Serbia became even more affordable, which is why today every third Serbian girl has either lips or breasts. Even very young girls that are in the spotlight since their childhood start with plastic surgeries from an early age – they are even oft being gifted with a nose or breast job for their 18th birthday. Experts in this area also say that “girls often come with a picture of Kim Kardashian or Kylie Jenner, wanting to look like them... Women start making themselves prettier when they are around 18 years old, starting with a nose job. Popular is also breast enlargement, which is usually being done on 20-year-old girls” (Petrovic, 2018).

Daughters of Serbian celebrities are often a good example for that. After they turn 18, they immediately start looking significantly older than they actually are. For instance, the daughter of Serbian most popular singer Svetlana Raznatovic, Anastasija, is barely 20 years old, but she already lost weight and *brought her body to perfection*, and also had a nose, breast and lip job. Besides, she is posting pictures on a daily basis on Instagram with long, fake, shiny hair and full professional make-up. She has been followed by around 700.000 people on Instagram (Instagram, 2018). Another good example is Serbia's most prominent fashion blogger, Zorana Jovanovic (blogger name Zorannah). While many bloggers around the world promote more natural, no-make-up, skinny, rather model-like look, she has been persistent with visits to her plastic surgeon right from the start in 2011, which became even more regular with rise of her income. Starting with lips,

by this day she has enlarged them multiple times, adding recently breast operation to her collection of plastic surgeries, which is something she “had to do, because she never wears a bra and the gravity did its own thing, so in order to continue to live *braless*, she had to put silicone implants” (Q&A – operacija grudi, Zorannah YouTube Channel, 2018). Her army of followers counts 903.000 people. When it comes to other popular Instagram accounts, some of them are bloggers like Marija Zezelj (very skinny and pretty model, singer and YouTuber, 652.000 followers), Tamara Kalinic (blogger, who recently lost a lot of weight and also had multiple plastic surgeries, 700.000 followers), Selena Gomez (US-American singer and actress, 144.000.000), Ariana Grande (US-American singer, 139.000.000 followers), Kendall and Kylie Jenner (US-American reality personalities, models and make up-moguls, silicone queens, 100.000.000 and 121.000.000 followers), Kim Kardashian (reality TV star, another regular guest of plasticians, 122.000.000). All of them are being copied by thousands of teenagers and young adults in Serbia, who are then themselves posting pictures of them looking like some of these people they follow, thus creating unified Instagram environment.

Furthermore, it is also very interesting to emphasize differences in understanding beauty between races, nations and cultures. Research conducted in western societies speak loud for this. In many non-Western countries, particularly those less developed socioeconomically (e.g., in Africa), where people are not yet that exposed to technological achievements of modern society, plumpness is valued as a sign of health or fertility, and also denotes affluence. Under these circumstances, fatness would be seen as attractive and sexually appealing, while thinness would be considered as unattractive, precisely the opposite of Western beauty ideals. Consequently, earlier cross-cultural comparisons confirmed that adherence to the thin ideal was much lower in developing or non-Western societies, with commensurate low levels of body dissatisfaction and a virtual absence of

eating disorders; quite the opposite, body dissatisfaction was highest in the Americas (North and South) – McCibbin et al., 2010).

Finally, it is also important to consider the cultural context in which previous research has taken place. The overwhelming majority of studies have been conducted in Western countries, frequently in the U.S., with focus on predominantly Caucasian women (Fitzsimmons-Craft and Bardone-Cone, 2012; Forbes et al., 2012; Mellor et al., 2013). There is a persistent question about whether these findings apply to individuals of different racial and ethnic groups. What we however can be sure about, is that African-American women are less prone to be dissatisfied with their bodies than White women (Botta, 2000; Fitzsimmons-Craft and Bardone-Cone, 2012; Gillen and Lefkowitz, 2012), in light of different subcultural norms. This also speaks for the need to do more research on this question among white women, and more specifically among those in parts of the world who are usually not being covered by research work, such as Eastern Europe and Serbia.

4. Literature Review

4.1. Body concerns (dependent variable)

Body concerns are one of the rising problems of the society. As previously mentioned, social media helped in spreading this problem, especially among women, who are more common users. Plus, they are more sensitive to body-related topics. In order to examine the influence of Instagram and its content on this sample, we suggest operationalizing this concept using three components: body surveillance (or body monitoring), body dissatisfaction and face, hair and skin discrepancies. These elements were borrowed from several studies dealing with similar problem, and combined in order to create a construct of what we here named body concerns.

4.1.1. Body surveillance

Body surveillance is a concept derived from the Objectified Body Consciousness scale by McKinley et. al in 1996. This concept could be also called body monitoring, which is, according to Fredrickson & Roberts (1997), a symptom of self-objectification. Conceptually, body surveillance could be understood as a concern about one's own appearance, thinking about it, contemplating about it. Some authors would describe body surveillance, in other words, as a cognitive (e.g., thinking and worrying about appearance) and behavioral (e.g., primping) outcome of already mentioned concept of self-objectification (Aubrey, 2006). Simply explained, these two processes are closely related: whilst self-objectification is a personal perspective of one's own body, act of body surveillance could be understood as its manifest (Moradi & Huang, 2008). McKinley (1995) called this experience of the body as an object *objectified body consciousness* (OBC). Some researchers define it as a feeling that many women have, that they simply must constantly put an effort in order to ensure their body's compliance with the thin ideal (Thompson & Stice, 2001). Furthermore, thanks to this concept is that many women perceive the discrepancy between what they see and what they would ideally like to look like – meaning that body surveillance strengthen existence of some kind of parameter for assessing where we stand regarding some societal ideal – which often has negative consequences, such as dissatisfaction with the body (McKinley & Hyde, 1996). This is why we included body surveillance as one part of a larger problem named body concerns. To summarize, concept presents the frequency with which someone thinks about his own body, about the way he looks rather than how he feels, if comfort is more important to him than looks. Besides, it also includes contemplation on how one looks to other people around him, of what importance that is to him, and if the ability of one's body has more significance than its looks.

4.1.2. Body Image Dissatisfaction

Body image dissatisfaction is a well-known pervasive problem experienced by a large proportion of society (Polivy and Herman, 2002). This element of the body concerns concept reflects the belief that some body parts which are associated with shape change in puberty are too large (e.g. hips, thighs, buttocks, breasts), or rather too small. Our body changes with age and, by growing up, we notice differences between us and the others, which could cause comparing, initializing the ideal forced by the society in the particular moment, leading to increase in body dissatisfaction and ultimately, to other body image disturbances like anorexia nervosa (Garner and Garfinkel, 1980). Similarly, Crisp (1977) suggested that dieting in anorexia nervosa is a response to one's dissatisfaction with pubertal "fatness", which could only get worse in societies where thin ideal is everywhere and cannot be avoided. This problem in the case of Serbia would be examined according to the scale measuring body dissatisfaction by Garner et al. (1983), which includes a range of questions with the basis in one: is the person dissatisfied with different parts of her body, such as thighs, hips, stomach, buttocks etc. Finally, in line with the age group we focused on (18-25), research also suggests that the level of body dissatisfaction increases from childhood through adolescence into adulthood (Smolak & Levine, 2001 in: Fisher, Dunn, Thompson, 2002).

4.1.3. Face/Hair/Skin discrepancies

The increasing use of social networking sites may could also have an important effect on what components of appearance are being taken into consideration during appearance comparison process. For example, traditional media have focused primarily on the body, however social media have proved to take another path: in the case of Facebook, it has been found that women tend to upload more portrait pictures than full-bodied pictures (Haferkamp et al., 2012 in: Fardouly et al., 2015c). This means that women, by using SNS, have more opportunities to make face, skin,

and hair-related comparisons rather than body comparisons, which therefore creates bigger discrepancies between the current state of their face/hair and skin features and those presented as “ideal” in the society that surrounds them. Although most of the previous research examined solely body dissatisfaction-related problems stemming from social media, it has been concluded that more frequent facial comparisons may lead to more dissatisfaction with one’s facial features. Moreover, it has been suggested that facial features and hair are quite important aspects of attractiveness for women (Confer, Perilloux, & Buss, 2010; Hassebrauck, 1998; Jones, 2001 in: Fardouly et al. 2015b) and can be a basis for social comparison (Jones, 2001; Newton & Minhas, 2005; Richins, 1991 in: Fardouly et al. 2015b). This is why it is important to consider the potential impact of SNS on broader appearance constructs beyond just weight-related ones.

4.2. Instagram usage (independent variable)

Despite the fact that Facebook remains number one social networking site (SNS) among Americans (Smith & Anderson, 2018), Instagram is definitely one of the most popular and fastest growing social media platforms worldwide (Global social media research summary, 2016), with over one billion monthly active users in June 2018 (Statista, 2018b). With its exclusive focus on visual content and a colorful palette of user-friendly photo-editing features, it is an all-in-one package that attracts and communicates with the public of every race, age, gender, nationality and sexual orientation. From the very beginnings of the platform it was clear that it was set to be a success. Having reached one million users only in first two months after its launch (Desremaux, 2014), it quickly became extremely popular and therefore very influential social networking site. Instagram is particularly popular among young women (Perin, 2015), who report spending around 30 minutes per day on the site (Tiggemann and Zaccardo, 2015) and younger people - globally speaking, 41% of Instagram are 24 years old or younger (Statista, 2018b). Social media overall

attracts more women than men; for instance, the data regarding Facebook shows that besides having more friends on this platform, women also spend more time communicating with them (Acar, 2008; Sheldon, 2008); this is even more true when it comes to visual SNS like Instagram (Sheldon, 2015).

Not only did Instagram quickly become so popular, but it also generated creation of similarly conceived SNS such as Snapchat or Pinterest, which followed up in 2011. So what specifically lured people to download this app and create an account on it? Reasons for using this social media platform is a topic that has been highly spread across the academic circles and many have tried to determine what is exactly that what tempts so many people around the world to start using this platform. Lee et al. (2015) found that some of the possible reasons are social interaction, archiving, self-expression, escapism and peeking. Whilst Facebook, Twitter, back then also My Space included the possibility of expressing your thoughts both textually and visually, here you have only the latter option, but the creators wisely made this “flaw” Instagram’s biggest virtue, knowing that “pictures speak louder than words”, with photos “being a more appealing mean of self-presentation, self-expression and self-management than the textual content” (Lee et. al, 2015).

This is why it sounds rational that being frequently exposed to visual platforms like this one especially affects physical appearance issues, rather than simply surfing the web. Some research has already confirmed the assumption - in one experiment, women engaging more in appearance comparison tendencies reported more facial, hair, and skin-related discrepancies after Facebook exposure than exposure to the control website (Fardouly et al. 2015b). Furthermore, Tiggemann and Slater conducted two surveys (2013, 2014) on the effects of time spent on the Internet and Facebook among adolescent girls and preteenage girls, concluding that although the Internet has a relevance to the body image of adolescent girls, the time spent on social networking sites Facebook

and My Space produced stronger correlations with body image concerns than overall Internet exposure. The same results were obtained in a survey that was conducted on female university students (Fardouly and Vartanian, 2015b). One of the previous studies from this research field experimentally investigated the effect Facebook has on weight and shape preoccupation among women, whereby it was concluded that Facebook usage maintains women's preoccupation with their weight and shape compared to other Internet activity (Mabe et al. 2014). However, most of these studies are focused solely on Facebook and only a few (Fardouly et al. 2018) from this research field tested if the case is the same with Instagram – if there is a difference in body concerns level between those exposed to this platform and its content and those who do not use it.

