

Generation Z: a generation of low-self esteem

Do Social-Media Network Sites have a negative effect on internalization and social comparison mechanisms of young teenagers?



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Abstract

Research on the field of SNSs and self-esteem just took off and therefore multiple questions remained unanswered. To ‘fill’ this gap in the literature the present study focused on the following question: *do Social-Media Network Sites have a negative effect on internalization and social comparison mechanisms of young teenagers?* Six hypotheses were carried out and tested to give an answer to this research question. These hypotheses were tested using secondary data obtained from Pew Research Center. The data was analyzed by multiple linear regression with a cross-sectional approach. In the first part of the analysis the first four hypotheses were tested regarding the *general* effect of HVSM on the internalization of beauty standards and social comparison. These results suggested that indeed, HVSM has a negative effect on both the internalization of beauty standards and social comparison. Furthermore, there seems to be a difference of the effect from HVSM between females and males. Males seem to be ‘immune’ to the effect of HVSM where females are not. In the second part of the analysis the last two hypothesis were tested concerning the *specific* effect of HVSM. The effect of Instagram, Tumblr, Snapchat and Vine were analyzed and suggested contradictory results. On all dependent variables there was a different HVSM of most influence. There is still a lot of research what needs to be done regarding the effect of Social-media Network Sites, but the present study tried to decrease this gap in the literature.

Keywords: • Social-media Network Site (SNS) • Highly-visual Social Media (HVSM) • self-esteem • internalization of beauty standards • social comparison • Pew Research Center

Contents

1. Introduction	4
2. The driving forces behind Social-media Network sites on self-esteem	8
2.1 <i>Social-Media Network sites and self-esteem</i>	9
2.2 <i>Highly-visual Social Media</i>	11
2.3 <i>Internalization of beauty standards approach</i>	12
2.4 <i>Social comparison approach</i>	15
2.5 <i>The effect of gender</i>	19
3. Research design and methods	20
3.1 <i>Data</i>	20
3.2 <i>Operationalization</i>	21
4. Results	25
4.1 <i>The influence of HVSM on internalization and social comparison</i>	25
4.2 <i>Separate effects of HVSM</i>	29
5. Conclusion	32
References	36
Appendix I	41
Appendix 2	60

I. Introduction

We are living in a century where technology use is growing in a rapid pace, and where this sooner or later will affect our (social) lives. Individuals do not have to go out to socialize anymore, but it is possible to socialize sitting on the couch at home, talking with friends on Social-media Network Sites; for instance Whatsapp, Facebook, Instagram or Snapchat. Any website that allows social interaction is considered a social media site (O'Keeffe & Clarke-Pearson, 2011). The inhabitants of the United States of America are believed to be the heaviest Social-media Network Site (also: SNS) users. According to data gathered by 'We Are Social' in 2017, North America has the most active users on SNSs with a percentage of 66% on the whole population. For reference, in West Europe this percentage is 54% (Kemp, 2017). Accordingly, SNSs are a new phenomenon, so we can question how this will affect us.

Social media actually has many positive implications, for instance to foster friendships between individuals who may have never met without the use of social networks plus there is the opportunity for self-expression. Another advantage of social media would be that social media can provide the connection to people that are experiencing both the same health issues, which may improve young people's health literacy. Furthermore, nearly 7 in 10 teens receive support through social media during tough times, thus helping to prevent mental health issues (RSPH, 2017). O'Keeffe and Clarke-Pearson (2011) state that engagement in various forms of social media has shown to benefit children and adolescents by enhancing communication, social connection, and even technical skills. It is also believed that middle and high school students are using social media to connect with their peers on homework and group projects (Boyd, 2008). The usage of SNSs thus can have a positive effect on mental health, social skills and learning skills.

Nevertheless, the usage of SNSs can lead to negative side-effects. Research has shown that because of the limited capacity for self-regulation and susceptibility to peer pressure, children and adolescents are at some risk as they use SNSs. O'Keeffe and Clarke-Pearson (2011) point out that “there are frequent online expressions of offline behaviors, such as bullying, clique-forming, and sexual experimentation, that have introduced problems such as cyberbullying, privacy issues, and sexting¹” (p. 800). Researchers have also proposed a new phenomenon called ‘Facebook depression’, defined as depression that develops when young children and teens spend a great deal of time on social media sites. The mechanism behind this Facebook depression is believed to be social isolation (Selfhout, Branje, Delsing, ter Bogt, & Meeus, 2009). Furthermore, Sherry Turkle (2012), a well-known researcher of technology use on the lives of human beings, stated in a TED-talk the following:

Human relationships are rich and they're messy and they're demanding. And we clean them up with technology. And when we do, one of the things that can happen is that we sacrifice conversation for mere connection. We short-change ourselves. And over time, we seem to forget this, or we seem to stop caring (07:05).

Sherry Turkle is observing that being plugged into mobile technology not only changes what we *do*, but can even change who we *are*.

Furthermore, social media does not only affect us on our social lives, it is also expected to affect our self-esteem. A good example of how a social media influencer on a SNS, in this case Instagram, can influence young girls' life is Kylie Jenner. She is one of the most popular Instagram influencers with 108 million followers. In 2014 she got her lips injected with an injectable to make her lips look fuller. To show off her ‘new’, fuller lips, she posted selfies on

¹ Sexting can be defined as “sending, receiving or forwarding sexually explicit messages, photographs, or images via cell phone, computer, or other digital devices” (Attorney, 2010).

Instagram every day. Her ‘new’ lips did not go by unnoticed, as she got a lot of media attention and comments of her followers on her Instagram. She denied the claim that she ‘got her lips done’ and said that her full lips could be achieved by creating a vacuum with a shot glass and finishing it with a lip liner. With that being said, her followers abided her advice and purchased shot glasses and lip liner. Subsequently, hundreds of girls all over the world got their lips bruised and ‘blown up’ because of the harsh vacuum (Moyer, 2015). It is plausible to think that those girls had problems with their self-esteem and wanted to look like the ‘beautiful’ and ‘popular’ Kylie Jenner. Most of the time, the signs of insecure girls are not noticeable, as it is a *feeling* and not a thing which can be *witnessed*. In the case of the Kylie Jenner story mentioned above, this effect of SNSs on self-esteem does get apparent. Besides the fact that ‘blown up’ lips are not desirable, low self-esteem also has other consequences. It is believed to create anxiety, stress, and problems with friendships and can increase the likelihood of depression (Rosenberg, 1965). Research suggests that children and teens are more at risk in comparison to adults when they use SNSs because they are still forming their identities, and therefore could internalize these beauty standards shown by SNSs more easily (O’Keeffe & Clarke-Pearson, 2011).

Until this day, research on Social-media Network Sites and its influence on self-esteem are done via two approaches: the *internalization of beauty standards* and *social comparison*. Research on these approaches had some limitations and methodological issues. A first methodological issue would be that some of the samples were not carefully thought of. For instance, some samples included psychology students (Strahan, Wilson, Cressman, & Buote, 2006; Vogel, Rose, Roberts, & Eckles, 2014). This can be a problem because of the influence of their psychology education; they may be more aware of social comparison and internalization processes and thus the effect can be smaller. Another critic on using students in *general* would

be that these results are being generalized to the overall population. Researchers particularly need to be careful with this when they are unsure whether the use of SNSs on self-esteem is stable across life stages and/or age groups, because in this case generalizations from student samples may be problematic. Finally, as I pointed out earlier, the influence of SNSs on self-esteem will be higher on young teenagers. Only two studies I have found are conducted under individuals aged 12-16 years old (Chua & Chang, 2016; Clay, Vignoles, & Dittmar, 2005). The reason for this could be because of efficiency grounds; children under 18 need to approve to participate in the research themselves, but also consent from their parents or guardians is necessary. Moreover, most of the studies were of an experimental research design. The reason for most of the studies being experimental could be because the topic of research is relatively new. To get insight on the strengths of the different mechanisms, explanatory research is required. A last contribution to the scientific field is that this study not only focuses on Facebook, but also on other ‘big’ SNSs. The majority of research on the effect of SNSs are focused on Facebook, mostly due to its great popularity compared with other social media platforms. However, there are also much more other SNSs which can influence the self-esteem of individuals. In figure 1 the seven biggest SNSs in the U.S. are shown.

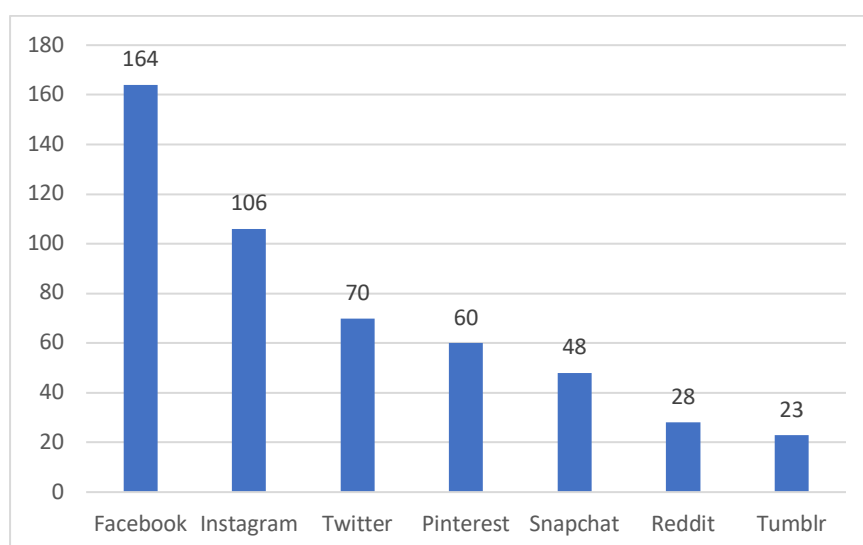


Figure 1. Most popular social networking apps in the U.S. as of February 2018, by monthly users in millions.