4.2.1. Cultivation Theory

This classic theory of media and communication science was developed by George Gerbner (1919-2005) in the 1960s, when television was becoming the ultimate mainstream medium, entering the market after the Second World War and slowly becoming a regular household guest everywhere around the world. Given its emerging popularity and growing influence, Gerbner was brought to the thought of formulating a theory which would investigate television's contributions to viewers' conceptions of social reality (Morgan and Shanahan, 2010). Fast forward to the present day, the cultivation perspective is already a well-established theory; Bryant and Miron (2004) point out that cultivation is one of the three most-cited theories in mass communication research published in most prominent science journals in this field from 1956 to 2000 (Morgan and Shanahan, 2010). The basic idea of this theory is that watching television significantly influences viewers' perception of the real world. The cultivation analysis was formally defined as the “study of the relationships between institutional processes, message systems, and the public assumptions, images, and policies that they cultivate” (Gerbner, 1970). By more or less passionately sitting in

front of the magical TV box, we simply unconsciously let our thoughts, attitudes and opinions be affected and shaped by the most common messages of the fictional television. Those messages, being observed and therefore integrated on a daily basis, both audibly and visually equipped, have a great power of creating and/or altering already existing stereotypes, orientations, behaviors, images, beliefs, opinions etc. – which is named the process of cultivation - and all that through diverse cognitive processes. While Gerbner and colleagues were not very concerned with this psychological explanation of the theory, the others put an effort into trying to define the processes that underlie cultivation. In his studies, Shrum (2004) proposed heuristic model as psychological base and argued that two distinct cognitive processes underlie cultivation: On one hand, “Set size”/probability judgments (so called *first-order* measures) about the world are, according to him, memory-based and stem from heuristic processing. On the other hand, perceptions and attitudes (*second-order* measures) are formed *online*, or at this very moment. In both models, cultivation occurs at the moment of judgment, meaning at the moment of viewing for TV.

Meanwhile, scholars have tried to expand the range and focus of cultivation theory and research in many different directions, in the direction of spreading the theory to new media forms that emerged later throughout the years, meaning particularly social media which overtook the throne in the last decade, threatening to become the most used type of medium of all time, stronger than newspaper, radio or even television itself. Since that the latest statistics show that around 55.1% (4.2 billion people) of worldwide population are Internet users, and among them 3.4 billion are social media users (Statista, 2018a), it seems very likely that social media beat the classic electronic media (radio, television) in the fight for the first place. This is why it is extremely important to adapt the theory to the field of social media and determine what kind of influence the usage of this kind of medium has on its users, i.e. how cultivation happens in the case of SNS.

Eventually there have been some speculations about the future of cultivation process and the theory itself, and that mostly because of the threatening changes in the media environment that occurred since Gerbner and Gross's first studies. The question that many researchers hence ask regarding this problem is - how can cultivation deal with this? As some of the studies discussed here show, one response is to adapt the theory, which they did to some extent, by adding different genres to the field, but it is also questionable if there is still space for talking about cultivation in the era of Instagram, YouTube, Facebook, Twitter etc. The answer is however - yes. As long as there exist popular storytelling systems and platforms for sharing messages, Gerbner's main ideas are likely to persist (Morgan and Shahanan, 2010). The same as television and its alluring effects, social media are platforms for transmission of messages and stories, which, consciously or not, affect their recipients in many ways; it could be therefore assumed, although not confirmed, that in this situation cultivation also takes place.

RQ1: How does general Instagram usage affect body concerns?

Hypothesis 1a: Young female Instagram users will have higher level of body surveillance than non-users

Hypothesis 1b: Young female Instagram users will have higher level of body dissatisfaction than non-users

Hypothesis 1c: Young female Instagram users will have higher level of face/hair discrepancies than non-users

4.3. Mediating variables

4.3.1. Exposure to appearance-related content on Instagram

Exposure to appearance-related content on Instagram is the first variable that we believe could mediate the relation between Instagram usage and body concerns among users. In order to explain this we theoretically lean again on cultivation theory. The main direction of cultivation theory expansion on which researchers have been focusing so far is the genre-specific cultivation. Assuming that different types of content/programs, i.e. different genres cause differential effects on viewers' reality perceptions, they tested the ways people perceive specific topics according to the program they mostly follow on the TV. New program types, for instance, were widely examined: Kubic and Chory (2007) came to the conclusion that exposure to “makeover” programs has a negative relation to self-esteem and a positive one to “perfectionism” and “body dissatisfaction” (Morgan and Shanahan, 2010). Furthermore, Nabi (2009) found an interesting relationship between exposure to programs focusing specifically on cosmetic surgery and body image, which is related to the topic of this study – similarly, based on this founding it could be assumed that different types of social media content, in this case appearance related i.e. beauty related content, would have some kind of effect on body image.

Research has been already making an effort to define the beauty ideal that has been consistent throughout the years in the media, whereby it has been showed that media depiction of a female beauty ideal leads women to see this ideal as normative, expected, and central to attractiveness (Grabe, Ward and Hyde, 2008). Therefore, it could be assumed, based on cultivation theory, that exposure to these beauty ideals, i.e. the content promoting them, will significantly influence various life aspects of the exposed ones, including their own perception of their body and attitude towards it. The problem in this is that the dominant picture is extremely unreal and out of reach to

most, meaning that adopting this as a reality may lead to negative understanding of own body, but also to some high-risk eating behaviors aimed at meeting this ideal, such as dieting, skipping meals, and eventually to very serious eating disturbance problems such as anorexia and bulimia. Consequently, there have been more than 100 studies in this research field, whose findings not only demonstrate the proposed relation, but also provide strong evidence that body image disturbance really predicts eating pathology (e.g., Stice & Shaw, 2002 in: Grabe, Ward and Hyde, 2008).

Similarly, in line with the sociocultural theory of body image disturbance (Thompson et al., 1999), research has consistently found that exposure to media depictions of the thin-ideal in television and magazine images leads to thin-ideal internalization and appearance comparisons, resulting in body image concerns and eating disturbances in women (Grabe, Ward & Hyde, 2008; Groesz, Levine, & Murnen, 2002). Current societal beauty standards reinforce the desirability for thinness, which is then, according to this theory as well, accepted and internalized by many women, although impossible for most to achieve (Thompson et al., 1999). With content reinforcing thin ideal and plastic facial look among females, those Instagram posts are dominating the Internet at the moment, and we will take exactly this content as a genre-specific element in case of this social media platform and discuss its effect on young females' body concerns.

4.3.1.1. Instagram appearance related content (beauty ideals)

The aforementioned content that we take as our moderate variable number one is a product of modern society. Saved artefacts such as literature or art work demonstrate how aesthetic ideals of female beauty transformed noticeably throughout history. Each and every period of human history has its own differences and particularities. They change, evolve, adapt to also varying circumstances. The exact same happened with the phenomenon that we are here dealing with –

beauty ideals in society, or better said, how people saw beauty over time. For centuries a rounded abundant body - something that we would now perceive as fat - was considered sexually appealing and beautiful (Tiggemann, 2012). However, this has drastically changed ever since, particularly in the latter half of the twentieth century, when the societal beauty ideal for women in Western countries has become increasingly thin (Tiggemann, 2012). As academic work over the past two decades has demonstrated, a core component of idealized female beauty in Westernized societies is a thin body size, physically appealing and unrealistically thin (Tiggemann, 2011). From the iconic supermodel Kate Moss' famous quote "Nothing tastes good like skinny feels" to the statistic information about the sale of Barbie dolls counting estimated 3 billion dolls since their launch in 1959 until today (In Depth: Barbie by The Numbers (2009), these are all indicators of forcing thin-idealized image in the public, which can have detrimental consequences on multiple aspects of human psyche, making this one of the biggest social issues among various age and sex groups. Preferences regarding facial features have also transformed. Although we earlier had a constant shift in dominance of natural no make-up looks and over-the-top, colorful, emphasized both mouth and eyes look, it was always all about staying yourself under all that cover. But the start of the new millennium brought out an immense expansion of plastic surgery, which started altering the way we cope with our insecurities and inner problems. Ever since it has become an integral part of our everyday lives, populating perfectly lined, symmetrical facial features that now everyone strives for. The rise of social media only helped spreading these female beauty standards. They actually serve as an ideal platform for those who are, mostly for financial reasons, unable to change what they don't like on their faces or bodies by undergoing a plastic surgery. Using these media and broad filter palette they offer, they can *repair* whatever they want – a nose, lips, hair color, hips, but, thighs. Moreover, on the case of Facebook it has been shown that this platform, despite

featuring generally images of one's peers (Hew, 2011) in comparison to magazines who prevalently offer images of models and famous people (Halliwell and Dittmar, 2004), has the same negative effect on women's body dissatisfaction (Krones, Stice, Batres, & Orjada, 2005). Based on this it could be assumed that Instagram, a platform featuring both celebrity and peer-posted content that closely match to the idealized beauty image, will have the same influence on increase of body concerns of the users.

So where is this content to be seen? Most of the users are being commonly surrounded thanks to media by perfectly-looking, dashing celebrities who leave them no space for thinking twice about trying to "copy the look". Trends are then fast being taken over by a group of people closer to "ordinary people", but still a bit "above them" – namely influencers. Travel accounts are also being noticed as treasure boxes for increase of general dissatisfaction, feeling of jealousy/envy and misery about own life; beautiful people travel the world for free, staying in luxurious hotels, taking pictures and showing their bodies and happy life on a beach. Similarly, SNS serve as a base for promoting fitness trends, by being a platform for posting and reposting a content designed to inspire individuals to exercise and be healthy. This content is called "Fitspiration," commonly shortened to "fitspo," and presents the broad term used to describe a specific body model among both males and females. When it comes to females, #fitspo subjects presented on these photos usually adhered to thin or athletic ideal. This kind of content currently dominates Instagram, getting even more power by being copied and posted by Instagram's most powerful and influential users, such as Kim Kardashian, Kylie Jenner, Ariana Grande, Kaia Gerber, Kendal Jenner, Bella Hadid, Taylor Swift, Selena Gomez, Chiara Ferragni, Zendaya, Adriana Lima...As a consequence, Instagram ended up being the loudest agent of the thin-ideal and plastic surgery jobs, creating tension and concern among its users who are trying but find it difficult to achieve the presented

ideal. Ordinary users are at the end of the chain, simple *copiers* of mentioned content, who however have quite a strong role in this, being final advocated of the promoted content and convincing their family, friends, peers they should also look the same.

RQ2: How does the exposure to female appearance related Instagram content mediate the relationship between Instagram usage and body concerns?

H2a: Exposure to Instagram images of females and fitness, celebrity and travel accounts increase users' body surveillance

H2b: Exposure to Instagram female images and fitness, celebrity and travel accounts increase users' body dissatisfaction

H2c: Exposure to Instagram female images and fitness, celebrity and travel accounts increase users' face, hair and skin discrepancies

4.3.2. Mediating role of appearance comparison tendencies (Social Comparison Theory)

In the area of body image disturbance, a social comparison model has a solid ground and was frequently used in various types of research, ranging from basic laboratory to clinical intervention (Cash, 1996, 1997; Thompson, 1996 in: Fisher, Dunn & Thompson, 2002). Therefore the author proposed from this model deriving concept of appearance comparison tendencies for second moderating variable. The concept is defined based on classic social comparison theory, and it is here used in order to determine if there is any significant difference regarding body concerns between the ones who don't express the tendency to compare themselves with what they see on social media and those who lean more towards it.

A palette of academic work on sociocultural factors and body image has tried to enlighten the role that social comparisons play in explaining media effects on body image concerns. Some of the

authors who dealt with this question found out that societal body standards provide an ideal to which someone (in this case a young woman) compares himself when she watches his body (McKinley and Hide, 1996). This claim was formulated based on the classic social comparison theory, which suggests that people have an innate drive to compare themselves with others in order to determine their progress and standing on various aspects of their lives (which can include their physical attractiveness) (Festinger, 1954). Moreover, these comparisons have two possible forms: they can either be made by comparing ourselves with others deemed to be better off (upward comparisons) or worse off (downward comparisons) than oneself (Festinger, 1954). It is pretty straight-forward that upward comparisons can lead to negative consequences (e.g. higher body dissatisfaction), because one gets the feeling of being less worthy in every sense than his comparison target. Vice versa, it is believed that downward comparisons could have some positive consequences, such as lower body dissatisfaction (Leahey and Crowther, 2008). However, even though some positive effects of the comparison tendency could be assumed, research suggests that having a greater tendency to compare one's appearance to others in general (regardless of the direction of comparison) can rather be associated with negative outcomes (Fardouly et al., 2015a; Halliwell and Harvey, 2006; Keery et al., 2004). There has been even more previous research who confirmed this relation in the case of traditional media. In these studies, the tendency to engage in appearance-related social comparisons has been found to influence the relationship between exposure to traditional media and women's body dissatisfaction (Keery et al., 2004; Van den Berg et al., 2002). Furthermore, the correlation between the comparison frequency and the strength of effect on body image has also been confirmed: women who more frequently compare their appearance to others are also more negatively affected by exposure to the media, relative to women who do not make as many appearance comparisons (Dittmar & Howard, 2004). Of course, the

author wanted to take a step forward and test this relation not in case of traditional, but modern, social media - more specifically Instagram. This kind of research unfortunately remains scant. However, only those who showed high level of exposure to appearance-related content on Instagram, i.e. those highly exposed to Instagram pictures of females, both ordinary and celebrity ones, were taken into account for this hypothesis. The author wanted to see how this exposure combined with high appearance comparison tendencies correlate with body concerns elements.

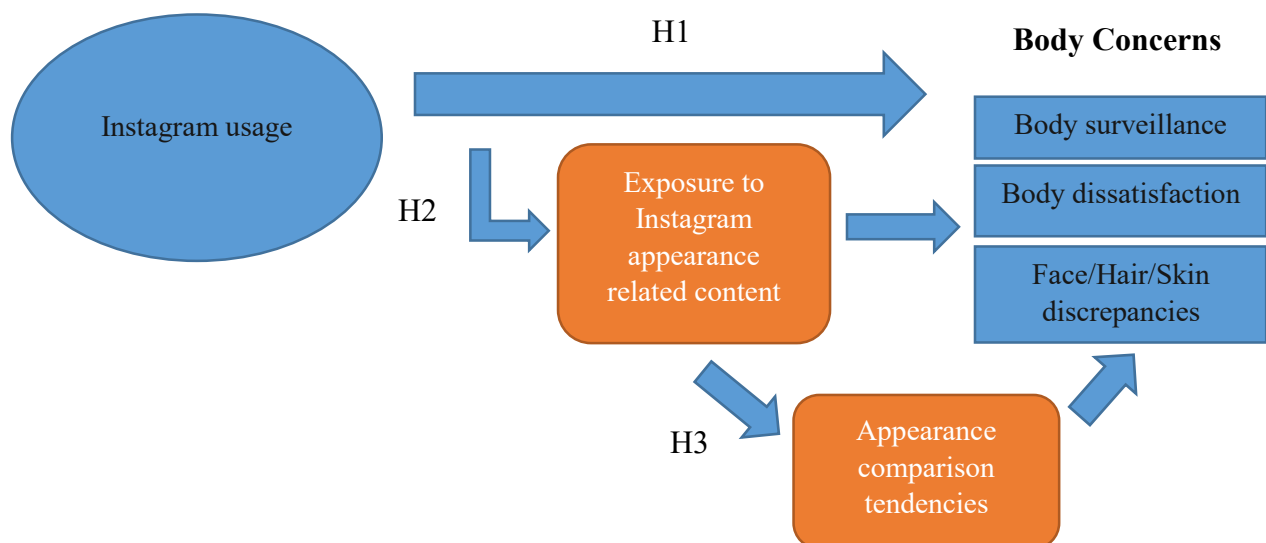
RQ3: How does the level of appearance comparison tendencies mediate the relation between exposure to female Instagram pictures and body concerns?

H3a: At higher level of exposure to Instagram pictures of females, higher appearance comparison tendencies among Instagram users lead to higher level of body surveillance

H3b: At higher level of exposure to Instagram pictures of females, higher appearance comparison tendencies among Instagram users lead to higher level of body dissatisfaction

H3c: At higher level of exposure to Instagram pictures of females, higher appearance comparison tendencies among Instagram users lead to higher level of face, hair and skin discrepancies

Figure 3. *Proposed research model*



5. Method

5.1. Online survey

Choosing an adequate research method is always an important step when writing a paper. In social science we differ two big methodological groups: quantitative and qualitative methods. Among various types of both method groups, what is most common in quantitative research are surveys, quantitative experiments and quantitative observation. Survey is by far the most used research method in empirical social sciences (Lederer, 2015). It could be oral, written or online. This is the “to-go” method when it comes to questions where we need direct answers about attitudes or experiences of participants (Lederer, 2015). Nowadays there is a large number of survey-creating online software such as Google Forms or SoSci - which is the one used in this study – that allow us to create our own survey using very simple but numerous tools and options. Besides that, some of the main advantages of this method include: easy access to individuals in remote locations, the ability to reach participants who are difficult to get in touch with, and all that from comfort of your home; to name few more, the convenience of having automated data collection which could be downloaded from the survey-creating platform anytime, which significantly reduces researcher’s time and effort. However, some disadvantages of online survey research include uncertainty over the validity of the data and sampling issues, concerns surrounding the design, implementation, and evaluation of an online survey (Wright, 2005). In order to examine aforementioned relations, we suggest an online survey as our choice of methods in this case. Although we are aware of the flaws, we consider this method as the most convenient based on our research questions and working conditions: this is a study to be conducted on a sample from Serbia, with researcher being based in Vienna, Austria. In order to have access to this sample, an online-based method must be chosen. However, we haven’t opted for online (skype) interviews, mostly because we want to cover a

larger scope of cases and opinions, which is manageable only by conducting a survey or giving out printed questionnaires. Since the researcher wasn't able to be physically present in this country during the process of working on this study, an online survey was the most convenient choice.

The survey was created via a survey-creating software SoSci (<https://www.soscisurvey.de/>), which is survey-creating software made in Germany. The questionnaire was divided into four large sections: sociodemographic, general Instagram questions, body surveillance/body dissatisfaction/face, hair, skin discrepancies questions and, finally, questions on appearance comparison tendencies (see Appendix). The survey was active and open for participation for three weeks at the end of January and beginning of February 2019. Participation was completely on a voluntarily basis, with a chance of winning an H&M shopping voucher in a raffle.

5.2. Sample

The sample was expected to be made of around 400-500 females from Serbia, aged 18 to 25, which refers to the social category of young female adults. As previously mentioned in the part about the Instagram usage, previous research has showed that social media is being rather used by females than males, especially by younger ones. Previous work in this research field found strong connections between SNS usage and body concerns among young females (see: *Previous Research*). This is why we focused on this gender and age group when choosing our sample. In the end, the total number of completed questionnaires was 578 [N=578 records are used, meeting the following criteria: 1. Context: Interview; 2. Interview progress: Reached last page (FINISHED)].

Participants were firstly contacted, i.e. recruited through personal contacts of the researcher, who contacted them through Facebook, phone number, mail address and WhatsApp. Further, they were

asked to forward the link to their personal contacts. In this first phase around 120 participants were collected. In the second phase the survey link was posted in multiple Facebook high school, secondary school, university and random leisure time groups referring to the people from Serbia, with a notion that the survey should be filled out only by females 18-25. In this phase the rest of the completed surveys was collected.

However, since there were three sociodemographic filter questions (What is your gender, how old are you, what is your nationality), a total number of questionnaires valid for this study was reduced after removing those who didn't pass these filter questions, i.e. who finished the survey immediately after sociodemographic part, because they didn't meet some of the sample criteria. After removing those, the final number of participants belonging to the needed sample, whose opinions were used in the statistical analysis was 467.

5.3. Measures

5.3.1. Demographics. Participants were asked to report age, gender, nationality, monthly income, employment status, place of residence, level of education and type of household they live in (rural or city).

5.3.2. Instagram usage. First questions coming after the demographic ones are those on the first independent variable – Instagram usage. On the question „Do you have an Instagram account?“ participants could have answered with either *yes* or *no*. Since this is a filter question, those who answered with *no* skipped questions on length and frequency of using it and were forwarded to the next relevant page. Those who clicked *yes* encountered questions with one possible answer, like „How long have you been having an account“, with responses recorded on a 6-point scale (0-6 months, 6-12 months, 1-2 years, 2-3 years, 3-4 years, more than 4 years), and „How much time do

you spend on Instagram on a daily basis“ (0-1 hour, 1-2 hours, 2-3 hours, 3-4 hours, more than 4 hours). The 7-point account-checking scale from Cohen, Newton-John and Slater (2017) was used in the question about the amount of times users check their respective Instagram accounts daily: hardly ever, 1 or 2 times, 3–5 times, 5–10 times, 11–15 times, 15–20 times, more times than I can count. The last question in this group was the one with typical Instagram pictures depicting *ideally* looking girls, where all participants gave their opinion on them, with items like “My opinion is that these girls are overall beautiful”, “these girls are too thin”, “They have nicely shaped body”, “I don’t like their look at all” etc., with 7-point scale responses (1- I completely disagree, 7- I completely agree).

5.3.3. Exposure to Instagram appearance related content. Regarding this variable, the first question is „How often do you see this kind of photos on Instagram, like the ones you just saw?“, related to the previous question on presented Instagram pictures (1 – never, 7 – very often). Participants were also asked how often they follow three categories of Instagram accounts: health and fitness (e.g. Fitness bloggers, diet plans), celebrities and influencers and finally, travel accounts (Cohen et al. 2017). Responses were recorded on a 7-point scale (1 = never, 7 = very often).