Data source: Verto Analytics (2018); n = 20,000; 18 years and older.

Therefore, in this study I will address the following research question: *do Social-media Network Sites have a negative effect on internalization and social comparison mechanisms of young teenagers?* It has been researched that there *is* a negative effect of SNSs on the internalization and social comparison mechanisms of young teenagers, but we do not know how *strong* this effect is. A more quantitative research design could give an answer to this question.

In chapter two ‘the driving forces behind Social Media Network sites on self-esteem’ I give an outline of the theoretical framework and derive hypotheses out these theories. Subsequently, in chapter three the method of data analysis and operationalization of the data is described. In chapter four the analyses are carried out and results are shown. This study ends with the conclusion and discussion.

2. The driving forces behind Social-media Network sites on self-esteem

This chapter starts with a short introduction into self-esteem and the general influence of social media on self-esteem. In paragraph two of this chapter the influence of SNSs are broken down into the influence of highly-visual social media and non-highly-visual social media. Paragraph three and four cover the mechanisms behind low self-esteem, namely the internalization of beauty standards and social comparison. This chapter finishes with the moderating effect of gender on the two mechanisms. During the reporting of the theories, the hypotheses are derived from of the theories and will be accompanied with the conceptual diagrams.

2.1 Social-Media Network sites and self-esteem

When I use the term ‘self-esteem’ in this study, I refer to the most influential meaning of self-esteem provided by Rosenberg (1965). She describes self-esteem as ‘‘an individual’s positive or negative appraisal of the self’’ (p.15); that is, the extent to which the individual views the self as worthwhile and competent. Low self-esteem has short-term consequences, as it is believed to create anxiety, stress, and problems with friendships and can increase the likelihood of depression (Rosenberg, 1965). These negative consequences reinforce themselves by the negative self-image and can take a person into a downward spiral of lower and lower self-esteem and increasingly unproductive or even actively self-destructive behavior (Rosenberg, 1965). Nevertheless, as I mentioned in the introduction, a distinction has to be made between adults and young teens or adolescents. Research suggests that children and teens are more at risk in comparison to adults when they use SNSs. Firstly, children and teens have limited capacity for self-regulation and susceptibility to peer pressure (O’Keeffe & Clarke-Pearson, 2011). Another reason for children and teens being more sensitive for SNSs is with regard to the social learning theory. According to the social learning theory, children and teens learn by observing and imitating what they see, particularly when these behaviors seem realistic or rewarded (Bandura, 2001). So, if ‘beautiful’ girls are, in the case of SNSs, ‘rewarded’ with a lot of likes and comments, children and adolescents learn that it is good to be beautiful. A third explanation is forwarded by Strasburger, Wilson, and Jordan (2009) by using cognitive development theory to explain why media has a greater effect on children and young teenagers. This theory holds that children’s cognitive capacities at different stages determine if and how they understand media content (Piaget, 1970). A child from the age of eight understands advertisements differently than adults from the age of 40. The child does not understand that things are exaggerated for advertisement purposes, whereas an adult (mostly) *does* understand this mechanism. Lastly, low self-esteem could influence young individuals at a later age,

because it is believed that low self-esteem is associated with health-compromising behaviors in adolescence such as substance abuse, early sexual activity, eating problems, suicidal thoughts (McGee & Williams, 2000), criminal behavior and limited economic prospects during adulthood (Trzesniewski et al., 2006).

SNSs can influence self-esteem through three mechanisms; they provide social comparison opportunities, more internalization of beauty standards and triggers cognitive mechanisms. According to the literature, self-esteem is fully mediated by these approaches (Clay et al., 2005; Vogel et al., 2014). Therefore, it can be said that self-esteem is the aggregate of these approaches.

The cognitive approach is relatively new, as only *one* scholar researched this approach. Ahadzadeh, Sharif, and Ong (2017) have done research about the mediating effects of self-schema and self-discrepancy between Instagram and self-esteem and labeled it the ‘cognitive approach’. They suggest that these two theories cause the link between Instagram usage and body dissatisfaction such that individuals who place importance on saliency of appearance may become concerned about the discrepancy between their actual and ideal image. As they already suggest themselves, research on this field just took off and therefore it is not clear if this approach is significant. Because this study is focused on explanatory research, and not exploratory research, this approach is not included in this study. To provide the full picture regarding research on self-esteem this approach still is mentioned. Therefore, in order to measure the effect of SNSs on self-esteem the effect of the two mechanisms (internalization & social comparison) will be analyzed. The mechanisms behind the influence of SNSs on self-esteem can be summarized in the causal diagram presented in figure 2.

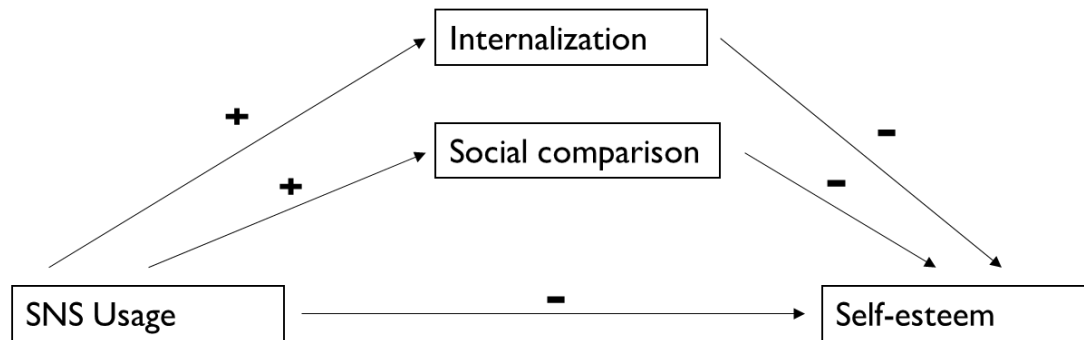


Figure 2. Causal diagram of the effect of SNS usage on self-esteem.

2.2 Highly-visual Social Media

Not all SNSs have the same influence on the internalization of beauty standards and social comparison. There is a distinct difference in highly-visual social media (HVSM) and non-highly visual social media. The seven biggest Western SNSs under teens aged 13 to 17 (Madden et al., 2013) can be subdivided into these two categories as followed:

Highly-visual social media	Non highly-visual social media
Instagram	Facebook
Snapchat	Twitter
Vine	Google+
Tumblr	

HVSMs have seen a significant increase in popularity among adolescents in recent years. In the last few years HVSM have been outnumbering (regarding growth) older social media platforms in terms of popularity (Smith & Anderson, 2018). Several scholars have suggested that HVSM are more harmful in terms of self-esteem (Chua & Chang, 2016; Lup, Trub, & Rosenthal, 2015; Marengo, Longobardi, Fabris, & Settanni, 2018). Moreover, Lup et al. (2015) suggest that there is a distinct difference in the use of Facebook (non-HVSM) and Instagram (HVSM).

Instagram is merely image-driven where users can choose from various filters to beautify photos. Facebook is not meant for solely posting images, but also enables people to post a little ‘blog’. The authors believe that Facebook can also be used for updates sharing negative feelings. Thus, Instagram alters individuals more to comparison which could make them feel worse, whereas with the use of Facebook it also enables individuals to posts which could make them feel better (for instance, when someone is posting a ‘depressive’ post). Furthermore, according to a recent survey of almost 1,500 teens and young adults, Instagram is the worst social media network for mental health and wellbeing. It was associated with high levels of anxiety, depression, bullying and FOMO or the ‘fear of missing out’ (RSPH, 2017). The Royal Society for Public Health (RSPH) states that the reason for this could be that Instagram is very image-focused and it appears that this drives young people to feelings of inadequacy and anxiety. Marengo et al. (2018) also acknowledge this, as they found that frequent use of HVSM resulted in higher body image concerns and internalizing symptoms in comparison to peers not using HVSM. Thus, in the present study I will focus on the effect of HVSM.

2.3 Internalization of beauty standards approach

The definition of internalization is the integration, in this case, of beauty standards into one’s own identity or sense of the self. It is the acceptance of a set of norms and values, established by others, through socialization. The process of internalization starts with learning what the norms are (the round Kardashian butt), followed with the individual going through a process of understanding why these norms are of value (a lot of comments and likes on pictures with the Kardashian butt), until finally they accept this norm as their own viewpoint (finding the Kardashian butt beautiful). It has been researched that *what* an individual internalizes is influenced by role models. It seems that people respect role models more, and therefore they take on their norms more easily (Scott, 1971). Therefore, the role of media in internalization

processes are very present as in general the media show a lot of role models. This is, for instance, also the case with the HVSM Instagram since a lot of role models have Instagram. Already in 2005, when HVSM did not even exist yet, there were studies about the idealized portrayals of women in the Western media. Before HVSM there were magazines, TV shows and music videos where already, for instance, way to thin women were presented. The media emphasize that “female self-worth should be based on appearance and also present a powerful cultural ideal of female beauty that is becoming increasingly unattainable” (Clay et al., 2005, p. 452). Clay et al. (2005) have done a study on the effect of media images on the lower body dissatisfaction of young teenage girls, aged 11 to 16. The results of this study suggest that the older girls in this group are more prone to show lower significantly body satisfaction, in comparison to the younger girls in this age group. Body satisfaction and self-esteem seemed to decline consistently from age 11 to 16. The authors note that this result was fully mediated by higher levels of awareness and internalization of sociocultural attitudes toward appearance, and of social comparison with media models. Also according to the research of Thomsen, McCoy, and Williams (2001), women’s beauty in fashion magazines can be linked to the development of anorexic behaviors. They argue that women’s beauty and fashion magazines make a significant contribution this this process, particularly in regard to identity formation and the development of values and beliefs. In the time Thomsen, McCoy & Williams wrote their research, magazines were still very popular. At least three quarters of white females in the United States between the ages of 12 and 14 read at least one magazine regularly. Now, almost 90% of kids aged 12-18 use social media (Hofstra, 2017). Therefore, it may not be surprising that these magazines (and social media) potentially play such a major role in the socialization process. Beauty and fashion magazines teach readers at an early age to look critically at their bodies and be ashamed of the parts that do not fit the established model. Readers of women’s magazines are presented with examples of super women, and endless procession of successful,

beautiful and inspirational role models to envy (Strahan et al., 2006). Body dissatisfaction could also be seen as a subdivision of low self-esteem. Clay et al. (2005) also acknowledge this themselves, as they found that changes in self-esteem were fully mediated by body dissatisfaction.