5.3.4. Appearance Comparison Tendencies. The Upward Appearance Comparison Scale (UPACS; O’Brien et al., 2009) was borrowed to measure participants’ tendencies to compare their overall appearance with that of others. Participants indicated their level of agreement on a 7-point scale (1 = strongly disagree, 7 = strongly agree) with 10 statements on comparisons to people who look better (upward comparison) than themselves. We used only UPACS and left out the downward comparison (comparisons to less good-looking people), because we take beauty ideals on Instagram as a starting point, i.e. parameter for comparison. Some of the items from the scale

are: “I tend to compare myself to people I think look better than me”, “When I see a person with a great body, I tend to wonder how I ‘match up’ with them”, “At the beach or athletic events (sports, gym, etc.), I wonder if my body is as attractive as the people I see there with very attractive bodies” etc.

5.3.5. Body surveillance. As already mentioned, body surveillance is a concept derived from the Objectified Body Consciousness scale by McKinley et. al in 1996. Body surveillance is only one part of this scale, according to them. “I rarely think about how I look”, “I often worry about whether the clothes I am wearing make me look good” or “I rarely worry how I look to other people” are some of the items included in the scale measuring this element, which participants had a chance to express their agreement with on the scale from 1- I completely disagree, to 7- I completely agree.

5.3.6. Body dissatisfaction. The whole scale regarding this body concern element was taken from the EDI (Eating Disturbance Inventory). EDI is a 64 item, self-report, multiscale measure designed for the assessment of psychological and behavioral traits common in anorexia nervosa (AN) and bulimia (Garner et. al, 1983). Although EDI consists of eight subscales, we only took the one for body dissatisfaction, to which we added two *breasts* items. The items are following: I think my stomach is too big; I think my thighs are too large; I think my stomach is just the right size; I like the shape of my buttocks; I think my hips are too big; I think my thighs are just the right size; I think my buttocks are too large; I think my hips are just the right size; I think my breasts are too small; My breasts should be smaller size (7-point scale responses 1- I totally disagree; 7- I completely agree).

5.3.7. Face/Hair/Skin discrepancies. The state version of the Self-Discrepancy Index (SDI; Dittmar, Beattie, & Friese, 1996; Halliwell & Dittmar, 2006) was borrowed in order to measure,

in case of this particular study, face, hair, and skin-related appearance discrepancy (weight and shape-related discrepancies were left out in this study, albeit internal components of the original index, because we already deal with body problems in the previous questions, and in this one we wanted to focus exclusively on facial features). In this section, participants were first asked to select some aspects of themselves that they would ideally like to change right now, with the selection being narrowed down to facial features, hair style/color/quality, skin elements such as complexion and tan and, finally, neutral answer *nothing, I am satisfied with all of those*. For each aspect reported, on 4-point scales participants were asked to rate how different they would like to be from what they actually are (magnitude; 1 = zero different, 4 = extremely different).

6. Results and Discussion

6.1. Sociodemographic

When it comes to sociodemographic characteristics of the acquired sample, all of the 467 participants were females (male participants were removed since not belonging to the target group), they were all Serbians (other nationalities removed because of the same reason), and regarding their age, 29.1% belong to the age group 18-21 and 70.9% to the group 22-25 (Table 1).

Table 1. *Age of Participants*

SD01

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-21 years old	136	29.1	29.1	29.1
	22-25 years old	331	70.9	70.9	100.0
	Total	467	100.0	100.0	

Regarding their level of education (Table 2), the majority of participants is well-educated. Most of them (41.3%) have Bachelor degree as the highest completed education level so far. There were also quite lot of those with completed either high school (25.5%) or specialized secondary school (24.4%), who are probably now pursuing their Bachelor's degree. Only 1.7% of the whole sample have until now completed only elementary school (which are presumably 18-year-old participants), while 7% of them have already gained their Master's degree. None of them has completed PhD degree, which makes sense, given the fact that the upper age limit was 25.

Table 2. *Participants' level of education*

SD04

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Elementar y school	8	1.7	1.7	1.7
	High school	119	25.5	25.5	27.2
	Spec. secondary school	114	24.4	24.4	51.6
	Bachelor degree	193	41.3	41.3	92.9
	Master degree	33	7.1	7.1	100.0
	Total	467	100.0	100.0	

Employment status was the next questioned demographic category. The absolute majority of the participants said they are students (65.3%; Table 3). These are followed by those studying and working at the same time (10.9%), and those full-time employed (10.3%). There were only 21

pupils in the sample. Also an insignificant number of participants is unemployed, self-employed and part-time employed.

Table 3. *Employment status of the participants*

SD05

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Unemployed	24	5.1	5.1	5.1
	Student	305	65.3	65.3	70.4
	Self-employed	7	1.5	1.5	71.9
	Part-time employed	11	2.4	2.4	74.3
	Full-time employed	48	10.3	10.3	84.6
	Studying and working	51	10.9	10.9	95.5
	Pupil	21	4.5	4.5	100.0
	Total	467	100.0	100.0	

Monthly income didn't show any surprising results. Most of the participants have an average income for Serbia, belonging to either 200-400e (24.6%) or 400-600e (25.5%) category (Table 4). Significant number of them didn't want to answer the question (16.5%), and the rest was placed in other categories.

Table 4. *Monthly income of the participants*

SD07

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-200e	54	11.6	11.6	11.6
	200-400e	115	24.6	24.6	36.2
	400-600e	119	25.5	25.5	61.7
	600-800e	65	13.9	13.9	75.6
	800-1000e	37	7.9	7.9	83.5
	More than 1000e	77	16.5	16.5	100.0
	Total	467	100.0	100.0	

When it comes to the type of household they live in, as to be seen in Table 5, participants in this survey primarily live in city area (86.9%). The rest of them live in out-of-city, rural households.

Table 5. *Type of household participants live in*

SD08

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	rural	61	13.1	13.1	13.1
	city	406	86.9	86.9	100.0
	Total	467	100.0	100.0	

Finally, the question about the place of residence didn't show very much difference than last question, regarding the proportions belonging to each variable group. Table 6 shows that the majority of sample stated they live in Serbia (92.3%), with only 7.7% who chose "other" country than Serbia as their current place of residence.

Table 6. *Participants' place of residence*

SD09

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Serbia	431	92.3	92.3	92.3
	other	36	7.7	7.7	100.0
	Total	467	100.0	100.0	

6.2. Instagram usage questions

The first question coming right after the sociodemographic ones, which was showed to those who passed all of the filter questions in the first part, proving they belong to the sample of importance for this study, was the question on usage of Instagram. As expected, almost all of the participants (87,4%) possess an Instagram account (Table 7).

Table 7. *Participants with and without an Instagram account*

IU01

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	With Instagram	408	87.4	87.4	87.4
	Without Instagram	59	12.6	12.6	100.0
	Total	467	100.0	100.0	

Follow-up was the question on the length of having an Instagram account. Since the previous question was a filter one, the next ones on details of usage were received and answered only by those who said they possess an Instagram account (number of 408 participants, Table 7). Surprisingly, as we can see in the Table 8, it is noticeable that the biggest part of the sample (35.3%) admitted they have been having an account on Instagram for more than 4 years, followed

by those who have been using it 2-3 years (25.3%). This means that our sample is mainly consisted of old Instagram users, while the new ones (those using it for two years and less) don't make a relevant part of the sample.

Table 8. *Length of having an Instagram account*

SD10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-6 months	15	3.2	3.7	3.7
	6-12 months	26	5.6	6.4	10.0
	1-2 years	62	13.3	15.2	25.2
	2-3 years	83	17.8	20.3	45.6
	3-4 years	78	16.7	19.1	64.7
	More than 4 years	144	30.8	35.3	100.0
	Total	408	87.4	100.0	
Missing	System	59	12.6		
Total		467	100.0		

When it comes to the amount of time that Instagram users in the collected sample spend on Instagram on a daily basis (Table 9), most of them revealed they usually spend between 1 and hours (32.6%) and 2-3 hours per day (25%). It is not to neglect that 17.4% answered they use this platform more than 4 hours daily.

Table 9. *Time spent using Instagram daily*

IU03rec

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-1h	63	13.5	15.4	15.4
	1-2h	133	28.5	32.6	48.0
	2-3h	102	21.8	25.0	73.0
	3-4h	39	8.4	9.6	82.6
	More than 4 hours	71	15.2	17.4	100.0
	Total	408	87.4	100.0	
Missing	System	59	12.6		
Total		467	100.0		

Hand in hand with the data accumulated in the previous two questions go results of the question regarding the frequency of checking the account, meaning how often/how many times a day Instagram users from the sample check their respective Instagram accounts. The results are, as presented in Table 10, not so shocking: 29.4% said they log in onto the platform 6-10 times a day, while 27.3% admitted they check the account more times than they can count.

Table 10. *Frequency of checking Instagram account*

IU08

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Hardly ever	10	2.1	3.0	3.0
	1 or 2 times	32	6.9	9.5	12.5
	3-5 times	57	12.2	16.9	29.4
	6-10 times	99	21.2	29.4	58.8
	11-15 times	47	10.1	13.9	72.7
	More times than I can count	92	19.7	27.3	100.0
	Total	337	72.2	100.0	
Missing	System	130	27.8		
Total		467	100.0		

6.3. Hypothesis 1a

In order to test hypothesis H1a, one-way ANOVA test has been applied. Respondents have been divided into two groups, Instagram users and non-users, therefore, independent samples t-test has been an option for analysis as well, because one variable was tested among two different sample groups. However, in this case we used ANOVA. As all respondents belonged to the target group – female and young respondents (18 – 25 years of age), because those who didn't were excluded due to sociodemographic filter questions - Instagram usage has been applied as the only grouping variable. As indicated in Table 7, 467 responses have been taken into analysis, whereas 408 respondents (87.4%) have been Instagram users and 59 respondents have been non-users (see Table 7.)

Firstly, in order to compare Instagram users and non-users in terms of body surveillance, internal consistency of the construct has been examined. Internal consistency is an assessment of how reliably sets of items measure a construct they are designed to measure. Most commonly reported measure of internal consistency is Cronbach's Alpha coefficient. It covers a range of values between zero and one, whereas values which are higher than 0.70 are commonly accepted as a sign of acceptable reliability. Cronbach's alpha coefficient, being higher than the cut-off value of 0.70 (Hair et al., 2010), indicates an acceptable consistency of body surveillance scale, due to which it has been possible to compute the construct of body surveillance as a mean value of corresponding items. Cronbach's alpha coefficient, for the construct of body surveillance and its value in case of item deletion is presented in Table 11 and Table 12. Cronbach's alpha in case of item deletion indicates that none of the items has been a candidate for deletion, as the deletion of any of items in the scale would lower this coefficient (Table 12).