Dittmar, Halliwell, and Ive (2006) note that these sociocultural standards are already internalized on girls aged 5 to 8. In this article, the authors exposed these girls to images of either Barbie dolls, Emme dolls (U.S. size 16) or no dolls (control group) and then completed assessments of body image. The effect was clear for girls aged from 5,5 years old to 6,5 years old, but not anymore for girls aged 6,5 to 7,5. And thus, the effect was no longer valid for the older girls. By contrast to the study of Clay et al. (2005), they elaborate more on the reason why this age difference occurs. They state that there seems to be a sensitive phase when using Barbie dolls to play with, and this sensitive phase may end around the age 7 to 8 because by then, the young girls have internalized the thin beauty ideal by then. If they internalized these beauty standards, “their desire to be thinner is more a reflection of that internalized standard than a direct response to environmental stimuli” (Dittmar et al., 2006, p. 290). Therefore, already in very young girls, sociocultural standards are found.

It is clear that sociocultural standards created by the society and media are internalizing unattainable female beauty onto young girls. How does this turn out when these standards are ever-changing² and always available at your fingertips? Strahan et al. (2006) propose that it is quite likely that repeated exposure to norms which produce these effects would have implications for depression and eating disorder symptoms. With the introduction of HVSM this process is very likely to happen. Chua and Chang (2016) note that, the ‘problem’ of the HVSM Instagram is that in its core, it endows girls to refine and reframe their selfies to bring them

² Always changing because of the ever-changing nature of Instagram; beauty standards differ every day

closer to the socially constructed ideal of beauty. Because a lot of girls are doing this, this socially constructed ideal keeps valid. My first hypothesis of this study will be that: *there is a positive effect of highly visual social media on the internalization of beauty standards of young teens (H1)*. This hypothesis is graphically displayed in figure 3.

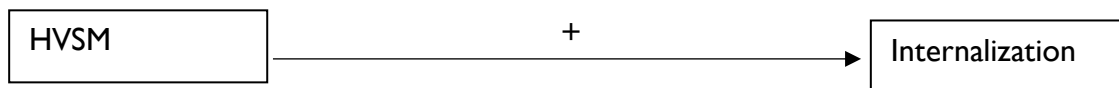


Figure 3. Causal diagram of hypothesis H1.

2.4 Social comparison approach

Not only the internalization of beauty standards drives young teenage girls to low self-esteem, but also social comparison mechanisms influences self-esteem. There is growing evidence that following individuals on SNSs and comparing oneself to others have important implications for the self-esteem of individuals. In its core, social comparison does not harm anyone. Social comparison is about looking for or identifying a similarity or a difference between the other and the self on some dimension (Wood, 1996).

It is likely to assume that the degree of social comparison has increased with the introduction of the smartphone. Individuals do not only compare themselves on the street, at school or work, but always have access to their smartphone to compare³ themselves with others. First, I will explain the social comparison theory *in general* as it is an important part of this study. I follow up with how SNSs *in particular* influence social comparison.

The social comparison theory was first coined by psychologist Leon Festinger in 1954. This theory explains how individuals value their own opinions and abilities (also: attractiveness, wealth, intelligence and success) by comparing themselves to others in order to reduce uncertainty in these domains and learn how to define the self. We determine our own social and

³ This 'comparing' process can happen conscious or unconscious.

personal worth based on how we match up against others (Festinger, 1954). Wills (1981) broadened this theory by adding ‘levels’ of social comparison. Social comparison opportunities can occur in two different ways: upward social comparison and downward social comparison. *Downward* social comparison has no influence on the low self-esteem of individuals, because they are comparing themselves with an individual that they consider to be worse off than themselves in order to feel better about their self or personal situation. The latter can even positively influence self-regard (Wills, 1981). *Upward* social comparison – comparing with an individual who is considered ‘superior’ is believed to have a negative influence on the self-esteem of an individual (Wood, 1989). Individuals can question their self-image by seeing people who are better off than themselves. A study done by Collins (1996) suggests the opposite, as upward comparison only sometimes results in more negative self-evaluations because it can also be self-enhancing. People can compare themselves with another individual that they perceive as superior in order to improve their view of themselves and make comparisons highlighting the similarities between them. However, this only counts for people who they consider slightly better than themselves (Lockwood, Jordan, & Kunda, 2002). Nevertheless, in a study done by Vogel et al. (2014) analysis of the data suggests that frequent Facebook use is associated with lower self-esteem. This effect was mediated by greater exposure to upward social comparisons on social media. As I stated earlier, I expect that this effect will be bigger when a HVSM is used instead of Facebook. Therefore, the following studies are with respect to HVSM.

Stapleton, Luiz, and Chatwin (2017) build further on the research of Vogel et al. (2014) and included more mediating variables. They believe that there would be a significant relationship between contingent self-worth and self-esteem, and that this would be mediated by social comparison mechanisms on Instagram. They even broaden their hypothesis by also proposing that the relationship between intensity of Instagram use and social comparison on Instagram

would be significantly moderated by self-worth contingent on approval from others. In other words, the more the individual's self-worth is 'dependent' on the approval from others, the stronger the relationship between intensity of Instagram use and social comparison on Instagram.

Lup et al. (2015) and Stapleton et al. (2017) both found that, contrary to their hypotheses, more frequent Instagram use was not associated with more social comparison processes. However, according to Lup et al. (2015) the amount of strangers an individual followed significantly moderated the association of Instagram use with social comparison. They state that seeing photos of friends and acquaintances might counterbalance the upward social comparison, because they know how these people actually live. This is the only study I have found which also included the 'strangers' dimension in their research. Stapleton et al. (2017) found that social comparison is a significant mediator which could mean that Instagram use *does* influence self-esteem, but *via* social comparison mechanisms. They showed that self-worth contingent on approval of others moderated the relationship between intensity of Instagram use and social comparison on Instagram. Therefore, albeit Instagram did not directly affect self-esteem, the significant moderation indicated that the intensity of Instagram use is influential when the young individual's self-esteem is contingent on approval from others. Without this moderating variable, the effect of Instagram use on self-esteem vanishes⁴.

Upward social comparison is very common in a new Instagram movement, named *fitspiration* (the amalgamation of the words fitness and inspiration): 'a person or thing that serves as motivation for someone to sustain or improve health and fitness' (Oxford-dictionary, 2017). *Fitspiration* could be seen as a healthier form of *thinspiration* (amalgamation of thin and inspiration): 'especially used in the context of anorexia nervosa, a person or thing that serves

⁴ The effect does get non-significant

as motivation for a person seeking to maintain a very low body weight' (Oxford-dictionary, 2017). According to Tiggemann and Zaccardo (2015) fitspiration has the potential for positive social influence on physical and mental health. On the other hand, these images can also generate negative social influence. For instance, the images are of everyday women rather than fashion models, which can produce more upward social comparison. This is because it generates the feeling these bodies are more achievable. Moreover, many of the fitspiration posts are oriented towards the appearance-related benefits, rather than the physical and mental health benefits. For instance, the following quote can be found on Instagram: 'Double the fitness, double the beauty'. This quote does not state anything about health but is only with respect to the appearance benefits of fitness.

Concluding, the influence of Instagram usage on the self-esteem can be mediated by the intensity of Instagram use, the number of strangers followed and *if* strangers are followed, it also makes a difference if those strangers are 'everyday women'. The second hypothesis of this study would be the following: *there is a positive effect of highly visual social media on the social comparison of young teens (H2)*. A graphical display of this hypothesis can be found in figure 4.

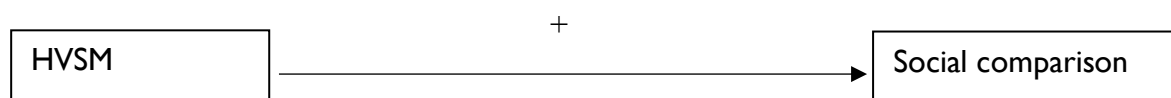


Figure 4. Causal diagram of hypothesis H2.

As mentioned in paragraph 2.2, not every SNS has the same influence on the internalization of beauty standards and social comparison. Nonetheless, there may also be a variation of effects between the different HVSM because Instagram is considered to be the worst SNS regarding mental health and wellbeing (Chua & Chang, 2016; Lup et al., 2015; RSPH, 2017). Therefore, the third hypothesis of this study is: *the positive effect of highly visual social media on the*

internalization of beauty standards will be the strongest for the SNS Instagram (H3). Regarding the effect on social comparison there is also a fourth hypothesis: *the positive effect of highly visual social media on social comparison will be the strongest for the SNS Instagram (H4)*.