Table 11. *Internal consistency of the body surveillance scale*

Reliability Statistics

Cronbach's Alpha	N of Items
.800	7

Table 12. *Cronbach's alpha if item deleted – Body Surveillance*

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BC01_01R	23.33	47.955	.499	.780
BC01_02R	25.31	44.614	.542	.772
BC01_03R	25.70	45.258	.588	.764
BC01_04	24.41	44.672	.553	.769
BC01_05	24.22	44.179	.572	.766
BC01_06R	24.69	45.666	.480	.784
BC01_07R	25.22	46.793	.486	.782

After determining the validity of the used scale, next step was the ANOVA test comparing Instagram users and non-users in the collected sample regarding their body surveillance level. Results of the analysis indicate that there is **no statistically significant difference** between young female (18 – 25 years of age) Instagram users and non-users ($F(1, 465) = .093$, $\text{Sign.} > .05$), in terms of body surveillance, as presented in Table 13. Results of one-way ANOVA test indicate that we cannot reject the null hypothesis of the equality of means between two groups of respondents, Instagram users and non-users.

Table 13. *Analysis of body surveillance level between young female Instagram users and non-users*

ANOVA

body surveillance

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.121	1	.121	.093	.760
Within Groups	604.369	465	1.300		
Total	604.490	466			

Statistically insignificant value of Levene's statistic, as presented in Table 14, indicates that the assumption of the homogeneity of variance, which is required for the application of one-way ANOVA test, has been met.

Table 14. *Homogeneity of variance in body surveillance scale*

Test of Homogeneity of Variances

body surveillance

Levene Statistic	df1	df2	Sig.
.263	1	465	.609

6.4. Hypothesis 1b

Hypothesis H1b has been examined on the same sample of 467 young female respondents, whereby 408 respondents belonged to the group of Instagram users and 59 respondents were non-users.

Prior to the analysis of eventual differences in terms of body dissatisfaction among young female Instagram users and non-users, internal consistency of the scale of body dissatisfaction has been examined. Coefficient Cronbach's alpha, being higher than the acceptable lower threshold of reliability of 0.70 (Hair et al., 2010), as presented in Table 15 and Table 16, indicates acceptable internal consistency of the scale, due to which in the following step the construct of body dissatisfaction has been calculated as a mean value of corresponding items.

Table 15. *Internal consistency of the Body Dissatisfaction Scale*

Reliability Statistics

Cronbach's Alpha	N of Items
.775	10

Table 16. *Cronbach's Alpha if Item deleted – Body Dissatisfaction*

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BC02_02	26.54	97.314	.561	.739
BC02_03	26.66	93.402	.675	.722
BC02_04R	25.94	98.866	.518	.745
BC02_05R	27.19	109.166	.364	.765
BC02_06	27.54	100.833	.557	.741
BC02_07R	26.19	96.900	.595	.734
BC02_08	27.93	106.434	.517	.749
BC02_09R	27.03	98.902	.596	.736
BC02_10	26.94	124.126	-.069	.824
BC02_11	28.32	116.373	.202	.781

Although Cronbach's Alpha if Item Deleted in case of two last indicators of body dissatisfaction (BC02_10, BC02_11) indicated possible improvement of overall reliability in case that these items get excluded, due to overall acceptable level of internal consistency these items have been retained in the analysis and taken into account in the calculation of body dissatisfaction construct. The aforementioned construct has been calculated as the mean value of corresponding items.

In the following step one-way ANOVA test has been performed in order to examine statistical significance of the difference in terms of body dissatisfaction among young female Instagram users and non-users. Results of one-way ANOVA test, as presented in Table 17, indicate that there is **no statistically significant difference** in terms of body dissatisfaction among two groups of respondents, young female Instagram users and non-users ($F(1,465)=.177$, $\text{Sign.}>.05$). Therefore, we cannot reject the null hypothesis of the equality of means between two groups of respondents.

Table 17. *Analysis of body dissatisfaction level between young female Instagram users and non-users*

ANOVA

Body dissatisfaction

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.223	1	.223	.177	.674
Within Groups	584.802	465	1.258		
Total	585.025	466			

Statistically insignificant value of Levene's statistic, as presented in Table 18, indicates that the assumption of the homogeneity of variance among groups has been met, which allowed for the application of ANOVA test.

Table 18. *Homogeneity of variance in body dissatisfaction scale*

Test of Homogeneity of Variances

Bodydissatisfaction

Levene Statistic	df1	df2	Sig.
2.422	1	465	.120

6.5. Hypothesis 1c

Firstly, the following frequency tables (Table 19 and Table 20) show how many features have been the source of respondents' dissatisfaction and the extent of that dissatisfaction, regardless of their Instagram usage or non-usage. As we can see in Table 19, most interviewees (51.8%) selected only one option among 3 (+ the neutral one – *I am satisfied with everything*), in answering the question which feature – facial, hair or skin – would they change right now (they could choose more than one option). When it comes to the level of these discrepancies between how they look

now and how much they want to look different, the answer is – not much. The discrepancies are therefore not big as showed in Table 20 – more than one half of the participants (52.5%) would like to look only a little different than they look now in terms of mentioned features. Hence we could say that the participants are generally satisfied how their face, hair and skin look.

Table 19. *Number of checked options in Face/Hair/Skin discrepancies*

BCO3_FACE,HAIR,SKIN DISCREPANCIES

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NONE	150	32.1	32.1	32.1
	1 OPTION CHECKED	242	51.8	51.8	83.9
	2 OPTIONS CHECKED	65	13.9	13.9	97.9
	3 OPTIONS CHECKED	10	2.1	2.1	100.0
	Total	467	100.0	100.0	

Table 20. *Level of Face/Hair/Skin discrepancies*

NOVA IU07

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ZERO DIFFERENCE	104	22.3	22.3	22.3
	A LITTLE	245	52.5	52.5	74.7
	AVERAGE	100	21.4	21.4	96.1
	EXTREMELY	18	3.9	3.9	100.0
	Total	467	100.0	100.0	

The author also thought that it could be interesting to see which option was checked the most among Instagram, and which one among non-Instagram users, i.e. what they are most dissatisfied with. Table 7 earlier above shows the proportion of Instagram users and non-users in the sample.

It was assumed that there are some significant differences between those regarding this question. However, the results provided some unexpected information – Instagram users would in most cases (31.6%, Table 22) primarily change their hair elements, such as quality, color, volume. Surprisingly, Instagram users would rather change skin (30.6%, Table 23) than facial features (Table 21).

Table 21. *Instagram users and facial features discrepancies*

NOVA BC03_01^a

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not checked	306	75.0	75.0	75.0
	checked	102	25.0	25.0	100.0
	Total	408	100.0	100.0	

Table 22. *Instagram users and hair discrepancies*

NOVA BC03_02^a

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not checked	279	68.4	68.4	68.4
	checked	129	31.6	31.6	100.0
	Total	408	100.0	100.0	

a. IU01 = 1

Table 23. *Instagram users and skin features discrepancies*NOVA BC03_03^a

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not checked	283	69.4	69.4	69.4
	checked	125	30.6	30.6	100.0
	Total	408	100.0	100.0	

a. IU01 = 1

When it comes to the group of non-Instagram users, out of 59 non-users in the sample, the similar proportion chose facial- and hair features – 32.2% each (Tables 24, 25). Only 13.6% would change something about their skin (Table 26), and the rest selected the neutral option “I am satisfied with everything”. The most surprising difference is that those who do not use Instagram have greater wish to change their nose, lips or cheekbones than those who are using the platform.

Table 24. *Non-Instagram users and facial features discrepancies*NOVA BC03_01^a

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not checked	40	67.8	67.8	67.8
	checked	19	32.2	32.2	100.0
	Total	59	100.0	100.0	

a. IU01 = 2

Table 25. *Non-Instagram users and hair discrepancies*NOVA BC03_02^a

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not checked	40	67.8	67.8	67.8
	checked	19	32.2	32.2	100.0
	Total	59	100.0	100.0	

Table 26. *Non-Instagram users and skin features discrepancies*

NOVA BC03_03^a

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not checked	51	86.4	86.4	86.4
	Checked+	8	13.6	13.6	100.0
	Total	59	100.0	100.0	

a. IU01 = 2

Back to the hypothesis, in order to examine eventual differences among Instagram users and non-users regarding face, hair and skin discrepancies, taking into account the level of those, a new variable has been calculated (BCO3_FACE, HAIR, SKIN DISCREPANCIES) at first. The variable has been calculated as the sum of a number of checked options per respondent, whereas initial coding (checked = 2, not checked =1) has been recoded first into new values (checked = 1, not checked =0). In the following stage the variable BCO3_FACE, HAIR, SKIN DISCREPANCIES has been multiplied by a recoded IU07_N variable (1-a little, 2-average, 3-extremely, 0-zero), thus resulting in new variable BC03IU07 (BCO3_FACE, HAIR, SKIN DISCREPANCIES * IU07_N), which has been used for ANOVA analysis in the case of this hypothesis, together with the grouping variable IU01.

One-way ANOVA test has been applied to examine statistical significance in terms of face, hair and skin discrepancies among young female Instagram users and non-users. Results of the test indicate that there is **no statistically significant difference** between these two groups of young females in terms of how different they want their face, hair and skin characteristics to be than how they are right now ($F(1,465)=.362$, Sig.>.05), as shown in Table 27.

Table 27. *ANOVA Test for Face, Hair and Skin discrepancies*

ANOVA

BCO3_FACE,HAIR,SKIN SUM MULTIPLIED BY IU07_N

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.613	1	.613	.362	.548
Within Groups	787.262	465	1.693		
Total	787.876	466			

Statistically insignificant value of Levene's statistic indicates that the assumption of the homogeneity of variances among the groups has been met, as presented in Table 28, which allowed for the application of ANOVA test.