2.5 The effect of gender

The influence of SNSs on self-esteem can be even bigger for young teenage girls than teenage boys, because in these transitory years (aged 12-16) peers are the most powerful influencers - apart from mothers – in affecting young girls' self-esteem (Etcoff, Orbach, Scott, & D'Agostino, 2006). All HVSMs are open networks where everyone can get access to, and therefore it is likely that young teenage girls' self-esteem is influenced by peers on those HVSMs. Furthermore, according to a study done by Strahan et al. (2006) women make more upward comparisons in reference to men and are comparing themselves with unrealistically high standards presented in the media. Additionally, women report using SNSs for self-presentation and interpersonal gratifications, and are more likely to compare themselves with others than men (Haferkamp, Eimler, Papadakis, & Kruck, 2012). Pipher (1996), clinical psychologist and author stated the following: "research shows that virtually all women are ashamed of their bodies. It used to be adult women, teenage girls, who were ashamed, but now you see the shame down to very young girls – 10, 11 years old" (p.66). It seems that SNSs will have the biggest influence on young teenage girls in particular because of the above-mentioned reasons. Therefore, the fifth and sixth hypothesis I derive from the theory are the following: *the effect of highly-visual social media on the internalization of beauty standards will be more positive for females than for males (H5)* and *the effect of highly-visual social media on the social comparison will be more positive for females than for males (H6)*. These hypotheses are considered to be moderator hypotheses, and therefore the causal diagram is as followed:

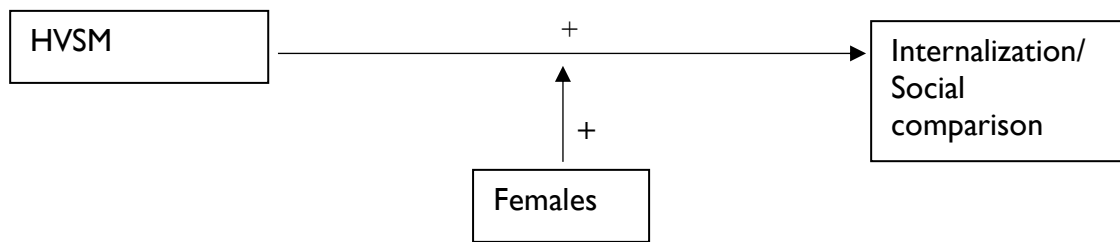


Figure 5. Causal diagram of hypothesis H1 and H2 + moderators H5 & 6.

3. Research design and methods

In this chapter I will elaborate on which data is used (3.1) and how I analyzed this data including the operationalization (3.2).

3.1 Data

As I mentioned earlier, quantitative research on the influence of SNSs on internalization and social comparison lacks. I have opted for a quantitative research with a cross-sectional design. To give an answer to the research question and test the hypotheses secondary data from the Pew Research Center is used. Pew Research Center is a non-profit fact tank that informs the public about issues, attitudes and trends shaping the world. They conduct public opinion polling, demographic research, content analysis and other data-driven social science research (PRC, 2018). The survey used in this thesis was administered online by the GfK group using its KnowledgePanel, in English and Spanish, to a nationally representative sample of 1060 teens aged 13 to 17. The questionnaire is provided in appendix one. To sample the population, GfK sampled households from its KnowledgePanel, a probability-based web panel designed to be representative of the United States (Lenhart, 2015).

E-mail reminders to non-responders were sent on day three of the field period. Beyond the standard e-mail reminder on day three of the field period, the following steps were also taken: an additional e-mail reminder to non-responders were sent on day 7 of the field period plus teens received a cash-equivalent of \$5 for their participation (Lenhart, 2015).

3.2 Operationalization

The program IBM SPSS Statistics 22 was used to conduct the analyses. In order to determine the strength of the relationship between SNSs and internalization/social comparison, multiple linear regression was conducted. Multiple linear regression is a logical extension of simple linear regression, but now with several predictors. As a predictive analysis, the multiple linear regression is used to explain the relationship between one continuous dependent variable and two or more independent variables (Field, 2009). The independent variables can be continuous or categorical.

Independent variable

The independent variable in this study is ‘Social-media Network Site’ use where is analyzed if the use of HVSM has an effect on internalization and social comparison mechanisms of young teens. In paragraph 2.1 the seven biggest SNSs were mentioned and were also subdivided in HVSM or non-HVSM. The data used in this study provides a question which measures if someone uses one out of those seven SNSs, namely: ‘Which of the following social media do you use?’ 1) Facebook, 2) Twitter, 3) Instagram, 4) Google+, 5) Snapchat, 6) Vine, 6) Tumblr. For the first analysis the four HVSM’s are recoded together into one variable where 0 means someone does not use a HVSM and 1 that someone does use a HVSM.

For the second analysis I wanted to analyze if there is also a difference *between* HVSMs, thus if there is a difference between, for instance, the effect of Instagram and Tumblr. For this analysis I left the variables as they are.

Dependent variables

Internalization and social comparison are measured in separate variables as they are proven to be the full mediators of self-esteem. Therefore, there are *three* dependent variables in this

analysis. The dataset provides me with such questions as the following two questions measure the internalization mechanism:

1. In general, does social media make you feel ‘pressure to post content that will be popular and get lots of comments and likes?’ (3-point scale).
2. In general, does social media make you feel ‘pressure to only post content that makes you look good to others?’ (3-point scale).

These two questions have similarities with the Sociocultural Attitudes Towards Appearance Questionnaire-4 (SATAQ-4), which was developed to assess women’s recognition and acceptance of societally standards of appearance (Heinberg, Thompson, & Stormer, 1995). This scale is validated in Western cultures (Yamamiya et al., 2016), and because I will use the scale for the United States of America this scale would be valid for this research. SATAQ-4 comprises 22 questions, divided over five sub-domains. One of these subdomains is ‘pressures from the media’. Pew Research Centre also included the ‘pressure’ domain, of course oriented on media, which makes the Pew Research Centre items more valid.

From the first glance, these two questions look the same. Therefore, I performed a reliability test to see if these two questions could be taken together. It seems that if I recoded these questions together it would be highly reliable ($\alpha = .80$) but the questions were not very highly correlated ($r = .67$). I decided to leave the questions as they are.

In order to measure the social comparison mechanism, I use the following question:

- In general, does social media make you feel ‘worse about your own life because of what you see from other friends on social media?’ (3-point scale).

This exact question is not used in another survey, but the essence of this question actually already implies social comparison. This item does have a resemblance with the Iowa-

Netherlands Comparison Orientation Measure (INCOM), as item one of this measure asks the following question: ‘I often compare myself with others with respect to what I have accomplished in life’ and question three: ‘I always pay a lot of attention to how I do things compared with how others do things’. Combining these two items from the INCOM, the item from Pew Research Centre seems valid to measure the comparison mechanism. The INCOM comprises 11 core items that have been tested in the United States of America and the Netherlands and were validated (Gibbons & Buunk, 1999).

Moderators

To test the moderator hypotheses, I included an interaction variable into the analysis. In this analysis the variable gender is recoded into a dummy variable, where 1 means female and 0 male.

Control variable

One control variable will be included in the analysis, which will be the age variable. There is a distinct difference between a 13 and 17-year-old, as the possibility increases that someone has internalized beauty standards when they are longer influenced by these standards. Thus, someone of 13 could have internalized these standards less than a 17-year-old. Furthermore, Pew Research Centre (Madden et al., 2013) reported in 2013 that younger teens are less likely to use SNSs than older teens. The reason for this could be because the parents of the younger cohort do not allow them to use social media.

Descriptive variables

In table 1 the descriptive statistics of all variables used in this analysis are shown. The analytical sample consists out of 787 respondents after deleting respondents reporting missing values. Out

of the full sample (N=1638) only 48% of the respondents were used in the analysis. In the first place this is because there were a lot of missing values. The survey was administered online and therefore people could opt out of the survey very easily. Another reason for the smaller sample is because not everyone in the sample used social media (N=269), and therefore could not answer the three questions regarding the dependent variables. The dependent variables ranged from 0 to 2, where 0 means no internalization/ social comparison at all, 1 ‘a bit internalization/ social comparison’ and 2 ‘a lot internalization/ social comparison’. From this sample it seems that people experience more internalization, as these values are higher ($M=.48$, $SD=.67$ and $M=.49$, $SD=.67$) than the value from social comparison ($M=.27$, $SD=.54$).

Table 1
Description of the variables used

	Mean	SD	Min	Max	N
<i>Dependent variables</i>					
Internalization (1)	.48	.67	0	2	787
Internalization (2)	.49	.67	0	2	787
Social comparison	.27	.54	0	2	787
<i>Respondent characteristics</i>					
Age	14.97	1.44	13	17	787
Female	.50	.50	0	1	787
<i>HVSM</i>					
Instagram	.51	.50	0	1	787
Snapchat	.40	.49	0	1	787
Vine	.23	.42	0	1	787
Tumblr	.14	.34	0	1	787
<i>Non-HVSM</i>					
Facebook	.70	.46	0	1	787
Twitter	.33	.47	0	1	787
Google+	.33	.47	0	1	787

Note: The descriptions displayed are mean score (mean), standard deviation (s.d.) and number of valid observations for each variable. All the descriptives are rounded down to two decimals. Internalization (1) contains the question: 'In general, does social media make you feel: Pressure to only post content that will be popular and get lots of comments or likes?' Internalization (2) is the question 'In general, does social media make you feel: Pressure to only post content that makes you look good to others?' and Social comparison is the question 'In general, does social media make you feel: Worse about your own life because of what you see from other friends on social media?'. Data source: Pew Research Center.

The age of participants ranged from 13 to 17 years ($M=.14.97$, $SD=1.44$). The sample is even divided when it comes to gender, as the sample consists out of 50% female and 50% male. Regarding the statistics for the Social-media Network sites, this sample seems to consist out of profoundly Facebook users, namely 70% ($M=.70$, $SD=.46$). This is in line with other research, as mostly Facebook is reported as being the biggest Social-media Network Site (Statista, 2018). The biggest HVSM is Instagram, as 51% of the respondents reported using Instagram ($M=.51$, $SD=.50$).

4. Results

In this chapter the results of the analysis are shown. In paragraph 4.1 I show if HVSM has a positive effect on internalization and social comparison and in paragraph 4.2 it is analyzed if there is a difference of effect between the various HVSMs.

4.1 The influence of HVSM on internalization and social comparison

In table 2 the multivariate regression coefficients are shown for the first dependent variable internalization (1). The question from this variable was the following: *‘in general, does social media make you feel pressure to post content that will be popular and get lots of comments and likes?’*.

It seems that age never is a significant predictor, even at the $\alpha<.10$ significance level (e.g. Model 1: $p=.610$). The reason for this could be because age ranges from 13 to 17 years, which only is a difference of 4 years. Moreover, the effect sizes are small (e.g. Model 1: $B=. -009$).

Looking at the first model (model 1 without the control variable female and interaction) the first hypothesis would be confirmed. It was found that the use of HVSM significantly predicted internalization ($B=.157$, $p<.01$). Because HVSM is coded in 0 for not using HVSM and 1 for using HVSM, one increase in the predictor means if someone is a HVSM user or not. In other

words, the use of HVSM increases internalization with $B=.157$, which is in line with the first hypothesis.

To see if the fifth hypothesis could also be confirmed, I need to take a look at the regression coefficients of the third model. The effect of HVSM on internalization for males is $B=.023$ and nonsignificant at the $\alpha<.05$ level. The effect for females is $B=.327$ ($B=.023 + .304$) and significant at the $\alpha<.01$ level. The use of HVSM for men does not really make a difference, as the effect is small plus nonsignificant and for women the effect is higher and significant. From this result, it seems that men are ‘immune’ for the effect of HVSM on the internalization of beauty standards.

Table 2

Unstandardized regression coefficients on internalization (1)

	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	B	SE B	B	SE B	B	SE B
Constant	.491	.254	.486	.255	.568*	.255
Age	-.009	.017	-.008	.017	-.008	.017
HVSM	.157**	.053	.156**	.054	.023	.072
Female			.009	.048	-.214*	.093
Female x HVSM					.304**	.109
<i>Explained variance</i>						
R ²	.011		.011		.021	
N	787		787		787	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Note: Reference category female: male. Data Source: Pew Research Center.

Yet, hypothesis one and five cannot be confirmed as there is another dependent variable which measures internalization. The question for this variable is the following: ‘*in general, does social media make you feel pressure to only post content that makes you look good to others?*’. In table 3 the regression coefficients are shown for dependent variable internalization (2).

Table 3

Unstandardized regression coefficients on internalization (2)

	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	B	SE B	B	SE B	B	SE B
Constant	.853***	.256	.840***	.257	.881***	.259
Age	-.030	.017	-.030	.017	-.030	.017
HVSM	.119*	.054	.114*	.055	.047	.073
Female			.027	.048	-.085	.094
Female x HVSM					.152	.110
<i>Explained variance</i>						
R ²	.010		.010		.012	
N	787		787		787	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Note: Reference category female: male. Data Source: Pew Research Center.

The first thing which is important to notice is that the constant for the dependent variable internalization 2 ($B=.853, p<.001$) is higher *and* significant in reference to the constant for the dependent variable internalization 1 ($B=.491, p>.005$). This means that people feel more pressure to post content that make them good look to others than they feel pressure to post content that will get them lots of comments and likes. In other words, they care less about the fact that they will not get lots of comments and likes than looking good to others *even* when not using HVSM (as the constant signifies 0 for HVSM, therefore not using HVSM).

Regarding the effect of HVSM on internalization 2, I can say that there is a significant positive effect ($B=.119, p<.05$), controlling for age. This would, once again, confirm hypothesis one. Nevertheless, the effect of HVSM is a bit lower on internalization 2 than on internalization 1. Also, in this model age never seems to be a significant predictor, but because age is added as a control variable, this is not a critical problem.

Proceeding with the interpretation of the interaction effects, no predictor in model 3 seems to be significant at the $\alpha<.05$ level. In other words, the effect of HVSM does not differ between

males and females. Because the interaction effects of internalization (1) did confirm hypothesis five and the interaction effects of internalization (2) did not, hypothesis five is partly confirmed.

Table 4 displays the results of the regression which was performed on the social comparison dimension and its predictors. The question which signifies the social comparison variable is the following: ‘*in general, does social media make you feel ‘worse about your own life because of what you see from other friends on social media?’*’. The use of HVSM of social comparison seems to be a significant predictor, although small ($B=.088$, $p<.05$). Hypothesis two can therefore be confirmed. It seems that the use of HVSM has a smaller effect on the social comparison dimension than on the internalization dimension. The constant is also lower than the constants of the internalization variables, suggesting that *in general* teens experience less social comparison in reference to internalization, even when not using HVSM (because the constant implies the effect when all predictors are 0). Furthermore, age once more does not have a significant effect.

Table 4

Unstandardized regression coefficients on social comparison

	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	B	SE B	B	SE B	B	SE B
Constant	.380	.208	.378	.209	.438*	.210
Age	-.012	.014	-.012	.014	-.011	.014
HVSM	.088*	.044	.087*	.044	-.011	.059
Female			.005	.039	-.159*	.076
Female x HVSM					.223*	.089
<i>Explained variance</i>						
R ²	.006		.006		.014	
N	787		787		787	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Note: Reference category female: male. Data Source: Pew Research Center.

Proceeding with the interpretation of the interaction effect, it seems that hypothesis six also could be confirmed. In this model the effect of HVSM for men actually is negative and nonsignificant ($B = -.011, p > .05$). The effect for women, in contrast, is $B = .212$ and significant ($B = -.011 + .223$). Men are, once again, 'immune' for the effect of HVSM. It seems that women are more sensitive for the use of HVSM.

4.2 *Separate effects of HVSM*

As stated earlier, Instagram enables users to refine and reframe their selfies and photos to bring them closer to the socially constructed ideal of beauty (Chua & Chang, 2016) and therefore the effect of Instagram could be more positive in reference to the other HVSMs in this analysis (Snapchat, Vine, Tumblr). This hypothesis is not tested including a moderator variable (e.g. male vs. female) because the N was too small per interaction and therefore did not yield any significant results. For the full results including interaction variable I refer to appendix two.

In table five the regression coefficients of the first internalization variable are shown. According to these results, hypothesis three would be accepted. Instagram has a positive significant effect on the internalization of beauty standards; the effect of Instagram actually is the most positive in comparison to the other HVSMs. It seems that being female does not mean that beauty standards are internalized more easily, as the effect in fact goes the other way and is nonsignificant ($B = -.020, p > .05$). Still, hypothesis three cannot be fully confirmed because the second internalization variable is not analyzed yet.

Table 5

Unstandardized regression coefficients on internalization (I)

	<i>Model 1</i>		<i>Model 2</i>	
	B	SE B	B	SE B
Constant	.475	.254	.486	.255
Age	-.009	.017	-.010	.017
Instagram	.117*	.056	.119*	.056
Vine	.093	.058	.093	.058
Snapchat	.084	.055	.087	.056
Tumblr	.008	.065	.014	.067
Female			-.020	.050
<i>Explained variance</i>				
R ²	.027		.027	
N	787		787	

* p < 0.05; ** p < 0.01; *** p < 0.001

Note: Reference category female: male. Data Source: Pew Research Center.

Table six shows the result of the regression analysis which is done on the second internalization variable. The most prominent result of this analysis is that actually not Instagram, but Vine ($B=.122$, $p= <.05$) has the biggest *and* significant effect. The reason for this could be because the two variables who measure internalization differ a bit. The first internalization variable focuses on the *comments and likes*-pressure and the second internalization variables focuses on the *looking good to others*-pressure. It seems that receiving comments and likes is more important on Instagram and looking good to others on Vine. The reason for this could be because on Instagram it is more common to follow friends and family, and therefore it may be important to show them that the teen can ‘achieve’ comments and likes. Vine is more focused on funny videos and so looking good to others, in a funny way, may be more important.

Furthermore, Instagram has the smallest effect of all HVSMs ($B=.044$, $p= >.05$). What also is interesting about this analysis is that the R-square lowers when adding more variables, therefore

the added variable ‘female’ does not contribute significantly to the variance of this model. Concluding, hypothesis three is partly confirmed because only the independent variable internalization (1) confirmed this hypothesis.

Table 6

Unstandardized regression coefficients on internalization (2)

	<i>Model 1</i>		<i>Model 2</i>	
	B	SE B	B	SE B
Constant	.847**	.256	.850**	.258
Age	-.031	.017	-.031	.017
Instagram	.044	.057	.044	.057
Vine	.122*	.058	.122*	.058
Snapchat	.092	.056	.093	.056
Tumblr	.042	.066	.044	.067
Female			-.005	.050
<i>Explained variance</i>				
R ²	.020		.019	
N	787		787	

* p < 0.05; ** p < 0.01; *** p < 0.001

Note: Reference category female: male. Data Source: Pew Research Center.

The last table, table seven, shows the regression coefficients on social comparison. What I noticed in the first glance, is that yet another HVSM has the biggest and significant effect on social comparison. In this analysis Tumblr is the ‘winner’. Tumblr is known for its ‘microblogs’ idealizing depression, self-harming and suicide (Dewey, 2015) and therefore could have the biggest effect on social comparison. We do not know if these teens are depressed and self-harming *because* of the social comparison on Tumblr, or that already depressed teens are drawn to these ‘microblogs’. Therefore, hypothesis four is rejected.

Table 7

Unstandardized regression coefficients on social comparison

	<i>Model 1</i>		<i>Model 2</i>	
	B	SE B	B	SE B
Constant	.424*	.208	.440*	.210
Age	-.015	.014	-.016	.014
Instagram	.030	.046	.032	.046
Vine	.007	.047	.006	.047
Snapchat	.072	.045	.076	.056
Tumblr	.117*	.054	.124*	.055
Female			-.029	.041
<i>Explained variance</i>				
R ²	.011		.011	
N	787		787	

* p < 0.05; ** p < 0.01; *** p < 0.001

Note: Reference category female: male. Data Source: Pew Research Center.