Table 28. *Homogeneity of variance – Face, Hair and Skin discrepancies*

Test of Homogeneity of Variances

BCO3_FACE,HAIR,SKIN SUM
MULTIPLIED BY IU07_N

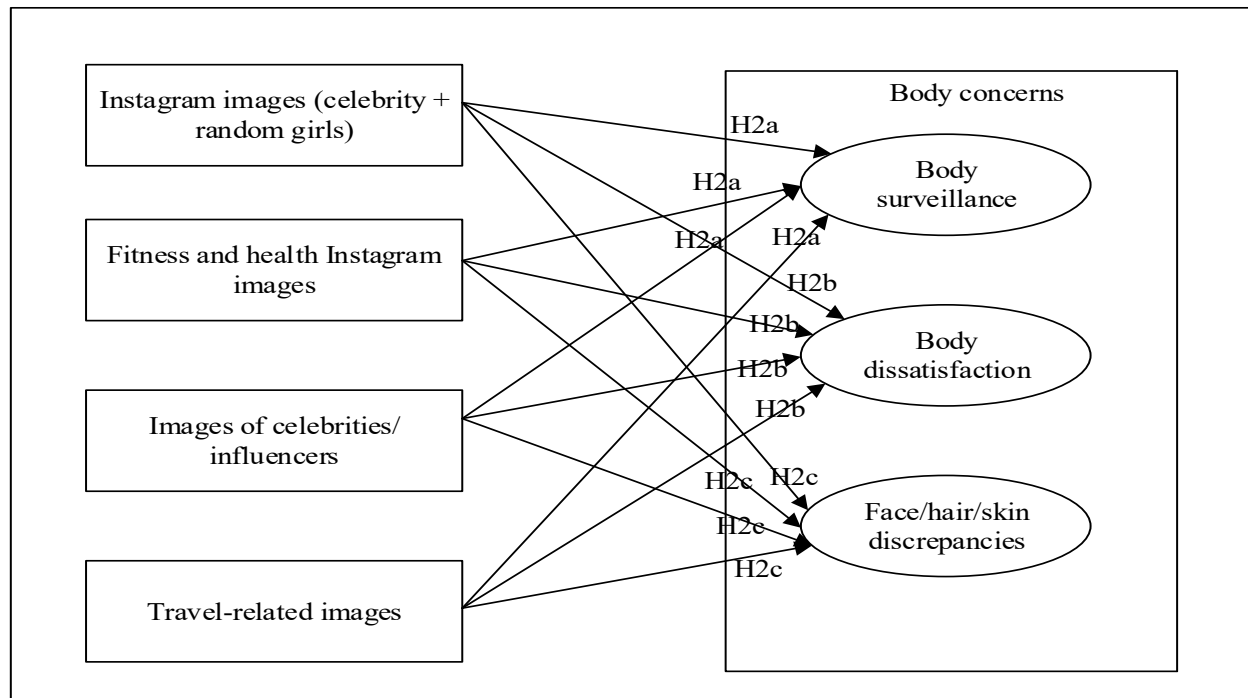
Levene Statistic	df1	df2	Sig.
.611	1	465	.435

6.6. Hypothesis 2a

In the second group of hypotheses the author tried to determine the relation between female appearance-related content on Instagram, operationalized through: 1) images of ordinary girls and celebrities and 2) following of different Instagram account where this content could be seen (fitness

and health; celebrities/influencers; travel), and body concerns of Instagram users. Hypothesized relationships (H2a, H2b, H2c) are presented in Figure 4.

Figure 4. *Conceptual model of the impact of Instagram female appearance-related content on body concerns*



H2a: Exposure to Instagram images of ordinary girls and models and exposure to Instagram fitness and health, celebrity and travel accounts increase users' body surveillance

The influence of exposure to Instagram images of ordinary girls and models and the exposure to specific Instagram accounts on users' body surveillance was examined by the application of multiple linear regression. In order to test the hypothesis, a subsample of Instagram users was selected from the sample of all respondents, and regression analysis was performed on a sample of 337 Instagram users, as presented in Table 29. This analysis was selected since in this case, there was one dependent but more than one independent variable – in this case two (exposure to Instagram female images and consumption of different account types).

Table 29. *Sample used for hypotheses 2**Descriptive Statistics*

	Mean	Std. Deviation	N
body surveillance	3.9074	1.16362	337
IU09	6.14	1.314	337
IU10	3.40	2.075	337
IU11	3.41	1.959	337
IU12	5.22	2.013	337

The application of multiple linear regression, whereas Enter method was selected for the input of independent variables into the model (meaning that all independent variables were taken into consideration at the same time), indicated **statistically significant** (Sign. <.05), although **negligible** influence of Instagram related content (images and specific accounts) on users' body surveillance, with images of ordinary girls and celebrities, as well as photos stemming from specific account categories that explained 2.8% variance of body surveillance as a dependent variable (Table 30).

Table 30. *Correlation between Instagram appearance related content and body surveillance**Model Summary*

Model	R	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
1	.168 ^a	.028	1.15396	.028	2.413	4	332	.049

a. Predictors: (Constant), IU12, IU09, IU11, IU10

Probability associated with F statistic which is lower than 0.05 (Sign. F Change) indicates that the hypothesis R-square=0 can be rejected (the hypothesis that there is no linear relationship between the dependent variable and the predictors).

Among these predictors, following **celebrities/influencers** emerged as **the only statistically significant determinant of body surveillance**, meaning that the increase in following celebrities by one standard deviation increases users' body surveillance by 0.145 standard deviations ($\beta=.145$, $\text{Sign}.<.05$), as presented in Table 31.

Table 31. *Exposure to Instagram female images and different accounts with body surveillance*

Coefficients^a

		Unstandardized		Standardize			95.0% Confidence		Collinearity	
		Coefficients		d			Interval for B		Statistics	
				Coefficients			Lower	Upper		
Model		B	Std. Error	Beta	t	Sig.	Bound	Bound	Tolerance	VIF
1	(Constant)	3.277	.325		10.076	.000	2.637	3.916		
	IU09	.071	.049	.080	1.455	.147	-.025	.168	.956	1.046
	IU10	-.010	.033	-.018	-.302	.763	-.076	.056	.824	1.214
	IU11	.086	.034	.145	2.497	.013	.018	.154	.870	1.150
	IU12	-.013	.034	-.022	-.368	.713	-.080	.055	.833	1.200

a. Dependent Variable: body surveillance

As indicated by collinearity statistics, i.e. Tolerance and Variance Inflation Factor (VIF) as collinearity diagnostic factors, which are displayed in Table 11, multicollinearity among independent variables (a situation when independent variables are highly correlated) was not a problem of this regression model (Tolerance > 0.1; VIF < 10). Tolerance value less than 0.1 would indicate that the variable under consideration is a perfect linear combination of the variables which have already been entered in the model and the value less than 0.1 would indicate that the variable is redundant. VIF (1/Tolerance) is a measure of collinearity among independent variables in the model and the value greater than 10 would indicate multicollinearity among the variables, which according to the results of this regression model was not an issue.

6.7. Hypothesis 2b

As a reminder, in this hypothesis the author claims that exposure to Instagram images of ordinary girls and models and exposure to Instagram fitness and health, celebrity and travel accounts increase users' body dissatisfaction. Hypothesis 2b, same as H2a, was also tested on a subsample of Instagram users (337 respondents), as indicated above in Table 29.

The application of multiple linear regression (the same as in H2a), whereas exposure to the images of ordinary girls and models, as well as exposure to specific categories of Instagram accounts, were entered into the model as independent variables and body dissatisfaction as dependent variable indicated that independent variables explained 3.6% of variance in the dependent variable, as displayed in the Table 33.

Table 32. *Correlation of Instagram female images and different accounts with body dissatisfaction*

Model Summary

Mod el	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.188 ^a	.036	.024	1.14749	.036	3.057	4	332	.017

a. Predictors: (Constant), IU12, IU09, IU11, IU10

Exposure to **travel accounts** emerged as **the only statistically significant predictor** of body dissatisfaction, i.e. the increase in consumption of travel Instagram content by one standard deviation increases body dissatisfaction by 0.132 standard deviations, as shown in Table 34.

Table 33. *Exposure to Instagram female images and different Instagram accounts and body dissatisfaction*

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.600	.323		8.040	.000		
	IU09	-.033	.049	-.037	-.674	.501	.956	1.046
	IU10	.000	.033	-.001	-.022	.983	.824	1.214
	IU11	.065	.034	.110	1.908	.057	.870	1.150
	IU12	.076	.034	.132	2.240	.026	.833	1.200

a. Dependent Variable: bodydiss

As Tolerance values are higher than 0.1 and VIF values are lower than 10, it can be concluded that multicollinearity among the independent variables is not an issue of this regression model.

6.8. Hypothesis 2c

The last hypothesis from the second group is related to the third operationalizing element of body concerns. Here it's been hypothesized that exposure to Instagram images of ordinary girls and models and exposure to Instagram fitness and health, celebrity and travel accounts increase users' level of face/hair/skin discrepancies.

In order to test the hypothesis, multiple linear regression was applied on a sample of 337 Instagram users, the same as with H2a and H2b. As previously explained, the overall level of face, hair and skin discrepancies (variable BCO3_FACE, HAIR, SKIN SUM MULTIPLIED BY IU07_N) was calculated taking into account a number of dissatisfiers (sources of discrepancies) by respondent and multiplying it with the level of discrepancies. According to this regression model, independent variables explained 5.3% of the variance in the dependent variable, as displayed in Table 34.

Table 34. *Correlation of Instagram female images and different accounts with face, hair and skin discrepancies*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.230 ^a	.053	.041	1.305	.053	4.617	4	332	.001

a. Predictors: (Constant), IU12, IU09, IU11, IU10

Two independent variables emerged as statistically significant predictors of the overall discrepancy, whereas **travel-related content** emerged as a negative determinant of overall discrepancy, meaning that the increase in following travel-related content by one standard deviation **decreased overall discrepancy** by 0.139 standard deviations ($\beta = -0.139$, Sign. <0.05), and following **celebrity-related content** emerged as positive determinant of overall discrepancy, i.e. the more a user follows celebrity-related content, the **higher overall discrepancy** she feels ($\beta = 0.190$, Sign < 0.05), as shown in Table 35. VIF and Tolerance values indicate that multicollinearity was not an issue.

Table 35. *Exposure to Instagram female images and different Instagram accounts and face/hair/skin discrepancies*

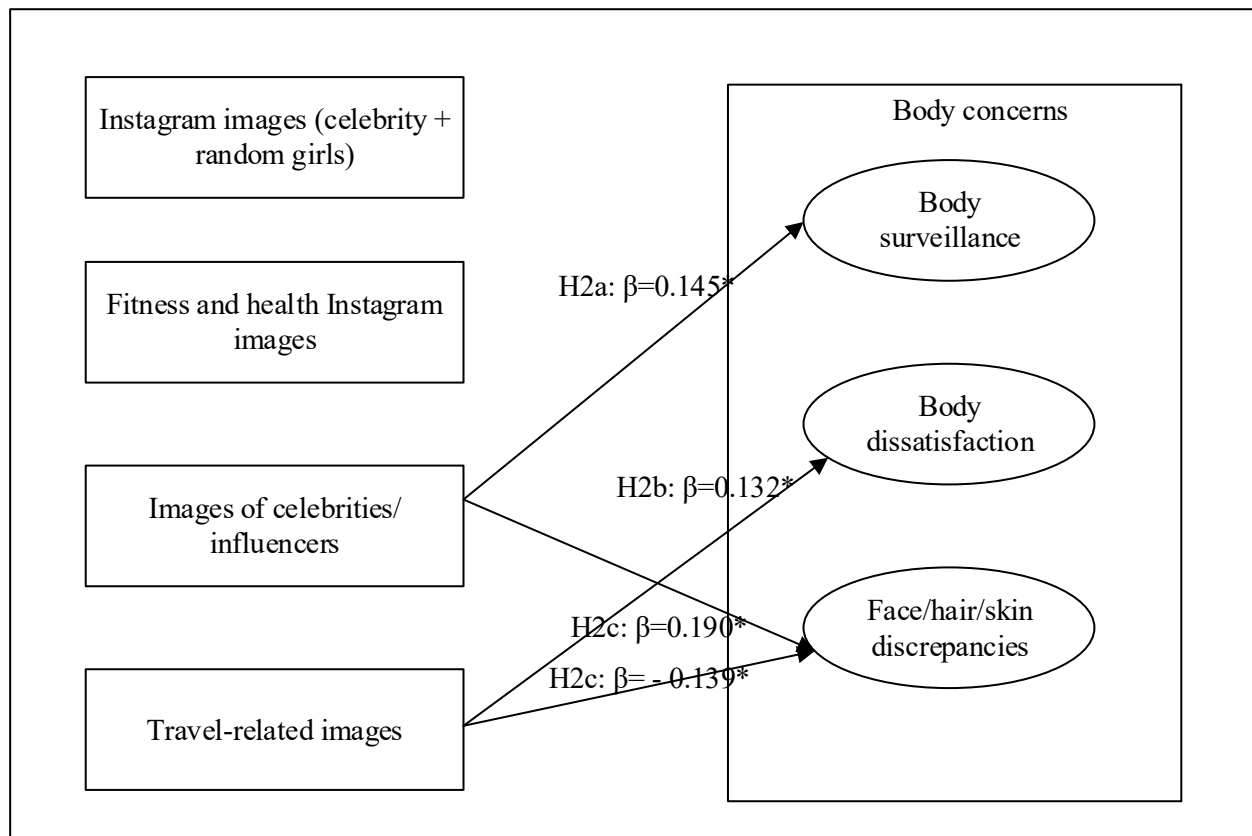
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.613	.368		1.667	.096		
	IU09	.072	.055	.071	1.298	.195	.956	1.046
	IU10	.037	.038	.057	.975	.330	.824	1.214
	IU11	.129	.039	.190	3.313	.001	.870	1.150
	IU12	-.092	.039	-.139	-2.376	.018	.833	1.200

a. Dependent Variable: BCO3_FACE,HAIR,SKIN SUM MULTIPLIED BY IU07_N

Results of hypothesized relationships are presented in Figure 5.