5. Conclusion

Research on the field of SNSs and self-esteem just took off and therefore multiple questions remained unanswered. To ‘fill’ this gap in the literature the present study focused on the following question: *do Social-media Network Sites have a negative effect on internalization and social comparison mechanisms of young teenagers?* Six hypotheses were carried out and tested to give an answer to this research question. It seems that indeed, SNSs - in particular HVSM - have a negative effect on both the internalization of beauty standards and social comparison of young teenagers. As proposed by Scott (1971), the beauty-norms from role models are more easily internalized by individuals. Because role models are more visible on HVSM than on ‘general’ media⁵, teens are more easily exposed to these beauty standards.

⁵ On HVSM there is the option to ‘follow’ those role models and therefore be exposed to daily selfies instead of on television or magazines where this exposure happens more sporadically.

Therefore, with the introduction of HVSMs, teens are more likely to be exposed to these – sometimes dangerous – internalization of beauty standards. As the results of this study proposed, teens do indeed internalize the beauty standards shown on HVSMs and thus this could be dangerous for their health with respect to substance abuse, early sexual activity, eating problems, suicidal thoughts (McGee & Williams, 2000), criminal behavior and limited economic prospects during adulthood (Trzesniewski et al., 2006). We do not know the actual effect of the usage of HVSM on the *future* behavior of teens, and therefore I propose a first future research direction, namely conducting longitudinal research. None of the studies included in the theoretical framework had a longitudinal design and this would be a great addition to the existing literature. When these long-term effects are clear, precautionary measures can be taken to secure the teens at risk.

Next to the internalization of beauty standards, social comparison can also drive teenagers to low self-esteem. HVSM is believed to generate more exposure to upward social comparison because there is the possibility to follow ‘strangers’ in their daily lives. When individuals see that those strangers also go to school but their bodies are lean, they can feel bad about themselves because they have the same lives but they do not have the same body. They compare themselves with others and feel bad about it. According to the present study, teens actually compare on HVSM and therefore this could influence - just as with the internalization of beauty standards – their self-esteem. Another remarkable result of this study is that teens experience less social comparison in reference to internalization, even when not using HVSM. It seems hard to escape the internalization of beauty standards, as television and magazines also have an effect on this.

Furthermore, there seems to be a difference of the effect from HVSM between females and males. Males seem to be ‘immune’ to the effect of HVSM where females are not. This is in line with previous research, as this previous research on the effect of *general* media suggested that

women make more upward social comparisons than men (Haferkamp et al., 2012; Strahan et al., 2006). This study contributed to the literature because now it is clear that this is also the case with HVSM and not only general media such as magazines and television.

In the second part of the analysis hypotheses three and four were tested concerning the *specific* effect of HVSM. I hypothesized that the effect of Instagram would be the biggest, because Instagram is considered to be the worst HVSM regarding mental health and wellbeing. The effect of Instagram, Tumblr, Snapchat and Vine were analyzed and suggested contradictory results. On all dependent variables there was a different HVSM of most influence. Therefore, the last two hypotheses were rejected. The reason for those hypotheses not being confirmed could be because the dataset consisted of a rather small N (N=787). For further research I would recommend using a bigger number of respondents. Nevertheless, these results suggest that the effect of other HVSMs than Instagram should not be underestimated and more research should be done on these separate HVSMs.

As also mentioned in the theory, the influence of HVSM on self-esteem can be mediated by the intensity usage, the number of strangers followed and *if* strangers are followed, it also makes a difference if those strangers are 'everyday women'. In the present study merely the usage of the SNS was measured; so if a SNS was used yes or no. It would be of great value if the independent variable has some sort of scale and thus generating an *intensity usage* scale. Surveying this with a simple question where the respondent has to 'guess' how much he or she uses some kind of SNS is not accurate. I would recommend that the respondents have to download an app which measures the usage of each SNS separate. This app does not have to be built by the researchers themselves, as very conveniently apps like *Moment* and *Breakfree* can be downloaded and measure the SNS usage for free. Investigating the HVSM in more detail

such as including the ‘stranger’-dimension would also be of value, but this would be more time-consuming than only investigating the intensity usage.

Another interesting path which can be taken for further research is to conduct research in non-Anglo-Saxon countries as most of the studies are conducted in these countries (Clay et al., 2005; Dittmar et al., 2006; Lup et al., 2015; Stapleton et al., 2017; Strahan et al., 2006; Thomsen et al., 2001; Tiggemann & Zaccardo, 2015; Vogel et al., 2014). It would be nice to include European countries, as there are no studies located in Europe. The effect of Instagram usage can become bigger or even disappear when including different countries into the analysis, as the effect may be country-dependent.

There is also no research which applied a ‘path-analysis’ method. It would be interesting to know the causal effects of the internalization of beauty standards and internalization on self-esteem. In the dataset from this study there was no question provided which measured *self-esteem* and therefore a path-analysis was not possible.

It becomes very clear after this research that there are still a lot of untaken paths in this field of research and therefore to get answers on the *why* and *how* question regarding SNSs and self-esteem, we need to continue this path of research.

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Appendix I

For the best experience while taking this survey, we recommend completing on a laptop or desktop. If you'd like to switch devices, you can close this browser and restart the survey by clicking the link to "Technology and Relationships" on your parent's Member Page.

You are invited to be part of a KnowledgePanel research study being conducted by the Pew Research Center. The survey will be on a variety of topics around what you do with and what you think about technology in your daily life. It will take about 15 minutes for you to complete.

Your answers are really important – they help us understand how technology affects teen friendships and relationships. Some questions in this survey might make you feel uncomfortable. You can skip any questions you do not want to answer. Please try to complete the survey in private since it is your own answers that we care about.

Your participation is your choice. You may stop the survey at any time without penalty. As always, your identity will be unknown in all data resulting from the study, and the researchers will not have access to any of your identifying information (such as your name).

We will not share your answers with your parents. They may be able to see your answers if they track your internet use. If they do, remember that you can skip any question that might make them or you uncomfortable.

If you have questions about your rights as a participant in this study, or are unhappy at any time with any part of the survey, you may contact KnowledgePanel Member Support. You may also contact the principal investigator, Amanda Lenhart, at the Pew Research Center, if you have any questions or concerns about the survey.

If you have read the information on the previous pages and agree to take the survey, please answer the question below.

KS1 Would you like to take this survey?

1. Yes
2. No

We thank you for your time and respect your decision not to participate in the survey. To help us design future surveys, please tell us why you decided not to take the survey.

Information about any possible Hispanic ethnicity is very important. We greatly appreciate your response to this question.

QS9. This is about Hispanic ethnicity. Are you of Spanish, Hispanic, or Latino descent?

No, I am not.....	1
.... Yes, Mexican, Mexican-American, Chicano.....	2
.... Yes, Puerto Rican.....	3
Yes, Cuban, Cuban American.....	4
.... Yes, Central or South American.....	5
.... Yes, Other Spanish/Hispanic/Latino [specify]....	8

Please tell what you consider your racial background to be. We greatly appreciate your effort to describe your background using the standard categories provided. These race categories may not fully describe you, but they do match those used by the Census Bureau.

Information about your racial background is very important to us. We greatly appreciate your response and will keep it strictly confidential.

QS10. Please check one or more categories below to indicate what race(s) you consider yourself to be.

1. White
2. Black or African American
3. American Indian or Alaska Native – Type in name of enrolled or principal tribe
4. Asian Indian
5. Chinese
6. Filipino
7. Japanese
8. Korean
9. Vietnamese
10. Other Asian – Type in race
11. Native Hawaiian
12. Guamanian or Chamorro
13. Samoan
14. Other Pacific Islander – Type in race
15. Some other race – Type in race

KINTMOB Do you access the internet on a cell phone, tablet or other mobile device, at least occasionally?

- 1 Yes
- 2 No

K2 Overall, how often do you use the internet?

- 1 Almost constantly
- 2 Several times a day
- 3 About once a day
- 4 Several times a week
- 4 Once a week
- 6 Less often

K3 Do you, personally, have or have access to each of the following items, or not. Do you have... ?

- a. A smartphone
- b. A cell phone that is not a smartphone
- c. A desktop or laptop computer
- d. A tablet computer like an iPad, Samsung Galaxy or Kindle Fire
- e. A gaming console like an Xbox, PlayStation or Wii

CATEGORIES

- 1 Yes
- 2 No

K4 On an average day, about how many text messages do you send and receive on your cell phone?

(This includes messages you send through messaging apps like WhatsApp or Kik as well as messages you send directly from your phone.)

I don't text

Phone can't send or receive texts

K5 Do you do any of the following online or on your cellphone?

- a. Play video games - on a computer or on a game console or a portable device like a cell phone
- b. Use online pinboards (like Pinterest or Polyvore) to collect and share inspiring content or things you would like to buy or make
- c. Use social media
- d. Read or comment on a discussion board (like Reddit or digg)
- e. Video call or chat

CATEGORIES

- 1 Yes
- 2 No

K5_1 Do you do any of the following online or on your cellphone?

- a. Use messaging apps like WhatsApp or Kik
- b. Visit anonymous sharing or question apps (Whisper, YikYak, Ask.FM)
- c. Use an app that automatically deletes the messages you send like Snapchat or Wickr

CATEGORIES

- 1 Yes
- 2 No
- 3 Phone doesn't have apps

K6 Which of the following social media do you use?

- 1 Facebook
- 2 Twitter
- 3 Instagram
- 4 Google+
- 5 Snapchat
- 6 Vine
- 7 Tumblr
- 8 Other social media not listed here

CATEGORIES

- Yes
No

K7 Which of these social media do you use MOST often?

- 1 Facebook
- 2 Twitter
- 3 Instagram
- 4 Google+
- 5 Snapchat
- 6 Vine
- 7 Tumblr
- 8 A different social media site

K8 What other social media sites do you use, if any? Please list all additional social media sites you use.