Figure 5. Results of H2 hypothesis testing



Note: *Significant at the .05 level

Standardized beta weights resulted from the application of multiple linear regression

6.9. Hypothesis 3a

In order to determine the level of one's appearance comparison tendencies, the scale with 10 items was used (see: Appendix). Reliability of these items referring to appearance comparison tendencies has been examined prior to the examination of hypothesis. Cronbach's alpha coefficient, being higher than the lower threshold of 0.70 (Hair et al., 2010), as shown in Table 36 and Table 37, indicates high internal consistency of appearance comparison tendencies scale, which allowed for the calculation of the construct as a mean value of its respective items.

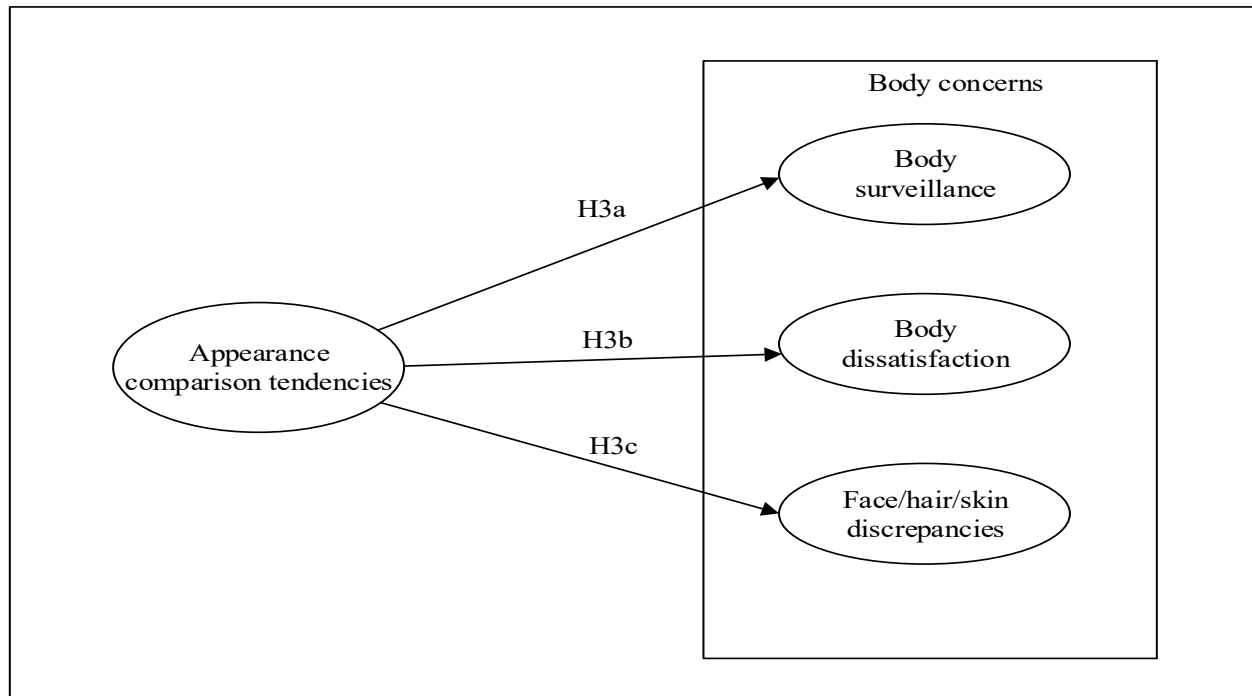
Table 36. *Reliability of Appearance Comparison Scale*

<i>Reliability Statistics</i>	
Cronbach's Alpha	N of Items
.918	10

Table 37. *Cronbach's Alpha if Item deleted – Appearance Comparison Tendencies Scale*

<i>Item-Total Statistics</i>				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
AC01_01	27.78	185.819	.557	.918
AC01_02	29.84	190.862	.555	.917
AC01_03	29.37	185.388	.582	.916
AC01_04	28.45	175.990	.760	.906
AC01_05	28.95	178.624	.704	.909
AC01_06	29.24	179.095	.695	.910
AC01_07	29.34	177.936	.739	.907
AC01_08	28.84	178.657	.690	.910
AC01_09	28.90	171.526	.851	.901
AC01_10	28.67	173.077	.806	.903

Figure 6. Conceptual model of the hypothesized relationships between appearance comparison tendencies and body concerns constructs



H3a: At higher levels of exposure to the images of celebrities and ordinary girls, higher appearance comparison tendencies increase body surveillance

In order to examine hypothesis H3a, a subsample of respondents having Instagram account and being highly exposed to the images of celebrities and ordinary girls (values from 4 to 7, on a seven-point scale ranging from 1-never to 7-very often) has been selected from a sample of all people who responded to the questionnaire. As displayed in Table 38, further analyses have been performed on a subsample of 317 respondents who belong to this filter.

Table 38. *Statistics of those who have Instagram account and are characterized by a higher level of exposure to the images of celebrities and ordinary girls*

IU01 = 1 & IU09 >= 4 & IU09 <= 7 (FILTER)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Selected	317	100.0	100.0	100.0

Firstly, one overall concept of appearance comparison tendencies has been formed, i.e. one new variable was created as a mean value of all items included in appearance comparison scale. The condition of internal consistency was met, which made this step possible. After application of simple linear regression (because there are one dependent and one independent variable), it has been indicated that there is a **significant correlation** between appearance comparison tendencies and body surveillance (Sig. F= 0.000, table 39). The applied analysis show that these tendencies explain 22.4% of variance in body surveillance as a dependent variable and that a rise in appearance comparison tendencies by one standard deviation increases body surveillance by 0.473 standard deviations, as presented in Table 40.

Table 39. *Correlation of appearance comparison tendencies with body surveillance*

Model Summary

Mod el	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.473 ^a	.224	.221	1.04248	.224	90.728	1	315	.000

a. Predictors: (Constant), APPCOMP

Table 40. *Appearance comparison tendencies and body surveillance – Beta coefficient*

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.774	.134		20.707	.000	2.511	3.038
	APPCOMP	.363	.038	.473	9.525	.000	.288	.438

a. Dependent Variable: body surveillance

6.10. Hypothesis 3b

This one deals with the relation between one's tendencies to compare his appearance and one's level of body dissatisfaction, whereby it is hypothesized that, at higher levels of exposure to Instagram images, higher appearance comparison tendencies increase body dissatisfaction. Application of simple linear regression showed that there is a **significant correlation** between these tendencies and body dissatisfaction, as well as that appearance comparison tendencies explain 11.4% of variance in body dissatisfaction as a dependent variable. It is also indicated that increase in appearance comparison tendencies by one standard deviation increases body dissatisfaction by 0.337 standard deviations, as presented in Table 41 and Table 42.

Table 41. *Correlation between app. comparison tendencies and body dissatisfaction*

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.337 ^a	.114	.111	1.08962	.114	40.407	1	315	.000

a. Predictors: (Constant), APPCOMP

Table 42. *App. comparison tendencies and body dissatisfaction – Beta coefficient*

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error				Lower Bound	Upper Bound
1	(Constant)	2.206	.140		15.749	.000	1.930	2.481
	APPCOMP	.253	.040	.337	6.357	.000	.175	.331

a. Dependent Variable: bodydiss

6.11. Hypothesis 3c

At higher levels of exposure to the images of celebrities and ordinary girls, appearance comparison tendencies increase face/hair/skin discrepancies

The same instrument - simple linear regression – was used with the third hypothesis from the last group, examining face/hair/skin discrepancies as dependent variable and appearance comparison tendencies as an independent variable. The results of this analysis indicate a **statistically significant relationship**, whereby appearance comparison tendencies explain 20.8% of variance in face/hair/skin discrepancies, i.e. an increase in appearance comparison tendencies by one standard deviation increases face/hair/skin discrepancies by 0.456 standard deviations, as presented in Table 43 and Table 44.

Table 43. *Correlation between app. comparison tendencies and face/hair/skin discrepancies*

Model Summary

Mode	Change Statistics								
	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.456 ^a	.208	.206	1.209	.208	82.920	1	315	.000

a. Predictors: (Constant), APPCOMP

Table 44. *App. comparison tendencies and face/hair/skin discrepancies – Beta coefficient*

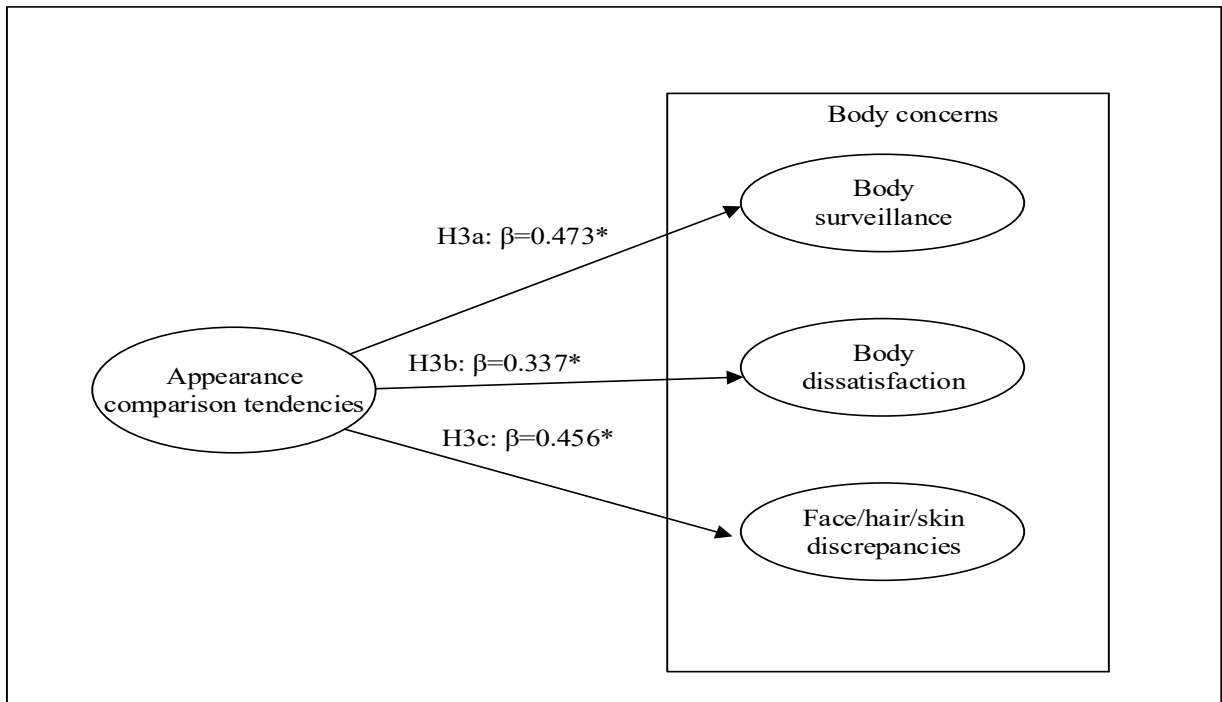
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error				Lower Bound	Upper Bound
1	(Constant)	-.116	.155		-.743	.458	-.421	.190
	APPCOMP	.402	.044	.456	9.106	.000	.315	.489

a. Dependent Variable: BCO3_FACE,HAIR,SKIN SUM MULTIPLIED BY IU07_N

Conceptual model, which integrates hypothesized relationships H3a, H3b, H3c is displayed in Figure 6. Figure 7, on the other hand, offer a graphic solution of the described results regarding these relationships, which were confirmed.

Figure 7. *Structural model of the results of hypothesis 3*



Note: *Significant at the .05 level

Standardized beta weights resulted from the application of simple linear regression

7. Summary and limitations

When it comes to the assumptions hypothesized in this paper, the results were pretty colorful: in the first hypothesis group including hypotheses 1a, 1b and 1c, with focus on differences between Instagram users and non-Instagram users regarding their body concerns level, not one hypothesis was confirmed. This came at a very surprising level, since that the author expected, relying on cultivation theory, that there are going to be some statistically significant differences in the level of concerns about appearance between those using and those not using Instagram. However, the data collected through online survey showed that the fact that someone is or isn't an Instagram user doesn't affect any of the body concerns operationalizing components – neither body surveillance, nor body dissatisfaction or face/hair/skin discrepancies.

The second hypothesis brought somewhat more interesting results; it was implied that, when it comes to the claim H2a, among general exposure to Instagram female-depicting content and different types of accounts, the only statistically relevant connection was found between the consumption of celebrity/influencers account and body surveillance. When it comes to the hypothesis H2b, which has body dissatisfaction as dependent variable, the collected data showcased that only travel Instagram accounts have a significant impact on body concerns of Instagram users – the higher the consumption of those accounts, the higher the level of body dissatisfaction. Two important predictors emerged while testing the H2c hypothesis: while travel accounts consumption proved to decrease the level of discrepancies of the Instagram users regarding their faces, hair and skin, exposing them to celebrity/influencer accounts would have the opposite effect. Interestingly, there was no significant correlation found between frequency of seeing female photos on Instagram and body concerns elements.

Finally, the third hypotheses group focused on a narrow sample of those Instagram users who are highly exposed to the appearance-related content. The multiple regression analysis used on this sample showed that, when users have high tendencies to compare themselves with others, the higher these are, the more they are concerned about their appearance. This means that all three author's hypotheses from this group were confirmed: in case of high exposure to dominant female appearance content on Instagram and high tendencies to compare themselves with others, the level of body surveillance, body dissatisfaction, as well as face/hair/skin discrepancies also increases.

However, this study also has some limitations noticed during the creation process. In this paper the author focused on exposure to a certain content and level of comparison tendencies as variables that can mediate the main relation. But it is important to emphasize here that there are some other factors that could also affect this particular relation, which in this study were not taken into considerations. These factor could be not only physical characteristics, such as weight and height, but also psychological individual components, such as self-esteem and autonomy. Common sense would make us assume that the extent to which a person internalizes the societal thin ideal is likely to be moderated by the psychological variables like self-esteem and autonomy, meaning that those with high self-esteem and autonomy will be less influenced by societal ideals and pressures. Similarly, biological features such as weight (degree of fatness) and potentially height could also play a role in the degree of internalization of current beauty ideals. Finally, there are some other potential moderators among personality variables, for example perfectionism, that could primarily lead to body dissatisfaction resulting in some type of eating disorder.

When it comes to the sample which was used for the analysis, there were a lot of elements that could be better. Looking at the level of education, although the idea was to have an equal number of students and pupils, so that the results could be more relevant, 2/3 of sample were students, with

only a handful of pupils. In hand with this go the proportions regarding age – there were double more participants in the older age category (22-25 years) than in the younger one (18-21 years). Speaking of a type of household they currently reside, the disproportion was big: there were not enough participants from rural Serbian areas. The place of residence showed similar results, with relatively small number of sample living abroad. Some future research could focus particularly on this difference between nationals of one country born/living in that same country and abroad, regarding the topic of body concerns. This could theoretically be based on sociocultural theory, and could show if cultural and society we were born in and live in affect how we see our body, or if the roots and connections to our origin have more power regarding this.

Furthermore, author finds it possibly interesting to examine the appearance comparison tendencies between age groups. It could be assumed that these differences change with age, i.e. that the tendency to compare oneself in various aspects with people from one's surrounding sinks when one become older. One further potentially intriguing work could be the examination of this relation between Instagram usage and Instagram content and body concerns of different races. The author assumes that, taking different perception of beautiful among black people, it could potentially be rewarding to discuss if they will, as assumed, have lower level of body concerns. Eventually, examining this relation between different gender could also be of interest to the academic world. How men and women react on Instagram content? We already know that women use the platform more, but does that automatically mean that men are less prone to its influence? All of these questions could potentially be useful for some further research discussion.

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9. Appendix

9.1. Questionnaire

Demographics

1. SD01[AGE] How old are you? **FILTER QUESTION (if *a* or *d* – out)**
 - Younger than 18
 - 18-21
 - 22-25
 - Older than 25
2. SD02[Gender] What is your gender? **FILTER QUESTION (if *male* – out)**
 - Male
 - Female
3. SD03[Nationality] What is your nationality? Drop-down list **FILTER QUESTION (if anything other than Serbia – out)**
4. SD04[Level of education] What is the highest level of education you have completed so far?
 - Elementary school
 - High school
 - Specialized secondary school
 - Bachelor degree
 - Master degree
 - PhD degree
5. SD05[Employment] What is your employment status?
 - Unemployed
 - Pupil
 - Student
 - Self-employed
 - Part-time employed
 - Full-time employed
 - Studying and working
6. SD07 [income] What is your household monthly income?
 - 0-200e
 - 200-400e
 - 400-600e
 - 600-800e

- 800-1000e
 - More than 1000e
 - I don't want to answer
7. SD08 [Type of residence] Do you live in a rural or a city household?
- Rural
 - City
8. SD09 [Place of residence] What is your current place of residence?
- Serbia
 - Other

Instagram Usage

9. IU01 Do you have an Instagram account? **FILTER QUESTION**
- Yes
 - No (skip to question no.12 with Instagram pics)
10. SD10 How long have you been having an Instagram account? (Horizontal scale)
- 0-1 year
 - 1-3 years
 - 3-5 years
 - More than 5 years
11. IU03 How much time daily do you spend on your Instagram account in total? (Horizontal scale)
- 0-1h
 - 1-2 h
 - 2-3 h
 - 3-4h
 - More than 3 hours.
12. IU09 How often do you see this kind of photos on Instagram, like the ones you just saw (with different girls)? (Horizontal scale)
- 1-never, 7 – very often
13. IU08 How often do you check your Instagram account? (Horizontal scale)
- 1-hardly ever, 2- 1 or 2 times, 3- 3-5 times, 4- 6-10 times, 5- 11-15 times, 6- more times than I can count
14. IU10 How often do you follow this specific Instagram account categories?
- Fitness and health
 - 1-never, 7-very often
- 15.. IU11 Celebrities/Influencers
- 1-never, 7-very often

16. IU12 Travel

- 1-never, 7-very often

17. IU05/06 Question with a picture – first come four typical Instagram images (celebrity + random girls)

Likert-Scale question (magnitude 1- I completely disagree 7- I completely agree)

What do you think about the presented pictures?

Girls are overall beautiful.

They are too thin.

They have too much make-up.

Their faces look plastic.

I don't like their looks at all.

They have nicely shaped body.

Typical Instagram girls.

Body Concerns

18.BC01 Body surveillance

Please select the circle that shows to which extent you agree with the following statements (magnitude 1- I completely disagree, 7- I totally agree)

I rarely think about how I look.

I think it is more important that my clothes are comfortable than whether they look good on me.

I think more about how my body feels than how my body looks.

During the day, I think about how I look many times.

I often worry about whether the clothes I am wearing make me look good.

I rarely worry how I look to other people.

I am more concerned with what my body can do than how it looks.

19.BC02 Body dissatisfaction

Please select the circle that shows to which extent you agree with the following statements.

I think my stomach is too big.

I think my thighs are too large.

I think my stomach is just the right size.

I like the shape of my buttocks.

I think my hips are too big.

Think my thighs are just the right size.

I think my buttocks are too large.

I think my hips are just the right size.

I think my breasts are too small

My breasts should be smaller size.

20.BC03 Face/Hair/Skin discrepancies (Multiple choice)

What of the following would you ideally change right now? (f.e. bigger lips, straighter nose, curlier hair, thicker hair, better complexion, level of tan...) [More answers possible]

- Some facial features (nose, lips, cheekbones)
- Hair style/quality/color
- Skin (complexion, tan)
- Nothing, I am satisfied with all of those

16.IU07 How different would you like them to be from how they look now? (Horizontal scale)

1- Zero different 2- a little different 3- Average 4- extremely different

Appearance comparison tendencies (7-point Likert-scale question)

21.AC01 Please select the circle that shows to which extent you agree with the following statements.

Likert scale question (magnitude 1- I completely agree, 7- I totally disagree)

I compare myself to those who are better looking than me rather than those who are not.

I tend to compare my own physical attractiveness to that of magazine models.

I find myself thinking about whether my own appearance compares well with models and movie stars.

At the beach or athletic events (sports, gym, etc.), I wonder if my body is as attractive as the people I see there with very attractive bodies.

I tend to compare myself to people I think look better than me.

When I see a person with a great body, I tend to wonder how I 'match up' with them.

When I see good-looking people I wonder how I compare to them.

At parties or other social events, I compare my physical appearance to the physical appearance of the very attractive people.

I find myself comparing my appearance with people who are better looking than me.

I compare my body to people who have better body than me.