KFB1 How many friends or followers do you have in each of the following social media sites? Enter numbers only.

- a. How many friends do you have on Facebook?
- b. How many followers do you have on Twitter?
- c. How many followers do you have on Instagram?

K9 Please think about your friends, followers and contacts across the different social media that you use. Would you say...?

1. You have all the same friends on the different sites
2. There is some overlap in your friends on the different sites
3. There is not a lot of overlap in your friends across different sites
4. There is no overlap in your friends across different sites.

KF10_1 And now, we have some questions about friendships in general...

Think about when you first meet someone you that you might want to be friends with. Below is a list of contact information that people might share to stay in touch with someone. Of these, what is the first thing that you would usually share with a new friend?

- Phone number so they can text or message you
- Phone number so they can call you
- Social media username
- Gaming handle
- Messaging username (for use in Gchat, Skype, etc)
- Email address
- Something else

KF10_2 Of these, what is the second thing that you would usually share with a new friend?

- Phone number so they can text or message you
- Phone number so they can call you
- Social media username
- Gaming handle
- Messaging username (for use in Gchat, Skype, etc)
- Email address
- Something else

KF10_3 Of these, what is the third thing that you would usually share with a new friend?

- Phone number so they can text or message you
- Phone number so they can call you
- Social media username
- Gaming handle
- Messaging username (for use in Gchat, Skype, etc)
- Email address
- Something else

KFMeet How many new friends, if any, have you made online?

1. None
2. One
3. 2-5
4. More than 5

KFMeet2 Where online did you meet your friend/friends?

1. Social media site (e.g. Facebook, Twitter)
2. Discussion site (eg., reddit, Slashdot or other forums)
3. Blogging site (e.g. Tumblr, Blogger)
4. Playing a video game online
5. A video sharing website like YouTube or Vine
8. Someplace else? Specify

KFMeet3 Have you ever met someone in person that you first became friends with online?

- Yes
- No

KFR11 Thinking now about people that you are friends with, in person and/or online...

How often do you spend time with friends ...?

- a. In person, outside of school?
- b. Talking on the phone
- c. Text messaging
- d. Instant or online messaging
- e. Video chatting
- f. Emailing
- g. On messaging apps (like WhatsApp or Kik)
- h. Posting on social media sites
- i. Talking while playing video games together

CATEGORIES

Every day
Every few days
Less often
Never

KGAME1 The next few questions are about games.

How often do you play video games in person with people where you are together in the same room?

1. Everyday or almost everyday
2. Weekly
3. Monthly
4. Less often
5. Never

KGAME2 How often do you play video games with people where you are connected over the internet, and not in the same room?

1. Everyday or almost everyday
2. Weekly
3. Monthly
4. Less often
5. Never

KGAME3 Thinking about the people you play games with online, are any of them ____?

1. Friends you know in-person?
2. Friends you know only online (who you haven't met in person)?
3. People you play games with, but would not call a friend?

CATEGORIES

Yes
No

KGAME4 Do you have a voice connection so you can talk to other players when you play games online?

Yes
No

KGAME5 When you play games online with others, do you ever...

- a. Feel more connected to friends you play games with who you already know
- b. Feel more relaxed and happy
- c. Feel more angry and frustrated
- d. Feel connected to people you play games with, but aren't friends with yet?

Yes, a lot

Yes, a little

No

Now, thinking again about friends, please think about the friend you are closest to – someone you can talk to about things that are really important to you, but who is not a boyfriend or girlfriend.

KF12 How often are you in touch with this person? This includes face-to-face, on the phone, text messaging and all the other ways you might talk to this person.

1. Many times a day
2. Once a day
3. A few times a week
4. Once a week
5. Once every few weeks
6. Less often
7. Do not have a close friend

KF13 Do you spend time with your closest friend on a regular basis at any of these places?

- a. School
- b. Church, temple, synagogue or a religious group
- c. Sports, clubs, hobbies or other activities outside of school
- d. Online, such as places like social networking sites or gaming sites
- e. Job
- f. Coffee shop, mall or stores
- g. Neighborhood
- h. Someone's house
- i. Somewhere else? _____ (specify)

CATEGORIES

Yes

No

KF13_1 Still thinking about this close friend, what is the most common way that you talk with him or her online or on your phone?

- a. Through a social network site (e.g., Facebook, Twitter)
- b. Discussion site (e.g., reddit, Slashdot)
- c. Blogging site (e.g., Tumblr, Blogger)
- d. Game site or server (e.g., Call of Duty, Halo)

- e. A video sharing site (e.g., YouTube or Vine)
- f. Text messaging (including apps like WhatsApp or Kik)
- g. Phone calls
- h. Something else?
- i. Don't communicate online or by phone

KF13_2 Still thinking about this close friend, what is the second most common way that you talk with him or her online or on your phone?

- a. Through a social network site (e.g., Facebook, Twitter)
- b. Discussion site (e.g., reddit, Slashdot)
- c. Blogging site (e.g., Tumblr, Blogger)
- d. Game site or server (e.g., Call of Duty, Halo)
- e. A video sharing site (e.g., YouTube or Vine)
- f. Text messaging (including apps like WhatsApp or Kik)
- g. Phone calls
- h. Something else?

KF13_3 Still thinking about this close friend, what is the third most common way that you talk with him or her online or on your phone?

- a. Through a social network site (e.g., Facebook, Twitter)
- b. Discussion site (e.g., reddit, Slashdot)
- c. Blogging site (e.g., Tumblr, Blogger)
- d. Game site or server (e.g., Call of Duty, Halo)
- e. A video sharing site (e.g., YouTube or Vine)
- f. Text messaging (including apps like WhatsApp or Kik)
- g. Phone calls
- h. Something else?

KFSNS1 In general, does social media make you feel ...?

- a. More connected to information about what's going on in your friends' lives?
- b. Worse about your own life because of what you see from other friends on social media?
- c. Better connected to your friends' feelings?
- d. Pressure to post content that will be popular and get lots of comments or likes?
- e. Pressure to only post content that makes you look good to others?

CATEGORIES

- Yes, a lot
- Yes, a little
- No

KFSNS2 Do you ever experience any of the following on social media?

- a. People posting about things you weren't invited to?
- b. People stirring up drama?
- c. People posting things about you that you can't change or control?
- d. People supporting you through challenges or tough times?

CATEGORIES

Yes, frequently

Yes, occasionally

No

KFSNS3 Do you agree or disagree with each of the following statements?

- a. People get to show different sides of themselves on social media that they can't show offline?
- b. People are less authentic and real on social media than they are offline?
- c. People share too much information about themselves on social media?

CATEGORIES

Strongly agree

Agree

Disagree

Strongly disagree

KF14 Have you ever shared one of your passwords with a friend?

- 1 Yes
- 2 No

KFSNS4 Thinking about your experiences online... Have you ever...?

- a. Unfriended or unfollowed someone that you used to be friends with?
- b. Untagged or deleted photos of you and someone you used to be friends with?
- c. Blocked someone you used to be friends with?

CATEGORIES

1 Yes

2 No

3 Does Not Apply

KF15 Have you ever had a fight with any of your friends that started because of something that happened online or because of a text?

1. Yes
2. No

KDATE1. And now on another subject...

Have you ever dated, hooked up with or otherwise had a romantic relationship with another person?

- Yes
No

DT1. Do you currently have a serious boyfriend, girlfriend or significant other?

1. Yes
2. No

DT1a. Are you currently dating, hooking up with, or seeing anyone in a relationship of some sort that you do not consider serious?

1. Yes, I am dating, hooking up with or seeing someone in a relationship that I don't consider serious
2. No, I'm NOT dating, hooking up with or seeing anyone right now

KR1 How many people, if any, have you ever dated or hooked up with who you first met ONLINE?

1. None
2. One
3. 2-5
4. More than 5

REL3 On which site did you first meet the person you met online?

KR2 Have you ever had a boyfriend, girlfriend or significant other that you first met online, but never met in person?

- Yes
No

KDATE2 Have you ever done any of these things to let someone know you were attracted to them or interested in them? Have you...?

- a. Liked, commented or otherwise interacted with them on social media
- b. Friended them on Facebook or another social network
- c. Shared something with them online you thought they would find funny or interesting
- d. Sent them flirtatious messages
- e. Made a video for them
- f. Made a music playlist for them
- g. Sent them sexy or flirty pictures or videos of yourself
- h. Flirted with them or talked to them in person
- i. Done something else we haven't asked about?

CATEGORIES

Yes

No

KR3 Have you ever....?

- a. Searched for information online about someone you were currently dating or were interested in dating?
- B ASK ALL SNS USERS (K5C=1) 'Followed' or 'friended' someone because one of your friends suggested you might want to date that person?
- c. ASK ALL WHO ARE OR HAVE EVER DATED SOMEONE (KDATE1=1) Searched for information online about someone you dated or hooked up with in the past?

CATEGORIES

1 Yes

2 No

KR4 If you want to ask someone out on a date, how would you USUALLY do that?

- 1 Send them a text message
- 2 Ask them in person
- 3 Call them on the phone
- 4 Send them a message on a social networking site
- 5 Get one of your friends to ask them
- 6 You wouldn't ask them, you would wait for them to ask you
- 7 Some other way [SMALL TEXT BOX]

KR5 Have you ever shared one of your passwords with a boyfriend or girlfriend?

- 1 Yes
- 2 No

Now, thinking about your current or most recent boyfriend, girlfriend, significant other or hook up...

KR6 How often you spend time with your boyfriend, girlfriend or significant other ...?

- a. In person, outside of school
- b. Talking on the phone
- c. Text messaging
- d. Instant or online messaging
- e. Video chatting
- f. Emailing
- g. Posting on social media sites
- h. Talking while playing video games together
- i. On messaging apps (like WhatsApp or Kik)

CATEGORIES

- Every day
- Every few days
- Less often
- Never

ASK ALL WHO ARE OR HAVE EVER DATED SOMEONE (KDATE1=1)

KR7 Have you ever shared any of the following things online with your boyfriend, girlfriend or significant other?

- a. Where you were
- b. What you were doing/eating/seeing
- c. Things you were thinking about
- d. Stuff that is going on with other friends
- e. Information that he or she needs for school (homework questions, practice information)
- f. Personal things about your health
- g. Difficulties with your family
- h. Political content
- i. Religious content
- j. Funny stuff

CATEGORIES

Yes

No

ASK ALL WHO ARE OR HAVE EVER DATED SOMEONE (KDATE1=1)

Still thinking of your current or most recent boyfriend, girlfriend or significant other...

KR8 How frequently [POV_KR6_INSERT] you expect to hear from your boyfriend/girlfriend/significant other in some way?

Hourly

Every few hours

Once a day

A few times a week

Once a week

Less often

KR9 How frequently your boyfriend/girlfriend/significant other expect to hear from you in some way?

Hourly

Every few hours

Once a day

A few times a week

Once a week

Less often

KRSNS1 Does social media make you feel ...?

- a. More connected with what's going on in your boyfriend, girlfriend or significant other's life?
- b. Emotionally closer to your boyfriend, girlfriend or significant other?
- c. Jealous or unsure of your relationship?
- d. Like you have a place to show how much you care about your boyfriend, girlfriend or significant other?

CATEGORIES

Yes, a lot

Yes, a little

No

Does not apply

KRSNS2 Do you agree or disagree with the following statements?

- a. Your boyfriend, girlfriend or significant other shows a different side of themselves on social media than they do when you are together?
- b. Your boyfriend, girlfriend or significant other is less authentic and real on social media than they are offline?
- c. You can't escape people you used to date because you still see them in photos and posts on social media?
- d. Too many people can see what's happening in your relationship on social media?
- e. Social media allows people to support you when a relationship ends?

CATEGORIES

Strongly agree

Agree

Disagree

Strongly disagree

KRSNS3 When you use social media do you ever...?

- a. Keep track of where your boyfriend, girlfriend or significant other is or what they are doing?
- b. Post or like something to show your support of your friends' relationships?
- c. Tell your boyfriend, girlfriend or significant other how much you like them in a way that other people can see?

CATEGORIES

Yes

No

REL8 Have you ever...?

- a. Found out that your boyfriend, girlfriend or significant other was doing something online that was upsetting to you
- b. Felt closer to your girlfriend, boyfriend or significant other because of exchanges or conversations you had online or by text message
- c. Resolved an argument with your girlfriend, boyfriend or significant other online or by text messaging that you were having difficulty resolving in person
- d. Felt that your boyfriend, girlfriend or significant other was distracted by their cell phone when the two of you were together
- e. Texted your boyfriend, girlfriend or significant other while you were hanging out together in-person

CATEGORIES

- 1 Yes
- 2 No

KR10 How acceptable is it to break up with someone each of these ways? Please tell us how acceptable you think each way is - from least acceptable (1) to most acceptable (10).

- 1 Send them a text message
- 2 Tell them in person
- 3 Call them on the phone
- 4 Send them a message on a social media site
- 5 Get one of your friends to tell them
- 6 Change your status to “single” on a social media site

ASK ALL WHO ARE OR HAVE EVER DATED SOMEONE (KDATE1=1)

KR11 Have you ever broken up with another person in any of the following ways?

- a. By phone call
- b. In person
- c. By text
- d. By private message on a social network site
- e. By email
- f. By changing your Facebook relationship status
- g. By posting a status update
- h. By posting an image
- i. Just drifted away, never ended it formally
- j. Some other way
- k. I haven't broken up with anyone [SP]

ASK ALL WHO ARE OR HAVE EVER DATED SOMEONE (KDATE1=1)

KR12 Has anyone ever broken up with you in any of the following ways?

- By phone call
- In person
- By text
- By private message on a social network site
- By email
- By changing their Facebook relationship status
- By posting a status update
- By posting an image
- Just drifted away, never ended it formally
- Some other way ____ [SMALL TEXTBOX] ____
- No one has ever broken up with me [SP]

ASK IF DATING OR EVER DATED: KDATE1=1

KR13 Have you ever done any of the following to someone you were dating or used to date:

- a. Sent them a very large number of texts in a short period of time
- b. Sent messages to other people while pretending to be your boyfriend, girlfriend or ex
- c. Accessed their mobile phone or online accounts
- d. Modified or deleted their social media profile
- e. Sent embarrassing pictures of them to someone else
- f. Downloaded a GPS or tracking program to their cell phone without them knowing

CATEGORIES

Yes

No

KRSNS4 Thinking again about your experiences on social media sites such as Facebook or Twitter... Have you ever ...?

- a. Unfriended or blocked someone that you used to be in a relationship with
- b. Unfriended or blocked someone who was flirting with you in a way that made you feel uncomfortable
- c. Untagged or deleted photos of you and someone you used to be in a relationship with

CATEGORIES

1 Yes

2 No

KRCELL Have you ever...

- d. Removed someone that you used to be in a relationship with from your phone address book?
- b. Blocked an ex from texting you?

CATEGORIES

1 Yes

2 No

ASK ALL WHO ARE OR HAVE EVER DATED SOMEONE (KDATE1=1)

DT2. Has your current or former boyfriend, girlfriend, significant other, or person you're dating or hooking up with ever done any of the following? {

- a. Checked up with you multiple times per day on the Internet or on your cell phone, asking where you are, who you're with, or what you're doing?
- b. Read your text messages without your permission
- c. Made you remove former girlfriends or boyfriends from your friends list on Facebook, Twitter or other social media such as Tumblr
- d. Called you names, put you down, or said really mean things to you on the Internet or on your cell phone
- e. Demanded to know the passwords to your email and internet accounts
- f. Used information posted on the Internet against you, to harass or embarrass you
- g. Used the Internet or text messages to try to pressure you into sexual activity you didn't want to have
- h. Spread rumors about you on the Internet or on a cell phone
- i. Contacted you on the Internet or on your cell phone to threaten to hurt you

RESPONSE OPTIONS:

1. He/she has done this DURING our relationship
2. He/she did this AFTER our relationship ended
3. He/she has NOT done this

DT4. Do you ever feel like your boyfriend, girlfriend or significant other tries to check up on you too often? Would you say you feel this way...

Always
Sometimes
Rarely
Never

DT4a. Do you ever feel like your boyfriend, girlfriend or significant other tries to pressure you into responding to their phone calls, emails, texts or IMs? Would you say you feel this way...

Always
Sometimes
Rarely
Never

KRS Have you ever had sex?

1 Yes
2 No
8 Don't know

KSO Do you consider yourself to be _____?

- 1 Gay or lesbian
- 2 Straight
- 3 Bisexual
- 5 Something else
- 8 Not Sure

KTG Do you consider yourself to be transgender?

- 1 Yes, male to female
- 2 Yes, female to male
- 3 Yes, gender non-conforming
- 4 No, not transgender

And our last question!

KEND Was there anyone in the room who watched or helped you take the survey?

- Yes
- No

That's it! Thank you very much for your time. This survey is sponsored by a non-profit research organization called the Pew Research Center. You can access our website at <http://www.pewresearch.org> to learn more about our research.

Appendix 2

Table 1

Unstandardized regression coefficients on internalization (1)

	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	B	SE B	B	SE B	B	SE B
Constant	.475	.254	.486	.255	.521	.050
Age	-.009	.017	-.010	.017	-.009	.017
Instagram	.117*	.056	.119*	.056	.102	.077
Vine	.093	.058	.093	.058	-.026	.086
Snapchat	.084	.055	.087	.056	.058	.080
Tumblr	.008	.065	.014	.067	.008	.133
Female			-.020	.050	-.122	.081
Instagram x Female					.046	.113
Vine x Female					.207	.116
Snapchat x Female					.045	.111
Tumblr x Female					-.016	.154
<i>Explained variance</i>						
R ²	.027		.027		.034	
N	787		787		787	

* p < 0.05; **p < 0.01; *** p < 0.001

Note: Reference category female: male. Data Source: Pew Research Center.

Table 2

Unstandardized regression coefficients on internalization (2)

	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	B	SE B	B	SE B	B	SE B
Constant	.847**	.256	.850**	.258	.866**	.259
Age	-.031	.017	-.031	.017	-.031	.017
Instagram	.044	.057	.044	.057	.055	.078
Vine	.122*	.058	.122*	.058	.011	.087
Snapchat	.092	.056	.093	.056	.102	.080
Tumblr	.042	.066	.044	.067	.034	.134
Female			-.005	.050	-.036	.082
Instagram x Female					-.015	.114
Vine x Female					.199	.117
Snapchat x Female					-.024	.112
Tumblr x Female					-.004	.155
<i>Explained variance</i>						
R ²	.020		.019		.017	
N	787		787		787	

* p < 0.05; **p < 0.01; *** p < 0.001

Note: Reference category female: male. Data Source: Pew Research Center.

Table 3

Unstandardized regression coefficients on social comparison

	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	B	SE B	B	SE B	B	SE B
Constant	.424*	.208	.440*	.210	.474*	.210
Age	-.015	.014	-.016	.014	-.015	.014
Instagram	.030	.046	.032	.046	.027	.063
Vine	.007	.047	.006	.047	-.083	.071
Snapchat	.072	.045	.076	.056	.033	.065
Tumblr	.117*	.054	.124*	.055	.073	.109
Female			-.029	.041	-.123	.067
Instagram x Female					.019	.093
Vine x Female					.153	.095
Snapchat x Female					.077	.091
Tumblr x Female					.050	.126
<i>Explained variance</i>						
R ²	.011		.011		.014	
N	787		787		787	

* p < 0.05; **p < 0.01; *** p < 0.001

Note: Reference category female: male. Data Source: Pew Research Center.